APPENDICES

A. Proposed Road way Impacts Along Alignment Alternatives
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APPENDIX A

Proposed Road way Impacts Along Alignment Alternatives

Table A-1
UPRR/SR 99 Alternative and Associated Wye Roadway Modifications, Crossings, and Closures

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
Merced Vicinity			
SR 59 (MLK)	2 Lanes	X	No change; road remains open
G St	4 Lanes	X	New overpass from 14th to Main
D St	2 Lanes		Close roadway at HST and UPRR
Childs Ave	2 Lanes		Overpass extended over at-grade HST
Gerard Ave	2 Lanes		Close roadway at HST and UPRR
Mission Ave Interchange	4 Lanes	X	Overpass extended over at-grade HST
Healy Ave	2 Lanes		Close roadway at HST and UPRR
Mariposa	2 Lanes		Close roadway at HST and UPRR
Chowchilla Vicinity			
Lingard Rd	2 Lanes		Close roadway at HST and UPRR
Worden Ave	2 Lanes		Connect to Arboleda Dr
Le Grand Rd	2 Lanes	X	Connect to Arboleda Interchange
Arboleda Dr / Le Grand Rd Interchange	2 Lanes	X	Extend new overpass to cross over at-grade HST; Raise Caltrans frontage road to connect with overpass
Ranch Rd	2 Lanes		Connect to Arboleda Interchange
Athlone Rd	2 Lanes		Close roadway at HST and UPRR
Sandy Mush Rd			Connect to Plainsburg Interchange
Sandy Mush Rd / Plainsburg Interchange	2 Lanes	X	Extend planned overpass portion of interchange over at-grade HST
Vista Ave	2 Lanes		Connect to Caltrans frontage road; HST elevated over road
Avenue 27	2 Lanes		HST elevated over Road
Road 15	2 Lanes		HST elevated over Road
Avenue 26 (Robertson)	2 Lanes	X	HST elevated over Road
Avenue 24½	2 Lanes		HST elevated over Road
Avenue 24 (E Sierra View)	2 Lanes		HST elevated over Road
SR 99	Freeway	X	HST elevated over Road
Fairmead Blvd	2 Lanes		HST elevated over Road; Shift Road
Avenue 21½ / 22	2 Lanes		HST elevated over Road

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
Avenue 20½ Interchange	2 Lanes	X	HST elevated over Road; Modify overcrossing and ramps
Madera Vicinity			
Masa St (at Berenda Blvd)	2 Lanes		HST elevated over Road
Berenda Blvd	2 Lanes		Shift to east
Avenue 18½	2 Lanes	X	HST elevated over Road
Avenue 18 (UP freight access)			HST elevated over Rail Spur
Avenue 17	2 Lanes		HST elevated over Road
Ellis St	Future		HST elevated over Road
Sharon Blvd	2 Lanes		Shift to east
Cleveland / Country Club	4 Lanes	X	HST elevated over Road; Shift Road
Cleveland / Avenue 15½	4 Lanes	X	HST elevated over Road; Shift Road
Central Ave	2 Lanes		HST elevated over Road
3rd St	2 Lanes		HST elevated over Road
4th St	2 Lanes		HST elevated over Road
Yosemite Ave	4 Lanes	X	HST elevated over Road
6th St	2 Lanes		HST elevated over Road
9th St	2 Lanes		HST elevated over Road
Olive St	2 Lanes		HST elevated over Road
Avenue 13	2 Lanes		HST elevated over Road
Avenue 12	2 Lanes		HST elevated over Road
Avenue 11 Overpass	2 Lanes	X	New, extended overpass over HST
Avenue 10 / Road 30½	2 Lanes		Shift Road 30½ to East
Avenue 9 Interchange	2 Lanes	X	New, extended overpass over HST
Avenue 8 Overpass	2 Lanes	X	New, extended overpass over HST
Avenue 7 Interchange	2 Lanes	X	New, extended overpass over HST
Road 33	2 Lanes		Shift to east
Fresno Vicinity			
W Herndon Ave	4 Lanes	X	HST elevated over Road
N Golden State Blvd	2/4 Lanes	X	Shift roadway to west

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
Veterans Blvd	N/A	X	Future overcrossing of HST & UPRR with connections to Golden State; Phase 1 overcrossing from Bullard to Golden State
N Carnegie Ave	2 Lanes		Close roadway at HST and UPRR
W Shaw Ave	4 Lanes	X	New overpass over HST and UPRR
W Ashlan Ave Interchange	4 Lanes	X	Overpass modified over at-grade HST
SR 99; UPRR Rail Yard	N/A	X	Shift SR 99 to west; HST at-grade
W Clinton Ave Interchange	4 Lanes		New overpass and interchange over at-grade HST
W McKinley Ave	4 Lanes	X	New overpass over HST and UPRR
W Olive Ave	4 Lanes		New overpass over HST and UPRR
W Belmont Ave	2 Lane underpass		New overpass over HST and UPRR
N Golden State Blvd	2 lanes		Close between W Olive and W Belmont
SR 180	Overcrossing	X	Modify overcrossing
Divisadero St	2 lanes		Close road
Stanislaus St	2 lane overcrossing	X	Modify overcrossing
Tuolumne St	2 lane overcrossing	X	Modify overcrossing
Fresno St	4 lane undercrossing		Modify undercrossing
Tulare St	4 lanes		New undercrossing
Kern St	2 lanes		Close road
Mono St	2 lanes		Close road
Ave 24 Wye			
Road 8	2 Lanes		New overpass
Hemlock Rd (Road 9)	2 Lanes		New overpass
Road 10	2 Lanes		New overpass
Road 11 (North Leg)	2 Lanes		Close; New Frontage Road
Avenue 24 ½ (North Leg)	2 Lanes		Close
Avenue 25 (North Leg)	2 Lanes	X	New overpass; shift north

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
Road 12 (North Leg)	2 Lanes		Close
Avenue 26 (North Leg)	2 Lanes		New overpass
Cross Road (North Leg)	2 Lanes		New overpass
Sandy Mush Rd (North Leg)	2 Lanes		HST elevated over road
Avenue 24 (South Leg)	2 Lanes		HST alignment adjacent
Road 12 (South Leg)	2 Lanes		Close
Road 13 (South Leg)	2 Lanes	X	New overpass
Road 14 (South Leg)	2 Lanes		Close; new Frontage Road
Robertson Blvd (SR 233) (South Leg)	2 Lanes	X	New underpass or overpass
Railroad Dr	2 Lanes		Close
Road 15 (South Leg)	2 Lanes		New overpass
Road 15¾ (South Leg)	2 Lanes		Close; new Frontage Road
Road 16 (South Leg)	2 Lanes	X	New overpass
Road 16 ½	2 Lanes		Close
Avenue 23½ (South Leg)	2 Lanes		New overpass
Road 17 (South Leg)	2 Lanes		Close; new Frontage Road
Road 17½ (South Leg)	2 Lanes		Close
SR 152 (South Leg)	Freeway	X	HST elevated over road
Road 18½ (South Leg)	2 Lanes		HST elevated over road
Avenue 22½ (South Leg)	2 Lanes		HST elevated over road
Road 19 (South Leg)	2 Lanes		HST elevated over road
SR 99 (South Leg)	Freeway	X	HST elevated over road
Ave 21 Wye			
Road 8	2 Lanes		Close
Hemlock Rd (Road 9)	2 Lanes	X	New overpass
Road 10	2 Lanes		Close
Road 11	2 Lanes		New overpass

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
Robertson Blvd (SR 233)	2 Lanes	X	New overpass
Railroad Avenue	2 Lanes		Close; realigned
Road 14	2 Lanes		New overpass
Road 15	2 Lanes		Close, shift
Road 15½	N/A		Close
Road 16	2 Lanes	X	New overpass
Road 16 ½	2 Lanes		Close; new Frontage Road
Road 17	N/A		Close; new Frontage Road
Road 17½ (North and South Legs)	2 Lanes		New overpass
Road 18 (North Leg)	2 Lanes		Close
Avenue 21½ (North Leg)	N/A		New overpass
Avenue 22 (North Leg)	2 Lanes		New overpass
Road 18 ½	2 Lanes		Close; connect to Avenue 22
Avenue 22½ (North Leg)	2 Lanes		Close; connect to Road 18 ½
SR 152 (North Leg)	Freeway	X	HST elevated
Chowchilla Blvd (North Leg)	2 Lanes		HST elevated
Gordon St (North Leg)	2 Lanes		HST elevated
Avenue 24 (North Leg)	2 Lanes		HST elevated
Road 18 (South Leg)	2 Lanes		Close
Road 18½ (South Leg)	2 Lanes		Close
Avenue 21 (South Leg)	2 Lanes		Close; realigned
Road 19 (South Leg)	2 Lanes		New overpass
Road 19½ (South Leg)	2 Lanes		Close, new Frontage Road
Road 20 (South Leg)	N/A		New overpass
Road 20 ½ (South Leg)	2 Lanes		Close; new Frontage Road
Avenue 20 (South Leg)	2 Lanes	X	HST elevated
Golden State Blvd (S.L.)	2 Lanes		HST elevated; shift road

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
SR 99 (South Leg)	Freeway	X	HST elevated; modify Avenue 20 ½ overcrossing
Note that State Routes (SRs) are Caltrans facilities. N/A = Not applicable			

Table A-2
Roadway Project Impacts with Proposed BNSF Alternative and Associated Wye Connections

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration	
Merced Vicinity				
SR 59 (MLK)	2 Lanes	X	No change; road remains open	
G St	4 Lanes	X	New overpass from 14th to Main	
D St	2 Lanes		Close roadway at HST and UPRR	
Childs Ave	2 Lanes		Overpass extended over at-grade HST	
Gerard Ave	2 Lanes		Close roadway at HST and UPRR	
			Mission Ave Design Option	Mariposa Way Design Option
Mission Ave Interchange	4 Lanes	X	HST Elevated Over Road	
Coffee St	2 lanes		HST Elevated Over Road	
Miles Rd	2 lanes		Close	N/A
Vassar Ave	2 lanes		N/A	Close
McHenry Rd	2 lanes		N/A	Close
S. Tower Rd	2 lanes		N/A	Close
Orchard Dr	2 lanes		New overpass	Close
Arboleda Dr	2 lanes		New overpass	New overpass
Ranch Rd	2 lanes		Close	Close
Whealan Rd	2 lanes		Close	Close
Plainsburg Rd	2 lanes	X	New overpass	New overpass
Morley Ave	2 lanes		Close	Close
Mariposa Way	2 lanes		N/A	Close
Burchell Ave	2 lanes		HST elevated	New overpass
Banks Rd	2 lanes		Close	Close
			Le Grand Design Option	East of Le Grand Design Option
Savana Rd	2 lanes		HST elevated	N/A
Cunningham Rd	2 lanes		Close; Frontage Rd	New overpass
Jefferson Rd	2 lanes		HST elevated	N/A
Le Grand Rd	2 lanes	X	HST elevated	New overpass
Fresno Rd	2 lanes		HST elevated	New overpass

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration	
Ipsen Ave / Wade Ave	2 lanes		Close	Close
Buchanan Hollow Rd	2 lanes		New overpass	Close; Frontage Road to White Rock
White Rock Rd	2 lanes		Close	New overpass
Santa Fe Ave	2 lanes	X	N/A	HST elevated
Chowchilla Vicinity				
Avenue 26 (Robertson)	2 lanes	X	New overpass	
Road 22	2 lanes	X	Close, connect to Ave 26	
Avenue 24 (E Sierra View)	2 lanes	X	New overpass	
Road 24	2 lanes	X	New overpass	
Avenue 22	Future		Close; connect to Road 24	
Avenue 21/ 20 ½	2 lanes	X	New overpass	
Avenue 20	2 lanes		Close	
Madera Vicinity				
Avenue 19	Future		Connect to Road 26; HST elevated	
Road 26 (Country Club)	2 lanes		New underpass; HST elevated over road	
Avenue 18	Future		No change; closed at HST	
Road 27 (Lake)	2 lanes		New overpass	
Avenue 17	Future		New overpass	
Road 28 ¼	2 lanes		Close	
Ellis St	Future		Connect to Road 28 ¼	
Raymond Rd	2 lanes		New overpass	
SR 145	2 lanes	X	New underpass	
Watson Street	2 lanes		Close	
Avenue 15 ¾	2 lanes		Close; road shifted	
Avenue 15 ½	2 lanes		New overpass	
Road 29	2 lanes		Frontage Road connection to Ave 15 ½	
Avenue 15	2 lanes		New overpass	
Avenue 13	Future		New overpass	
Avenue 12	2 lanes	X	New overpass	
Avenue 11	2 lanes		New overpass	
Avenue 10	2 lanes		New overpass	

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
Avenue 9	2 lanes	X	New overpass
Road 32	2 lanes		Connect to Ave 9
Avenue 8	2 lanes		New overpass
Avenue 7	2 lanes		New, extended overpass over HST
Road 33	2 lanes		Shift road to east
Ave 24 Wye			
Road 8	2 lanes		New overpass
Hemlock Rd (Road 9)	2 lanes	X	New overpass
Road 10	2 lanes		New overpass
Road 11	2 lanes		Close; new Frontage Road
Road 12	2 lanes		Close
Road 13	2 lanes	X	New overpass
Road 14	2 lanes		Close; new Frontage Road
Robertson Blvd (SR 233)	2 Lanes	X	New underpass or overpass
Railroad Dr	2 Lanes		Close
Road 15	2 lanes		New overpass
Road 15¾	2 lanes		Close; new Frontage Road
Road 16	2 lanes	X	New overpass
Road 16 ½	2 lanes		Close
Road 17	2 lanes		Close
Road 17½	2 lanes		HST elevated over Road
Chowchilla Blvd	2 lanes		HST elevated over road
SR 99	Freeway		HST elevated over road
Fairmead Blvd	2 lanes		HST elevated over road
Road 18¾	2 lanes		Close
Road 19 (North Leg)	2 lanes		Close
Road 19½ (North Leg)	2 lanes		Close
Road 20 (North Leg)	N/A		Close
Avenue 24 (North Leg)	N/A	X	New overpass
Road 21 (North Leg)	2 lanes		New overpass
Avenue 25 (North Leg)	2 lanes		Close
Avenue 26 (North Leg)	2 lanes	X	HST elevated over road

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
Road 19 (South Leg)	2 lanes		Close
Road 19½ (South Leg)	2 lanes		Close
Road 20 (South Leg)	N/A		Close
Avenue 23 ½	2 lanes		New overpass
Road 20½ (South Leg)	N/A		Close
Road 22 (South Leg)	2 lanes	X	New overpass
Avenue 22½ (South Leg)	N/A		Close; connect to Road 22
Avenue 22 (South Leg)	2 lanes		New overpass
Road 24 (South Leg)	2 lanes	X	New overpass
Avenue 20½ (South Leg)	2 lanes	X	New overpass
Avenue 20 (South Leg)	2 lanes		New overpass
Ave 21 Wye			
Road 8	2 lanes		Close
Hemlock Rd (Road 9)	2 lanes	X	New overpass
Road 10	2 lanes		Close
Road 11	2 lanes		New overpass
Robertson Blvd (SR 233)	2 lanes	X	New overpass
Railroad Avenue / Avenue 21	2 lanes		Close; realigned
Road 14	2 lanes		New overpass
Road 15	2 lanes		Close; shift with new Frontage Road
Road 15½	N/A		Close
Road 16	2 lanes	X	New overpass
Road 17	N/A		Close; new Frontage Road
Road 17½	2 lanes		New overpass
Road 18	N/A		Close
Road 18½	N/A		New overpass
Road 19	2 lanes		Close
Road 19½	2 lanes		Close
Road 20	N/A		HST elevated over road
SR 99	Freeway	X	HST elevated over road
Road 21	N/A		Close
Road 22 (North Leg)	2 lanes	X	New overpass

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
Road 23 (North Leg)	2 lanes		Close
Avenue 22 (North Leg)	N/A		New overpass
Avenue 23 (North Leg)	2 lanes		HST elevated over road
Road 22 (South Leg)	2 lanes	X	New overpass
Avenue 21 (South Leg)	N/A		Close
Avenue 20½ (South Leg)	2 lanes	X	New overpass
Road 24 (South Leg)	2 lanes		Close; new Frontage Road
Avenue 20 (South Leg)	2 lanes		New overpass
Road 25 (South Leg)	N/A		HST elevated over road
Avenue 19 (South Leg)	2 lanes		HST elevated over road
Note that State Routes (SRs) are Caltrans facilities. Roadway changes in the Fresno vicinity would be the same as those listed in Table XX-1.			

Table A-3
Proposed Roadway Project Impacts with Hybrid Alternative

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
Merced Vicinity			
SR 59 (MLK)	2 Lanes	X	No change; road remains open
G St	4 Lanes	X	New overpass from 14th to Main
D St	2 Lanes		Close roadway at HST and UPRR
Childs Ave	2 Lanes		Overpass extended over at-grade HST
Gerard Ave	2 Lanes		Close roadway at HST
Mission Ave Interchange	4 Lanes	X	Overpass extended over at-grade HST
Healy Ave	2 Lanes		Close roadway at HST
Mariposa	2 Lanes		Close roadway at HST
Chowchilla Vicinity			
Lingard Rd	2 Lanes		Close roadway at HST and UPRR
Worden Ave	2 Lanes		Connect to Arboleda Dr
Le Grand Rd	2 Lanes	X	Connect to Arboleda Interchange
Arboleda Dr / Le Grand Rd Interchange	2 Lanes	X	Extend new overpass to cross over at-grade HST; Raise Caltrans frontage road to connect with overpass
Ranch Rd	2 Lanes		Connect to Arboleda Interchange
Athlone Rd	2 Lanes		Close roadway at HST and UPRR
Sandy Mush Rd			Connect to Plainsburg Interchange
Sandy Mush Rd / Plainsburg Interchange	2 Lanes	X	Extend planned overpass portion of interchange over at-grade HST
Chowchilla Vicinity (West Chowchilla Design Option)			
Cross Road	2 lanes		New overpass
Avenue 26	2 lanes		New overpass
Avenue 25	2 lanes	X	Close; connect to Avenue 24 ½
Avenue 24 ½	2 lanes		New overpass; road connected to Avenue 25
Road 13	2 lanes	X	New overpass
Road 14	2 lanes		Close; new Frontage Road
Robertson Blvd (SR 233)	2 lanes	X	New overpass or underpass
Railroad Dr	2lanes		Close
Road 15	2 lanes		New overpass

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
Road 15¾	2 lanes		Close; new Frontage Road
Road 16	2 lanes	X	New overpass
Road 16 ½	2 lanes		Close
Road 17	2 lanes		Close
Road 17½	2 lanes		HST elevated over road
Chowchilla Blvd	2 lanes		HST elevated over road
SR 99	Freeway		HST elevated over road
Fairmead Blvd	2 lanes		HST elevated over Road; road shifted
Road 18¾	2 lanes		Close
Road 19	2 lanes		Close
Road 19½	2 lanes		Close
Road 20	N/A		Close
Avenue 23 ½	2 lanes		New overpass
Road 20½	N/A		Close
Road 22	2 lanes	X	New overpass
Avenue 22½	N/A		Close; connect to Road 22
Avenue 22	2 lanes		New overpass
Road 24	2 lanes	X	New overpass
Avenue 20½	2 lanes	X	New overpass
Chowchilla Vicinity (East Chowchilla Design Option)			
Vista Ave	2 Lanes		Connect to Caltrans frontage road; HST elevated over road
Avenue 27	2 Lanes		HST elevated over Road
Road 15	2 Lanes		HST elevated over Road
Avenue 26 (Robertson)	2 Lanes	X	HST elevated over Road
Avenue 24½	2 Lanes		HST elevated over Road
Avenue 24 (E Sierra View)	2 Lanes		HST elevated over Road
SR 99	Freeway	X	HST elevated over Road
Fairmead Blvd	2 Lanes		HST elevated over Road; Shift Road
Avenue 21½ / 22	2 Lanes		HST elevated over Road
Road 21	N/A		Close
Road 22	2 lanes	X	New overpass

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
Avenue 21	N/A		Close
Avenue 20½	2 lanes	X	Close; connect to Road 24
Road 24	2 lanes		New overpass
Avenue 20	2 lanes		New overpass
Road 25	N/A		Close
Madera Vicinity			
Avenue 19	Future		Connect to Road 26
Road 26 (Country Club)	2 lanes		New overpass
Avenue 18	Future		No change; closed at HST
Road 27 (Lake)	2 lanes		New overpass
Avenue 17	Future		New overpass
Road 28 ¼	2 lanes		Close
Ellis St	Future		Connect to Road 28 ¼
Raymond Rd	2 lanes		New overpass
SR 145	2 lanes	X	New underpass
Watson Street	2 lanes		Close
Avenue 15 ¾	2 lanes		Close; road shifted
Avenue 15 ½	2 lanes		New overpass
Road 29	2 lanes		Frontage Road connection to Ave 15 ½
Avenue 15	2 lanes		New overpass
Avenue 13	Future		New overpass
Avenue 12	2 lanes	X	New overpass
Avenue 11	2 lanes		New overpass
Avenue 10	2 lanes		New overpass
Avenue 9	2 lanes	X	New overpass
Road 32	2 lanes		Realign roadway
Avenue 8	2 lanes		New overpass
Avenue 7	2 lanes		New, extended overpass over HST
Road 33	2 lanes		Shift road to east
Ave 24 Wye			
Road 8	2 lanes		New overpass
Hemlock Rd (Road 9)	2 lanes	X	New overpass

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
Road 10	2 lanes		New overpass
Road 11 (North Leg)	2 lanes		Close
Avenue 24 ½ (North Leg)	2 lanes		New overpass; connect to Avenue 25
Avenue 25	2 lanes		Close
Road 12 (North Leg)	2 lanes		Close
Road 12 (South Leg)	2 lanes		Close
Road 13 (South Leg)	2 lanes	X	New overpass
Ave 21 Wye			
Road 8	2 lanes		Close
Hemlock Rd (Road 9)	2 lanes	X	New overpass
Road 10	2 lanes		Close
Road 11	2 lanes		New overpass
Robertson Blvd (SR 233)	2 lanes	X	New overpass
Railroad Avenue / Avenue 21	2 lanes		Close; realigned
Road 14	2 lanes		New overpass
Road 15	2 lanes		Close; shift
Road 15½	N/A		Close
Road 16	2 lanes	X	New overpass
Road 16 ½	2 lanes		Close; new Frontage Road
Road 17	N/A		Close; new Frontage Road
Road 17½	2 lanes		New overpass
Road 17½ (North and South Legs)	2 Lanes		New overpass
Road 18 (North Leg)	2 Lanes		Close
Avenue 21½ (North Leg)	N/A		New overpass
Avenue 22 (North Leg)	2 Lanes		New overpass
Road 18 ½ (North Leg)	2 lanes		Close; connect to Avenue 22
Avenue 22½ (North Leg)	2 Lanes		Close; connect to Road 18 ½
SR 152 (North Leg)	Freeway	X	HST elevated
Chowchilla Blvd (North Leg)	2 Lanes		HST elevated
Gordon St (North Leg)	2 Lanes		HST elevated
Avenue 24 (North Leg)	2 Lanes		HST elevated

Roadway	Current Configuration at HST	Caltrans or Regional Road	Proposed Configuration
Road 18 (South Leg)	N/A		Close
Road 18½ (South Leg)	N/A		New overpass
Road 19 (South Leg)	2 lanes		Close
Road 19½ (South Leg)	2 lanes		Close
Road 20 (South Leg)	N/A		HST elevated over road
SR 99 (South Leg)	Freeway	X	HST elevated over road

Note that State Routes (SRs) are Caltrans facilities.

Roadway changes in the Fresno vicinity would be the same as those listed in Table XX-1.

APPENDIX B

Traffic Volume Counts

MERCED STATION INTERSECTION COUNTS

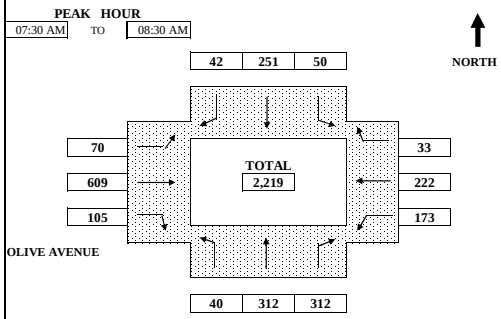
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

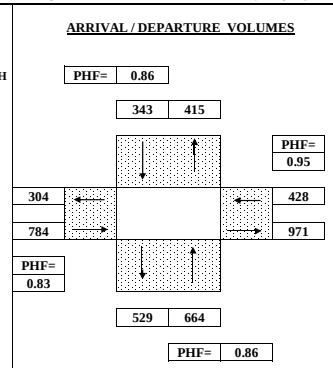
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	SR-59	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	OLIVE AVENUE	CITY:	MERCED	FILE:	2911071-1AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	9	47	39	9	82	9	9	121	13	43	54	4	*439*
7:15 AM ---	7:30 AM	17	100	81	10	169	17	20	239	29	88	109	6	*885*
7:30 AM ---	7:45 AM	24	175	148	18	250	23	34	392	60	127	170	12	*1,433*
7:45 AM ---	8:00 AM	30	271	238	30	322	31	50	574	98	169	226	20	*2,059*
8:00 AM ---	8:15 AM	41	350	321	44	379	44	68	727	123	212	275	31	*2,615*
8:15 AM ---	8:30 AM	57	412	393	60	420	59	90	848	134	261	331	39	*3,104*
8:30 AM ---	8:45 AM	72	485	462	74	466	70	111	981	144	303	381	46	*3,595*
8:45 AM ---	9:00 AM	83	563	531	86	517	79	128	1,118	153	342	435	53	*4,088*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	9	47	39	9	82	9	9	121	13	43	54	4	*439*
7:15 AM ---	7:30 AM	8	53	42	1	87	8	11	118	16	45	55	2	*446*
7:30 AM ---	7:45 AM	7	75	67	8	81	6	14	153	31	39	61	6	*548*
7:45 AM ---	8:00 AM	6	96	90	12	72	8	16	182	38	42	56	8	*626*
8:00 AM ---	8:15 AM	11	79	83	14	57	13	18	153	25	43	49	11	*556*
8:15 AM ---	8:30 AM	16	62	72	16	41	15	22	121	11	49	56	8	*489*
8:30 AM ---	8:45 AM	15	73	69	14	46	11	21	133	10	42	50	7	*491*
8:45 AM ---	9:00 AM	11	78	69	12	51	9	17	137	9	39	54	7	*493*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	30	271	238	30	322	31	50	574	98	169	226	20	*2,059*
7:15 AM ---	8:15 AM	32	303	282	35	297	35	59	606	110	169	221	27	*2,176*
7:30 AM ---	8:30 AM	40	312	312	50	251	42	70	609	105	173	222	33	*2,219*
7:45 AM ---	8:45 AM	48	310	314	56	216	47	77	589	84	176	211	34	*2,162*
8:00 AM ---	9:00 AM	53	292	293	56	195	48	78	544	55	173	209	33	*2,029*

Telephone: (510)232-1271 Fax: (510)232-1272

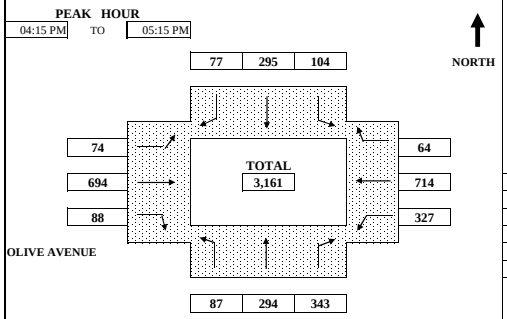
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

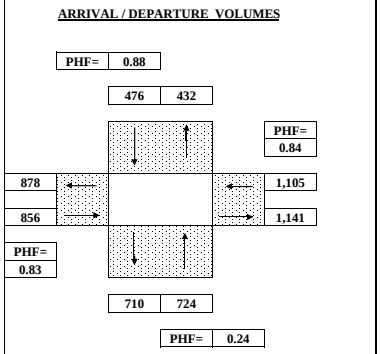
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	SR-59	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	OLIVE AVENUE	CITY:	MERCED	FILE:	2911071-1PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	18	67	95	25	69	21	16	148	25	86	182	30	*782*
4:15 PM ---	4:30 PM	39	140	179	52	153	36	38	303	49	167	345	52	*1,553*
4:30 PM ---	4:45 PM	52	805	266	74	210	58	49	449	66	238	526	66	*2,859*
4:45 PM ---	5:00 PM	80	277	359	96	277	83	72	658	92	308	687	80	*3,069*
5:00 PM ---	5:15 PM	105	361	438	129	364	98	90	842	113	413	896	94	*3,943*
5:15 PM ---	5:30 PM	125	443	530	144	426	113	110	1,029	126	480	1,042	99	*4,667*
5:30 PM ---	5:45 PM	145	517	613	164	485	135	124	1,193	158	548	1,177	105	*5,364*
5:45 PM ---	6:00 PM	173	583	714	185	540	154	132	1,331	183	613	1,314	118	*6,040*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	18	67	95	25	69	21	16	148	25	86	182	30	*782*
4:15 PM ---	4:30 PM	21	73	84	27	84	15	22	155	24	81	163	22	*771*
4:30 PM ---	4:45 PM	13	665	87	22	57	22	11	146	17	71	181	14	*1,306*
4:45 PM ---	5:00 PM	28	-528	93	22	67	25	23	209	26	70	161	14	*210*
5:00 PM ---	5:15 PM	25	84	79	33	87	15	18	184	21	105	209	14	*874*
5:15 PM ---	5:30 PM	20	82	92	15	62	15	20	187	13	67	146	5	*724*
5:30 PM ---	5:45 PM	20	74	83	20	59	22	14	164	32	68	135	6	*697*
5:45 PM ---	6:00 PM	28	66	101	21	55	19	8	138	25	65	137	13	*676*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	80	277	359	96	277	83	72	658	92	308	687	80	*3,069*
4:15 PM ---	5:15 PM	87	294	343	104	295	77	74	694	88	327	714	64	*3,161*
4:30 PM ---	5:30 PM	86	303	351	92	273	77	72	726	77	313	697	47	*3,114*
4:45 PM ---	5:45 PM	93	-288	347	90	275	77	75	744	92	310	651	39	*2,505*
5:00 PM ---	6:00 PM	93	306	355	89	263	71	60	673	91	305	627	38	*2,971*

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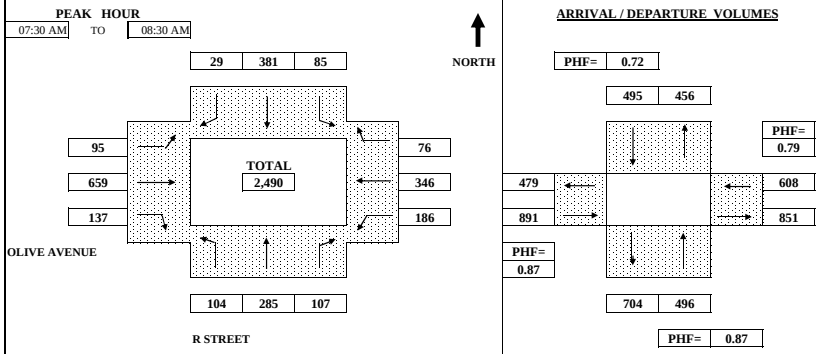
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	R STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	OLIVE AVENUE	CITY:	MERCED	FILE:	2911071-2AM

PEAK HOUR: 07:30 AM TO 08:30 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	17	16	10	6	54	9	8	66	13	42	57	5	*303*
7:15 AM ---	7:30 AM	31	50	24	21	145	18	22	150	33	67	115	7	*683*
7:30 AM ---	7:45 AM	55	131	51	47	281	27	52	334	74	114	223	20	*1,409*
7:45 AM ---	8:00 AM	71	204	92	73	378	32	73	531	110	160	281	40	*2,045*
8:00 AM ---	8:15 AM	103	274	111	94	451	40	88	666	142	223	386	64	*2,642*
8:15 AM ---	8:30 AM	135	335	131	106	526	47	117	809	170	253	461	83	*3,173*
8:30 AM ---	8:45 AM	171	388	142	122	601	57	156	908	192	276	568	105	*3,686*
8:45 AM ---	9:00 AM	213	471	159	150	682	73	177	1,022	217	297	642	112	*4,215*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	17	16	10	6	54	9	8	66	13	42	57	5	*303*
7:15 AM ---	7:30 AM	14	34	14	15	91	9	14	84	20	25	58	2	*380*
7:30 AM ---	7:45 AM	24	81	27	26	136	9	30	184	41	47	108	13	*726*
7:45 AM ---	8:00 AM	16	73	41	26	97	5	21	197	36	46	58	20	*636*
8:00 AM ---	8:15 AM	32	70	19	21	73	8	15	135	32	63	105	24	*597*
8:15 AM ---	8:30 AM	32	61	20	12	75	7	29	143	28	30	75	19	*531*
8:30 AM ---	8:45 AM	36	53	11	16	75	10	39	99	22	23	107	22	*513*
8:45 AM ---	9:00 AM	42	83	17	28	81	16	21	114	25	21	74	7	*529*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	71	204	92	73	378	32	73	531	110	160	281	40	*2,045*
7:15 AM ---	8:15 AM	86	258	101	88	397	31	80	600	129	181	329	59	*2,339*
7:30 AM ---	8:30 AM	104	285	107	85	381	29	95	659	137	186	346	76	*2,490*
7:45 AM ---	8:45 AM	116	257	91	75	320	30	104	574	118	162	345	85	*2,277*
8:00 AM ---	9:00 AM	142	267	67	77	304	41	104	491	107	137	361	72	*2,170*

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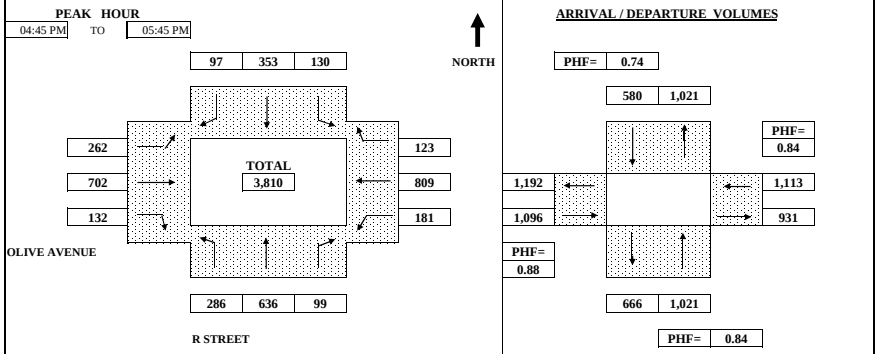
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	R STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	OLIVE AVENUE	CITY:	MERCED	FILE:	2911071-2PM

PEAK HOUR: 04:45 PM TO 05:45 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	57	141	33	43	119	35	54	173	39	59	230	32	*1,015*
4:15 PM ---	4:30 PM	138	253	65	70	209	56	112	365	89	105	407	61	*1,930*
4:30 PM ---	4:45 PM	203	364	94	107	290	73	187	553	132	153	577	88	*2,821*
4:45 PM ---	5:00 PM	274	501	109	129	387	98	235	725	161	209	821	119	*3,768*
5:00 PM ---	5:15 PM	348	641	145	165	484	127	310	927	195	248	1,013	148	*4,751*
5:15 PM ---	5:30 PM	424	848	167	204	550	146	372	1,075	229	287	1,191	183	*5,676*
5:30 PM ---	5:45 PM	489	1,000	193	237	643	170	449	1,255	264	334	1,386	211	*6,631*
5:45 PM ---	6:00 PM	534	1,103	219	260	722	189	483	1,431	303	366	1,537	243	*7,390*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	57	141	33	43	119	35	54	173	39	59	230	32	*1,015*
4:15 PM ---	4:30 PM	81	112	32	27	90	21	58	192	50	46	177	29	*915*
4:30 PM ---	4:45 PM	65	111	29	37	81	17	75	188	43	48	170	27	*891*
4:45 PM ---	5:00 PM	71	137	15	22	97	25	48	172	29	56	244	31	*947*
5:00 PM ---	5:15 PM	74	140	36	36	97	29	75	202	34	39	192	29	*983*
5:15 PM ---	5:30 PM	76	207	22	39	66	19	62	148	34	39	178	35	*925*
5:30 PM ---	5:45 PM	65	152	26	33	93	24	77	180	35	47	195	28	*955*
5:45 PM ---	6:00 PM	45	103	26	23	79	19	34	176	39	32	151	32	*759*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	274	501	109	129	387	98	235	725	161	209	821	119	*3,768*
4:15 PM ---	5:15 PM	291	500	112	122	365	92	256	754	156	189	783	116	*3,736*
4:30 PM ---	5:30 PM	286	595	102	134	341	90	260	710	140	182	784	122	*3,746*
4:45 PM ---	5:45 PM	286	636	99	130	353	97	262	702	132	181	809	123	*3,810*
5:00 PM ---	6:00 PM	260	602	110	131	335	91	248	706	142	157	716	124	*3,622*

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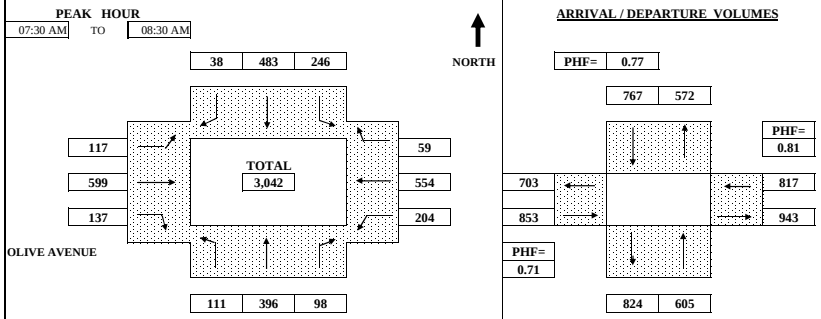
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

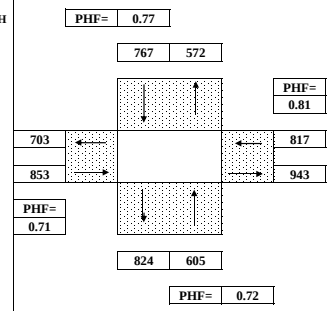
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	M STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	OLIVE AVENUE	CITY:	MERCED	FILE:	2911071-3AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	7	39	13	33	59	3	7	66	13	26	92	10	*368*
7:15 AM ---	7:30 AM	17	70	22	74	118	9	20	149	36	47	175	13	*750*
7:30 AM ---	7:45 AM	38	144	47	134	251	22	49	279	68	89	296	22	*1,439*
7:45 AM ---	8:00 AM	72	281	87	222	404	29	88	497	113	173	450	37	*2,453*
8:00 AM ---	8:15 AM	97	390	105	283	516	38	108	634	139	227	616	60	*3,213*
8:15 AM ---	8:30 AM	128	466	120	320	601	47	137	748	173	251	729	72	*3,792*
8:30 AM ---	8:45 AM	157	537	140	352	691	55	161	844	190	277	826	90	*4,320*
8:45 AM ---	9:00 AM	195	648	161	405	799	72	184	946	209	308	908	105	*4,940*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	7	39	13	33	59	3	7	66	13	26	92	10	*368*
7:15 AM ---	7:30 AM	10	31	9	41	59	6	13	83	23	21	83	3	*382*
7:30 AM ---	7:45 AM	21	74	25	60	133	13	29	130	32	42	121	9	*689*
7:45 AM ---	8:00 AM	34	137	40	88	153	7	39	218	45	84	154	15	*1,014*
8:00 AM ---	8:15 AM	25	109	18	61	112	9	20	137	26	54	166	23	*760*
8:15 AM ---	8:30 AM	31	76	15	37	85	9	29	114	34	24	113	12	*579*
8:30 AM ---	8:45 AM	29	71	20	32	90	8	24	96	17	26	97	18	*528*
8:45 AM ---	9:00 AM	38	111	21	53	108	17	23	102	19	31	82	15	*620*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	72	281	87	222	404	29	88	497	113	173	450	37	*2,453*
7:15 AM ---	8:15 AM	90	351	92	250	457	35	101	568	126	201	524	50	*2,845*
7:30 AM ---	8:30 AM	111	396	98	246	483	38	117	599	137	204	554	59	*3,042*
7:45 AM ---	8:45 AM	119	393	93	218	440	33	112	565	122	188	530	68	*2,881*
8:00 AM ---	9:00 AM	123	367	74	183	395	43	96	449	96	135	458	68	*2,487*

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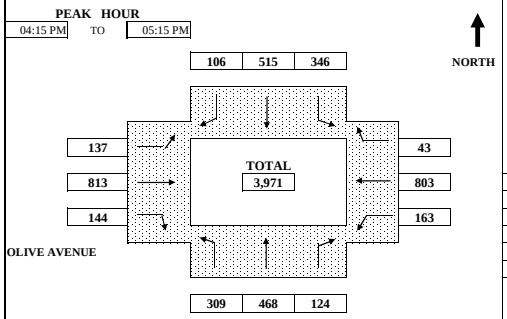
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

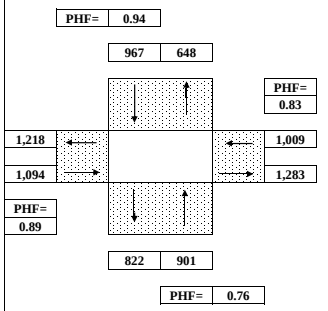
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	M STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	OLIVE AVENUE	CITY:	MERCED	FILE:	2911071-3PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	66	127	34	96	114	34	40	240	24	59	234	12	*1,080*
4:15 PM ---	4:30 PM	122	232	68	174	261	64	76	444	55	119	417	18	*2,050*
4:30 PM ---	4:45 PM	180	352	102	266	400	91	100	638	88	148	636	27	*3,028*
4:45 PM ---	5:00 PM	261	451	119	342	516	120	137	845	132	182	820	40	*3,965*
5:00 PM ---	5:15 PM	375	595	158	442	629	140	177	1,053	168	222	1,037	55	*5,051*
5:15 PM ---	5:30 PM	387	728	194	524	699	155	221	1,289	196	268	1,225	70	*5,956*
5:30 PM ---	5:45 PM	438	847	222	621	819	174	252	1,489	225	298	1,435	82	*6,902*
5:45 PM ---	6:00 PM	484	922	245	698	902	186	275	1,658	254	310	1,639	100	*7,673*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	66	127	34	96	114	34	40	240	24	59	234	12	*1,080*
4:15 PM ---	4:30 PM	56	105	34	78	147	30	36	204	31	60	183	6	*970*
4:30 PM ---	4:45 PM	58	120	34	92	139	27	24	194	33	29	219	9	*978*
4:45 PM ---	5:00 PM	81	99	17	76	116	29	37	207	44	34	184	13	*937*
5:00 PM ---	5:15 PM	114	144	39	100	113	20	40	208	36	40	217	15	*1,086*
5:15 PM ---	5:30 PM	12	133	36	82	70	15	44	236	28	46	188	15	*905*
5:30 PM ---	5:45 PM	51	119	28	97	120	19	31	200	29	30	210	12	*946*
5:45 PM ---	6:00 PM	46	75	23	77	83	12	23	169	29	12	204	18	*771*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	261	451	119	342	516	120	137	845	132	182	820	40	*3,965*
4:15 PM ---	5:15 PM	309	468	124	346	515	106	137	813	144	163	803	43	*3,971*
4:30 PM ---	5:30 PM	265	496	126	350	438	91	145	845	141	149	808	52	*3,906*
4:45 PM ---	5:45 PM	258	495	120	355	419	83	152	851	137	150	799	55	*3,874*
5:00 PM ---	6:00 PM	223	471	126	356	386	66	138	813	122	128	819	60	*3,708*

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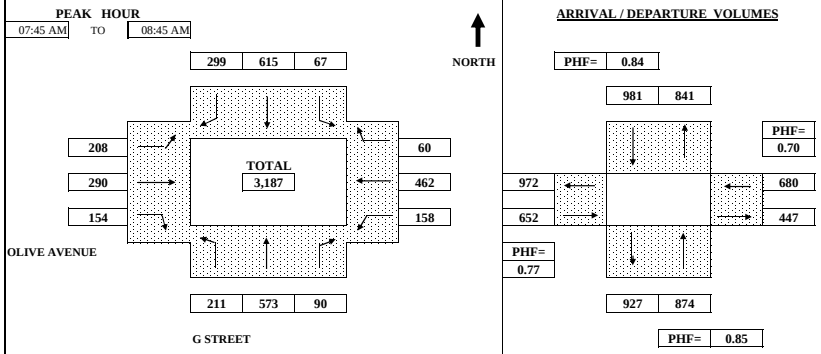
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	G STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	OLIVE AVENUE	CITY:	MERCED	FILE:	2911071-4AM

PEAK HOUR: 07:45 AM TO 08:45 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	14	59	13	11	73	48	20	20	29	31	68	6	***392***
7:15 AM ---	7:30 AM	29	130	22	16	198	90	46	51	53	64	136	11	***846***
7:30 AM ---	7:45 AM	57	253	34	26	345	140	84	93	86	104	241	17	***1,480***
7:45 AM ---	8:00 AM	137	380	57	41	490	265	139	174	144	160	413	31	***2,431***
8:00 AM ---	8:15 AM	185	557	88	62	665	362	210	281	177	190	531	47	***3,355***
8:15 AM ---	8:30 AM	226	694	108	84	784	389	252	353	208	233	628	67	***4,026***
8:30 AM ---	8:45 AM	268	826	124	93	960	439	292	383	240	262	703	77	***4,667***
8:45 AM ---	9:00 AM	299	979	138	102	1,051	489	345	434	270	304	788	88	***5,287***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	14	59	13	11	73	48	20	20	29	31	68	6	***392***
7:15 AM ---	7:30 AM	15	71	9	5	125	42	26	31	24	33	68	5	***454***
7:30 AM ---	7:45 AM	28	123	12	10	147	50	38	42	33	40	105	6	***634***
7:45 AM ---	8:00 AM	80	127	23	15	145	125	55	81	58	56	172	14	***951***
8:00 AM ---	8:15 AM	48	177	31	21	175	97	71	107	33	30	118	16	***924***
8:15 AM ---	8:30 AM	41	137	20	22	119	27	42	72	31	43	97	20	***671***
8:30 AM ---	8:45 AM	42	132	16	9	176	50	40	30	32	29	75	10	***641***
8:45 AM ---	9:00 AM	31	153	14	9	91	50	53	51	30	42	85	11	***620***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	137	380	57	41	490	265	139	174	144	160	413	31	***2,431***
7:15 AM ---	8:15 AM	171	498	75	51	592	314	190	261	148	159	463	41	***2,963***
7:30 AM ---	8:30 AM	197	564	86	68	586	299	206	302	155	169	492	56	***3,180***
7:45 AM ---	8:45 AM	211	573	90	67	615	299	208	290	154	158	462	60	***3,187***
8:00 AM ---	9:00 AM	162	599	81	61	561	224	206	260	126	144	375	57	***2,856***

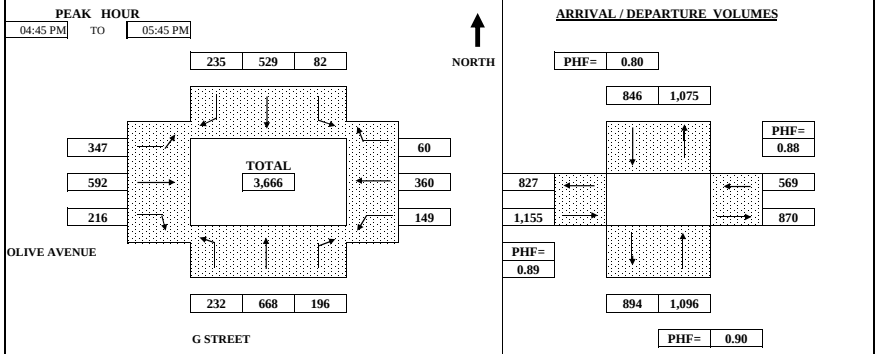
Telephone: (510)232-1271 Fax: (510)232-1272

B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	G STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	OLIVE AVENUE	CITY:	MERCED	FILE:	2911071-4PM

PEAK HOUR: 04:45 PM TO 05:45 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	75	163	43	20	166	78	85	146	66	49	100	7	***998***
4:15 PM ---	4:30 PM	130	309	79	40	267	127	165	285	117	95	196	26	***1,836***
4:30 PM ---	4:45 PM	190	471	115	59	397	182	248	395	163	153	272	35	***2,680***
4:45 PM ---	5:00 PM	251	616	151	80	535	250	315	522	219	194	359	54	***3,546***
5:00 PM ---	5:15 PM	302	779	204	99	669	303	402	669	274	219	469	62	***4,451***
5:15 PM ---	5:30 PM	355	975	259	120	802	362	509	829	331	259	547	80	***5,428***
5:30 PM ---	5:45 PM	422	1,139	311	141	926	417	595	987	379	302	632	95	***6,346***
5:45 PM ---	6:00 PM	488	1,258	346	158	1,029	482	659	1,126	442	345	716	118	***7,167***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	75	163	43	20	166	78	85	146	66	49	100	7	***998***
4:15 PM ---	4:30 PM	55	146	36	20	101	49	80	139	51	46	96	19	***838***
4:30 PM ---	4:45 PM	60	162	36	19	130	55	83	110	46	58	76	9	***844***
4:45 PM ---	5:00 PM	61	145	36	21	138	68	67	127	56	41	87	19	***866***
5:00 PM ---	5:15 PM	51	163	53	19	134	53	87	147	55	25	110	8	***905***
5:15 PM ---	5:30 PM	53	196	55	21	133	59	107	160	57	40	78	18	***977***
5:30 PM ---	5:45 PM	67	164	52	21	124	55	86	158	48	43	85	15	***918***
5:45 PM ---	6:00 PM	66	119	35	17	103	65	64	139	63	43	84	23	***821***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	251	616	151	80	535	250	315	522	219	194	359	54	***3,546***
4:15 PM ---	5:15 PM	227	616	161	79	503	225	317	523	208	170	369	55	***3,453***
4:30 PM ---	5:30 PM	225	666	180	80	535	235	344	544	214	164	351	54	***3,592***
4:45 PM ---	5:45 PM	232	668	196	82	529	235	347	592	216	149	360	60	***3,666***
5:00 PM ---	6:00 PM	237	642	195	78	494	232	344	604	223	151	357	64	***3,621***

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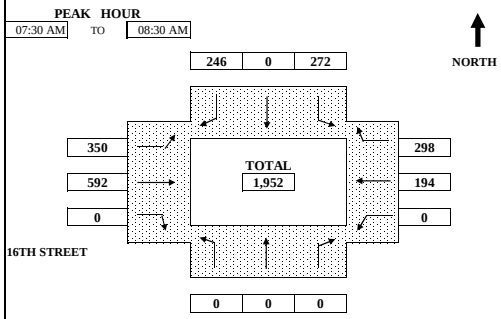
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

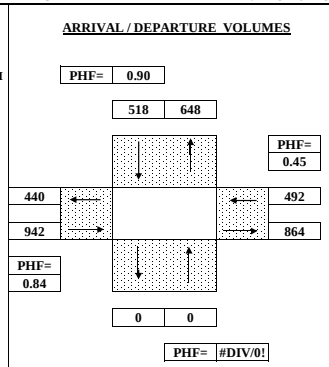
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	SR-59	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	16TH STREET	CITY: MERCED		FILE:	2911071-5AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
7:00 AM	---	7:15 AM	0	0	0	42	0	65	46	71	0	0	43	61	***328***
7:15 AM	---	7:30 AM	0	0	0	105	0	132	117	218	0	0	80	128	***780***
7:30 AM	---	7:45 AM	0	0	0	185	0	196	211	404	0	0	104	200	***1,300***
7:45 AM	---	8:00 AM	0	0	0	256	0	253	299	577	0	0	155	273	***1,813***
8:00 AM	---	8:15 AM	0	0	0	314	0	317	379	689	0	0	217	347	***2,263***
8:15 AM	---	8:30 AM	0	0	0	377	0	378	467	810	0	0	274	426	***2,732***
8:30 AM	---	8:45 AM	0	0	0	433	0	423	561	919	0	0	316	500	***3,152***
8:45 AM	---	9:00 AM	0	0	0	482	0	470	633	1,033	0	0	355	568	***3,541***
TOTAL BY PERIOD															
7:00 AM	---	7:15 AM	0	0	0	42	0	65	46	71	0	0	43	61	***328***
7:15 AM	---	7:30 AM	0	0	0	63	0	67	71	147	0	0	37	67	***452***
7:30 AM	---	7:45 AM	0	0	0	80	0	64	94	186	0	0	24	72	***520***
7:45 AM	---	8:00 AM	0	0	0	71	0	57	88	173	0	0	51	73	***513***
8:00 AM	---	8:15 AM	0	0	0	58	0	64	80	112	0	0	62	74	***450***
8:15 AM	---	8:30 AM	0	0	0	63	0	61	88	121	0	0	57	79	***469***
8:30 AM	---	8:45 AM	0	0	0	56	0	45	94	109	0	0	42	74	***420***
8:45 AM	---	9:00 AM	0	0	0	49	0	47	72	114	0	0	39	68	***389***
HOURLY TOTALS															
7:00 AM	---	8:00 AM	0	0	0	256	0	253	299	577	0	0	155	273	***1,813***
7:15 AM	---	8:15 AM	0	0	0	272	0	252	333	618	0	0	174	286	***1,935***
7:30 AM	---	8:30 AM	0	0	0	272	0	246	350	592	0	0	194	298	***1,952***
7:45 AM	---	8:45 AM	0	0	0	248	0	227	350	515	0	0	212	300	***1,852***
8:00 AM	---	9:00 AM	0	0	0	226	0	217	334	456	0	0	200	295	***1,728***

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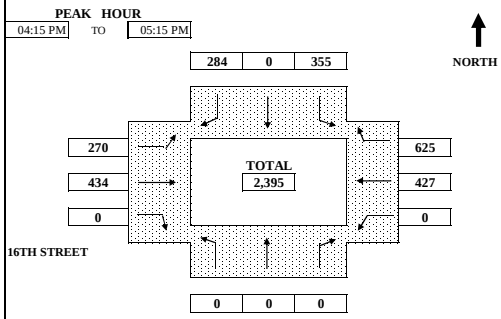
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

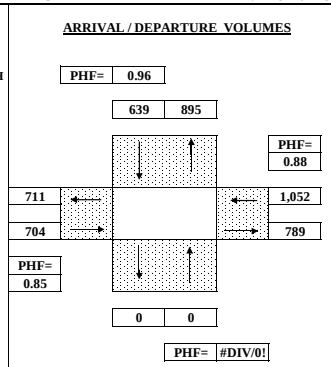
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	SR-59	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	16TH STREET	CITY: MERCED		FILE:	2911071-5PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	0	0	0	88	0	79	70	114	0	0	99	97	***547***
4:15 PM	---	4:30 PM	0	0	0	173	0	160	137	231	0	0	194	224	***1,119***
4:30 PM	---	4:45 PM	0	0	0	263	0	228	207	345	0	0	304	391	***1,738***
4:45 PM	---	5:00 PM	0	0	0	346	0	294	267	437	0	0	409	585	***2,338***
5:00 PM	---	5:15 PM	0	0	0	443	0	363	340	548	0	0	526	722	***2,942***
5:15 PM	---	5:30 PM	0	0	0	529	0	428	422	672	0	0	611	821	***3,483***
5:30 PM	---	5:45 PM	0	0	0	627	0	494	494	788	0	0	704	908	***4,015***
5:45 PM	---	6:00 PM	0	0	0	720	0	555	555	882	0	0	789	977	***4,478***
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	0	0	0	88	0	79	70	114	0	0	99	97	***547***
4:15 PM	---	4:30 PM	0	0	0	85	0	81	67	117	0	0	95	127	***572***
4:30 PM	---	4:45 PM	0	0	0	90	0	68	70	114	0	0	110	167	***619***
4:45 PM	---	5:00 PM	0	0	0	83	0	66	60	92	0	0	105	194	***600***
5:00 PM	---	5:15 PM	0	0	0	97	0	69	73	111	0	0	117	137	***604***
5:15 PM	---	5:30 PM	0	0	0	86	0	65	82	124	0	0	85	99	***541***
5:30 PM	---	5:45 PM	0	0	0	98	0	66	72	116	0	0	93	87	***532***
5:45 PM	---	6:00 PM	0	0	0	93	0	61	61	94	0	0	85	69	***463***
HOURLY TOTALS															
4:00 PM	---	5:00 PM	0	0	0	346	0	294	267	437	0	0	409	585	***2,338***
4:15 PM	---	5:15 PM	0	0	0	355	0	284	270	434	0	0	427	625	***2,395***
4:30 PM	---	5:30 PM	0	0	0	356	0	268	285	441	0	0	417	597	***2,364***
4:45 PM	---	5:45 PM	0	0	0	364	0	266	287	443	0	0	400	517	***2,277***
5:00 PM	---	6:00 PM	0	0	0	374	0	261	288	445	0	0	380	392	***2,140***

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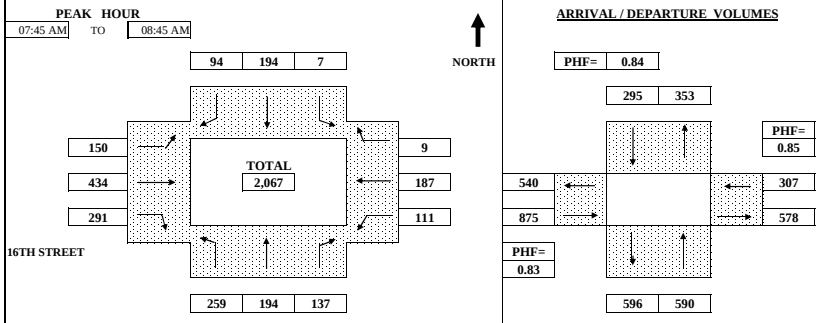
B.A.Y.M.E.T.R.I.C.S.

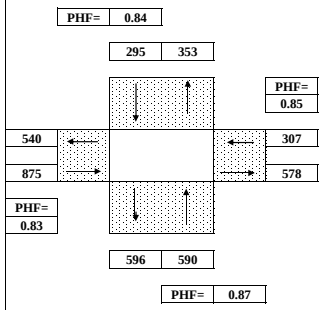
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	V STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	16TH STREET	CITY: MERCED		FILE:	2911071-6AM

PEAK HOUR: 07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	48	26	9	0	37	15	9	51	55	27	31	1	*309*
7:15 AM ---	7:30 AM	91	45	26	2	86	25	27	107	108	51	51	2	*621*
7:30 AM ---	7:45 AM	144	93	61	3	123	48	58	207	204	83	78	3	*1,105*
7:45 AM ---	8:00 AM	226	145	97	4	188	70	111	331	291	117	121	4	*1,705*
8:00 AM ---	8:15 AM	277	205	136	6	230	100	142	426	345	138	168	6	*2,179*
8:15 AM ---	8:30 AM	327	251	168	7	269	119	173	521	428	168	205	8	*2,644*
8:30 AM ---	8:45 AM	403	287	198	10	317	142	208	641	495	194	265	12	*3,172*
8:45 AM ---	9:00 AM	454	308	228	12	356	158	231	737	559	226	316	17	*3,602*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	48	26	9	0	37	15	9	51	55	27	31	1	*309*
7:15 AM ---	7:30 AM	43	19	17	2	49	10	18	56	53	24	20	1	*312*
7:30 AM ---	7:45 AM	53	48	35	1	37	23	31	100	96	32	27	1	*484*
7:45 AM ---	8:00 AM	82	52	36	1	65	22	53	124	87	34	43	1	*600*
8:00 AM ---	8:15 AM	51	60	39	2	42	30	31	95	54	21	47	2	*474*
8:15 AM ---	8:30 AM	50	46	32	1	39	19	31	95	83	30	37	2	*465*
8:30 AM ---	8:45 AM	76	36	30	3	48	23	35	120	67	26	60	4	*528*
8:45 AM ---	9:00 AM	51	21	30	2	39	16	23	96	64	32	51	5	*430*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	226	145	97	4	188	70	111	331	291	117	121	4	*1,705*
7:15 AM ---	8:15 AM	229	179	127	6	193	85	133	375	290	111	137	5	*1,870*
7:30 AM ---	8:30 AM	236	206	142	5	183	94	146	414	320	117	154	6	*2,023*
7:45 AM ---	8:45 AM	259	194	137	7	194	94	150	434	291	111	187	9	*2,067*
8:00 AM ---	9:00 AM	228	163	131	8	168	88	120	406	268	109	195	13	*1,897*

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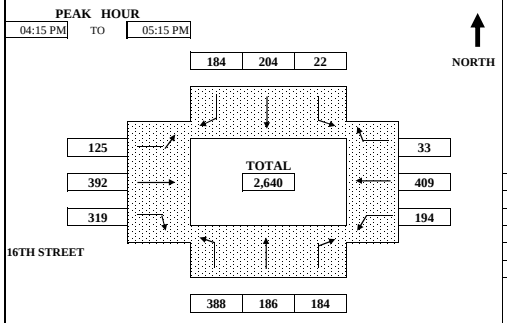
B.A.Y.M.E.T.R.I.C.S.

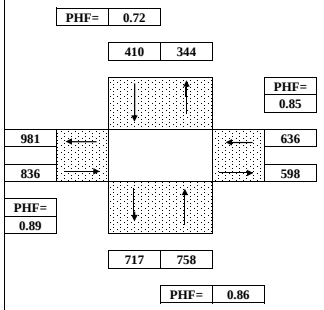
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	V STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	16TH STREET	CITY: MERCED		FILE:	2911071-6PM

PEAK HOUR: 04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	107	55	59	6	47	39	33	118	76	57	92	5	*694*
4:15 PM ---	4:30 PM	207	100	101	10	100	75	62	201	164	106	168	8	*1,302*
4:30 PM ---	4:45 PM	299	152	152	16	141	117	88	297	245	158	275	17	*1,957*
4:45 PM ---	5:00 PM	400	188	185	22	184	153	131	407	326	198	378	26	*2,598*
5:00 PM ---	5:15 PM	495	241	243	28	251	223	158	510	395	251	501	38	*3,334*
5:15 PM ---	5:30 PM	573	286	290	38	307	268	184	622	451	287	590	45	*3,941*
5:30 PM ---	5:45 PM	652	329	338	42	358	301	220	727	516	320	673	53	*4,529*
5:45 PM ---	6:00 PM	724	368	367	50	406	334	263	832	581	370	747	67	*5,109*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	107	55	59	6	47	39	33	118	76	57	92	5	*694*
4:15 PM ---	4:30 PM	100	45	42	4	53	36	29	83	88	49	76	3	*608*
4:30 PM ---	4:45 PM	92	52	51	6	41	42	26	96	81	52	107	9	*655*
4:45 PM ---	5:00 PM	101	36	33	6	43	36	43	110	81	40	103	9	*641*
5:00 PM ---	5:15 PM	95	53	58	6	67	70	27	103	69	53	123	12	*736*
5:15 PM ---	5:30 PM	78	45	47	10	56	45	26	112	56	36	89	7	*607*
5:30 PM ---	5:45 PM	79	43	48	4	51	33	36	105	65	33	83	8	*588*
5:45 PM ---	6:00 PM	72	39	29	8	48	33	43	105	65	50	74	14	*580*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	400	188	185	22	184	153	131	407	326	198	378	26	*2,598*
4:15 PM ---	5:15 PM	388	186	184	22	204	184	125	392	319	194	409	33	*2,640*
4:30 PM ---	5:30 PM	366	186	189	28	207	193	122	421	287	181	422	37	*2,639*
4:45 PM ---	5:45 PM	353	177	186	26	217	184	132	430	271	162	398	36	*2,572*
5:00 PM ---	6:00 PM	324	180	182	28	222	181	132	425	255	172	369	41	*2,511*

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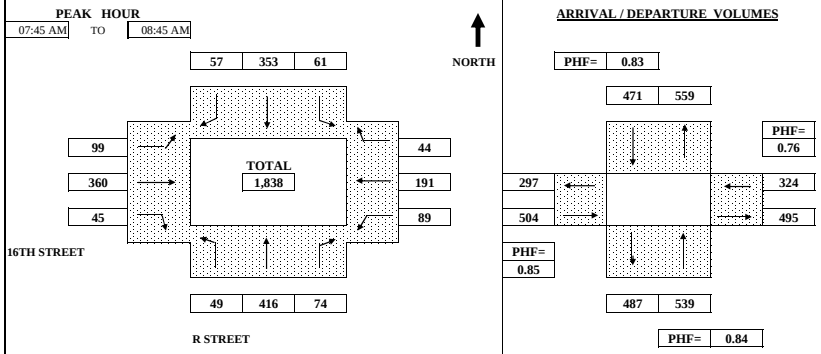
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	R STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	16TH STREET	CITY: MERCED		FILE:	2911071-7AM

PEAK HOUR: 07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	3	34	8	6	58	15	4	35	7	16	38	4	*228*
7:15 AM ---	7:30 AM	10	96	13	19	123	28	17	86	13	34	60	9	*508*
7:30 AM ---	7:45 AM	18	188	32	26	211	41	33	162	23	48	95	22	*899*
7:45 AM ---	8:00 AM	35	312	51	47	312	61	55	275	37	70	142	32	*1,429*
8:00 AM ---	8:15 AM	44	420	73	58	410	72	88	347	45	91	182	41	*1,871*
8:15 AM ---	8:30 AM	56	515	87	76	474	83	111	433	53	109	232	52	*2,281*
8:30 AM ---	8:45 AM	67	604	106	87	564	98	132	522	68	137	286	66	*2,737*
8:45 AM ---	9:00 AM	86	714	129	105	623	114	147	622	81	164	343	89	*3,217*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	3	34	8	6	58	15	4	35	7	16	38	4	*228*
7:15 AM ---	7:30 AM	7	62	5	13	65	13	13	51	6	18	22	5	*280*
7:30 AM ---	7:45 AM	8	92	19	7	88	13	16	76	10	14	35	13	*391*
7:45 AM ---	8:00 AM	17	124	19	21	101	20	22	113	14	22	47	10	*530*
8:00 AM ---	8:15 AM	9	108	22	11	98	11	33	72	8	21	40	9	*442*
8:15 AM ---	8:30 AM	12	95	14	18	64	11	23	86	8	18	50	11	*410*
8:30 AM ---	8:45 AM	11	89	19	11	90	15	21	89	15	28	54	14	*456*
8:45 AM ---	9:00 AM	19	110	23	18	59	16	15	100	13	27	57	23	*480*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	35	312	51	47	312	61	55	275	37	70	142	32	*1,429*
7:15 AM ---	8:15 AM	41	386	65	52	352	57	84	312	38	75	144	37	*1,643*
7:30 AM ---	8:30 AM	46	419	74	57	351	55	94	347	40	75	172	43	*1,773*
7:45 AM ---	8:45 AM	49	416	74	61	353	57	99	360	45	89	191	44	*1,838*
8:00 AM ---	9:00 AM	51	402	78	58	311	53	92	347	44	94	201	57	*1,788*

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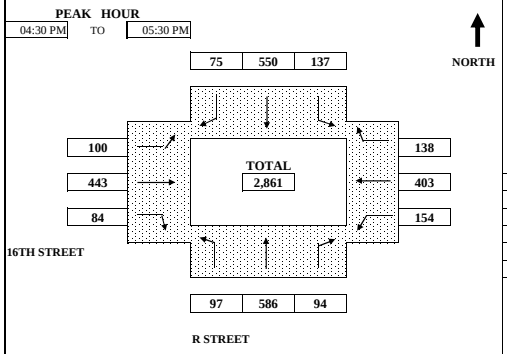
B.A.Y.M.E.T.R.I.C.S.

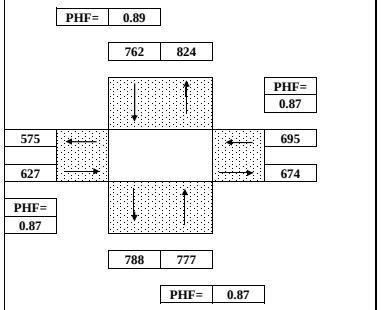
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	R STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	16TH STREET	CITY: MERCED		FILE:	2911071-7PM

PEAK HOUR: 04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	15	155	31	32	156	11	30	127	22	56	110	34	*779*
4:15 PM ---	4:30 PM	31	288	62	59	275	26	51	195	37	92	185	58	*1,359*
4:30 PM ---	4:45 PM	50	434	85	96	405	45	70	282	50	124	289	84	*2,014*
4:45 PM ---	5:00 PM	81	552	108	126	541	63	99	392	74	162	391	122	*2,711*
5:00 PM ---	5:15 PM	111	712	141	166	690	87	128	521	97	210	501	154	*3,518*
5:15 PM ---	5:30 PM	128	874	156	196	825	101	151	638	121	246	588	196	*4,220*
5:30 PM ---	5:45 PM	155	993	173	234	953	121	169	739	134	284	659	228	*4,842*
5:45 PM ---	6:00 PM	172	1,096	199	267	1,100	136	196	827	145	300	743	255	*5,436*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	15	155	31	32	156	11	30	127	22	56	110	34	*779*
4:15 PM ---	4:30 PM	16	133	31	27	119	15	21	68	15	36	75	24	*580*
4:30 PM ---	4:45 PM	19	146	23	37	130	19	19	87	13	32	104	26	*655*
4:45 PM ---	5:00 PM	31	118	23	30	136	18	29	110	24	38	102	38	*697*
5:00 PM ---	5:15 PM	30	160	33	40	149	24	29	129	23	48	110	32	*807*
5:15 PM ---	5:30 PM	17	162	15	30	135	14	23	117	24	36	87	42	*702*
5:30 PM ---	5:45 PM	27	119	17	38	128	20	18	101	13	38	71	32	*622*
5:45 PM ---	6:00 PM	17	103	26	33	147	15	27	88	11	16	84	27	*594*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	81	552	108	126	541	63	99	392	74	162	391	122	*2,711*
4:15 PM ---	5:15 PM	96	557	110	134	534	76	98	394	75	154	391	120	*2,739*
4:30 PM ---	5:30 PM	97	586	94	137	550	75	100	443	84	154	403	138	*2,861*
4:45 PM ---	5:45 PM	105	559	88	138	548	76	99	457	84	160	370	144	*2,828*
5:00 PM ---	6:00 PM	91	544	91	141	559	73	97	435	71	138	352	133	*2,725*

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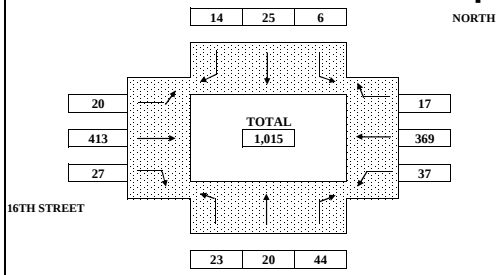
B.A.Y.M.E.T.R.I.C.S.

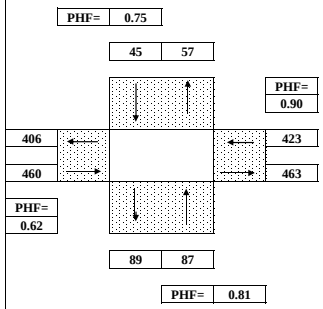
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	O STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	16TH STREET	CITY:	MERCED	FILE:	2911071-8AM

PEAK HOUR: 08:00 AM TO 09:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	6	4	3	5	4	3	2	37	5	7	50	0	*126*
7:15 AM ---	7:30 AM	7	11	16	5	9	3	4	93	10	10	108	0	*276*
7:30 AM ---	7:45 AM	10	13	23	6	12	5	6	183	13	17	167	3	*458*
7:45 AM ---	8:00 AM	14	22	34	7	17	7	7	291	17	26	247	9	*698*
8:00 AM ---	8:15 AM	19	25	46	9	22	10	11	460	29	36	339	13	*1,019*
8:15 AM ---	8:30 AM	26	32	59	10	29	12	18	492	35	44	422	14	*1,193*
8:30 AM ---	8:45 AM	31	35	68	12	36	18	23	599	37	49	519	20	*1,447*
8:45 AM ---	9:00 AM	37	42	78	13	42	21	27	704	44	63	616	26	*1,713*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	6	4	3	5	4	3	2	37	5	7	50	0	*126*
7:15 AM ---	7:30 AM	1	7	13	0	5	0	2	56	5	3	58	0	*150*
7:30 AM ---	7:45 AM	3	2	7	1	3	2	2	90	3	7	59	3	*182*
7:45 AM ---	8:00 AM	4	9	11	1	5	2	1	108	4	9	80	6	*240*
8:00 AM ---	8:15 AM	5	3	12	2	5	3	4	169	12	10	92	4	*321*
8:15 AM ---	8:30 AM	7	7	13	1	7	2	7	32	6	8	83	1	*174*
8:30 AM ---	8:45 AM	5	3	9	2	7	6	5	107	2	5	97	6	*254*
8:45 AM ---	9:00 AM	6	7	10	1	6	3	4	105	7	14	97	6	*266*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	14	22	34	7	17	7	7	291	17	26	247	9	*698*
7:15 AM ---	8:15 AM	13	21	43	4	18	7	9	423	24	29	289	13	*893*
7:30 AM ---	8:30 AM	19	21	43	5	20	9	14	399	25	34	314	14	*917*
7:45 AM ---	8:45 AM	21	22	45	6	24	13	17	416	24	32	352	17	*989*
8:00 AM ---	9:00 AM	23	20	44	6	25	14	20	413	27	37	369	17	*1,015*

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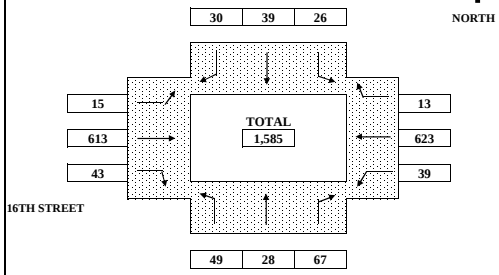
B.A.Y.M.E.T.R.I.C.S.

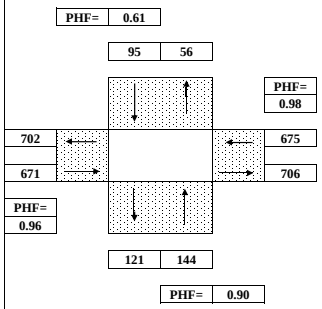
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	O STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	16TH STREET	CITY:	MERCED	FILE:	2911071-8PM

PEAK HOUR: 04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	11	7	15	2	13	8	1	135	7	18	147	1	*365*
4:15 PM ---	4:30 PM	27	13	32	5	19	14	6	287	15	24	310	5	*757*
4:30 PM ---	4:45 PM	33	22	51	7	24	23	11	442	29	37	463	9	*1,151*
4:45 PM ---	5:00 PM	40	28	69	17	36	26	16	591	37	50	614	11	*1,535*
5:00 PM ---	5:15 PM	60	35	82	28	52	38	16	748	50	57	770	14	*1,950*
5:15 PM ---	5:30 PM	70	43	95	30	61	42	18	896	52	63	903	20	*2,293*
5:30 PM ---	5:45 PM	79	48	98	33	72	45	21	1,022	64	71	1,044	20	*2,617*
5:45 PM ---	6:00 PM	89	53	105	34	82	46	26	1,141	71	76	1,176	22	*2,921*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	11	7	15	2	13	8	1	135	7	18	147	1	*365*
4:15 PM ---	4:30 PM	16	6	17	3	6	6	5	152	8	6	163	4	*392*
4:30 PM ---	4:45 PM	6	9	19	2	5	9	5	155	14	13	153	4	*394*
4:45 PM ---	5:00 PM	7	6	18	10	12	3	5	149	8	13	151	2	*384*
5:00 PM ---	5:15 PM	20	7	13	11	16	12	0	157	13	7	156	3	*415*
5:15 PM ---	5:30 PM	10	8	13	2	9	4	2	148	2	6	133	6	*343*
5:30 PM ---	5:45 PM	9	5	3	3	11	3	3	126	12	8	141	0	*324*
5:45 PM ---	6:00 PM	10	5	7	1	10	1	5	119	7	5	132	2	*304*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	40	28	69	17	36	26	16	591	37	50	614	11	*1,535*
4:15 PM ---	5:15 PM	49	28	67	26	39	30	15	613	43	39	623	13	*1,585*
4:30 PM ---	5:30 PM	43	30	63	25	42	28	12	609	37	39	593	15	*1,536*
4:45 PM ---	5:45 PM	46	26	47	26	48	22	10	580	35	34	581	11	*1,466*
5:00 PM ---	6:00 PM	49	25	36	17	46	20	10	550	34	26	562	11	*1,386*

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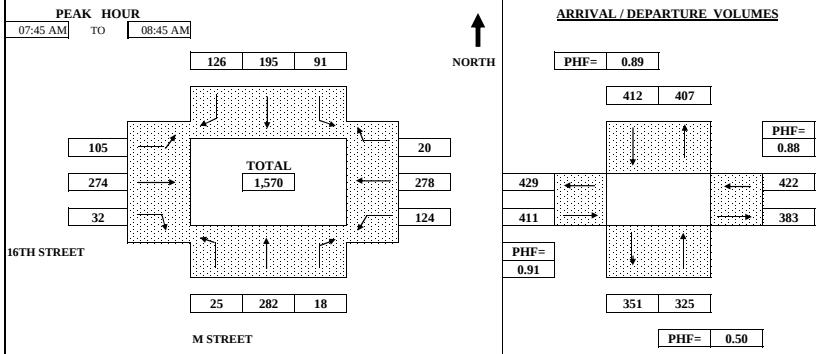
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	M STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	16TH STREET	CITY:	MERCED	FILE:	2911071-9AM

PEAK HOUR: 07:45 AM TO 08:45 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	1	21	0	20	40	24	5	35	3	15	32	1	197
7:15 AM	7:30 AM	3	60	0	28	77	42	24	73	13	35	92	6	453
7:30 AM	7:45 AM	7	141	7	50	127	57	58	118	19	70	139	10	803
7:45 AM	8:00 AM	16	289	13	79	181	87	99	185	24	118	205	16	1,312
8:00 AM	8:15 AM	20	338	17	98	240	125	122	258	34	140	277	19	1,688
8:15 AM	8:30 AM	24	384	22	118	284	154	140	321	41	164	341	23	2,016
8:30 AM	8:45 AM	32	423	25	141	322	183	163	392	51	194	417	30	2,373
8:45 AM	9:00 AM	45	495	32	170	357	218	197	460	55	215	482	38	2,764
TOTAL BY PERIOD														
7:00 AM	7:15 AM	1	21	0	20	40	24	5	35	3	15	32	1	197
7:15 AM	7:30 AM	2	39	0	8	37	18	19	38	10	20	60	5	256
7:30 AM	7:45 AM	4	81	7	22	50	15	34	45	6	35	47	4	350
7:45 AM	8:00 AM	9	148	6	29	54	30	41	67	5	48	66	6	509
8:00 AM	8:15 AM	4	49	4	19	59	38	23	73	10	22	72	3	376
8:15 AM	8:30 AM	4	46	5	20	44	29	18	63	7	24	64	4	328
8:30 AM	8:45 AM	8	39	3	23	38	29	23	71	10	30	76	7	357
8:45 AM	9:00 AM	13	72	7	29	35	35	34	68	4	21	65	8	391
HOURLY TOTALS														
7:00 AM	8:00 AM	16	289	13	79	181	87	99	185	24	118	205	16	1,312
7:15 AM	8:15 AM	19	317	17	78	200	101	117	223	31	125	245	18	1,491
7:30 AM	8:30 AM	21	324	22	90	207	112	116	248	28	129	249	17	1,563
7:45 AM	8:45 AM	25	282	18	91	195	126	105	274	32	124	278	20	1,570
8:00 AM	9:00 AM	29	206	19	91	176	131	98	275	31	97	277	22	1,452

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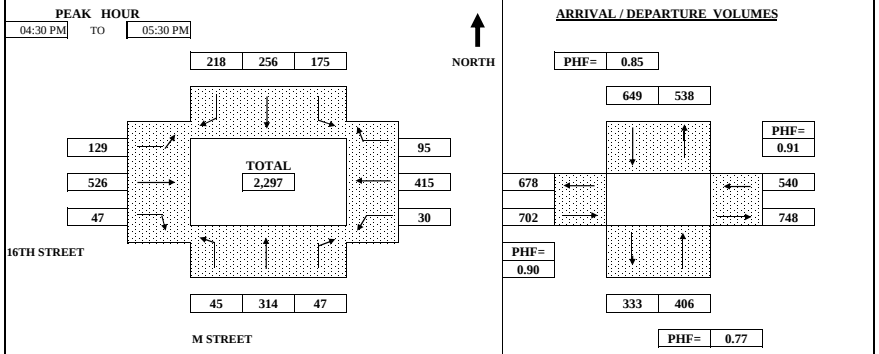
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	M STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	16TH STREET	CITY:	MERCED	FILE:	2911071-9PM

PEAK HOUR: 04:30 PM TO 05:30 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	22	74	11	35	71	52	27	128	11	7	106	33	577
4:15 PM	4:30 PM	37	130	19	80	126	99	56	236	24	17	222	56	1,102
4:30 PM	4:45 PM	52	238	28	130	197	170	95	381	34	22	339	80	1,766
4:45 PM	5:00 PM	59	291	41	160	246	219	113	512	49	36	432	96	2,254
5:00 PM	5:15 PM	73	374	56	217	323	268	152	643	66	44	531	121	2,868
5:15 PM	5:30 PM	82	444	66	255	382	317	185	762	71	47	637	151	3,399
5:30 PM	5:45 PM	99	487	77	285	429	357	203	862	84	56	744	170	3,853
5:45 PM	6:00 PM	110	530	91	301	488	390	221	964	96	61	833	195	4,280
TOTAL BY PERIOD														
4:00 PM	4:15 PM	22	74	11	35	71	52	27	128	11	7	106	33	577
4:15 PM	4:30 PM	15	56	8	45	55	47	29	108	13	10	116	23	525
4:30 PM	4:45 PM	15	108	9	50	71	71	39	145	10	5	117	24	664
4:45 PM	5:00 PM	7	53	13	30	49	49	18	131	15	14	93	16	488
5:00 PM	5:15 PM	14	83	15	57	77	49	39	131	17	8	99	25	614
5:15 PM	5:30 PM	9	70	10	38	59	49	33	119	5	3	106	30	531
5:30 PM	5:45 PM	17	43	11	30	47	40	18	100	13	9	107	19	454
5:45 PM	6:00 PM	11	43	14	16	59	33	18	102	12	5	89	25	427
HOURLY TOTALS														
4:00 PM	5:00 PM	59	291	41	160	246	219	113	512	49	36	432	96	2,254
4:15 PM	5:15 PM	51	300	45	182	252	216	125	515	55	37	425	88	2,291
4:30 PM	5:30 PM	45	314	47	175	256	218	129	526	47	30	415	95	2,297
4:45 PM	5:45 PM	47	249	49	155	232	187	108	481	50	34	405	90	2,087
5:00 PM	6:00 PM	51	239	50	141	242	171	108	452	47	25	401	99	2,026

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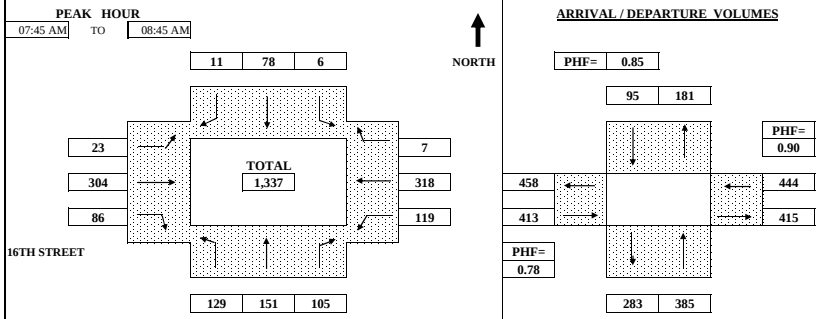
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

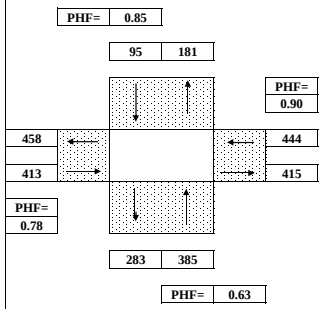
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	16TH STREET	CITY:	MERCED	FILE:	2911071-10AM

PEAK HOUR

07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	12	11	12	1	6	1	8	34	12	26	32	2	***157***
7:15 AM ---	7:30 AM	29	35	27	3	18	2	9	83	25	51	91	3	***376***
7:30 AM ---	7:45 AM	59	75	57	5	34	5	9	125	37	77	143	4	***630***
7:45 AM ---	8:00 AM	109	140	94	8	52	8	13	214	68	110	230	8	***1,054***
8:00 AM ---	8:15 AM	141	171	120	9	77	10	15	259	86	144	313	10	***1,355***
8:15 AM ---	8:30 AM	162	186	142	10	96	11	32	352	109	179	388	11	***1,678***
8:30 AM ---	8:45 AM	188	226	162	11	112	16	32	429	123	196	461	11	***1,967***
8:45 AM ---	9:00 AM	217	249	188	11	127	22	35	499	143	217	522	13	***2,243***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	12	11	12	1	6	1	8	34	12	26	32	2	***157***
7:15 AM ---	7:30 AM	17	24	15	2	12	1	1	49	13	25	59	1	***219***
7:30 AM ---	7:45 AM	30	40	30	2	16	3	0	42	12	26	52	1	***254***
7:45 AM ---	8:00 AM	50	65	37	3	18	3	4	89	31	33	87	4	***424***
8:00 AM ---	8:15 AM	32	31	26	1	25	2	2	45	18	34	83	2	***301***
8:15 AM ---	8:30 AM	21	15	22	1	19	1	17	93	23	35	75	1	***323***
8:30 AM ---	8:45 AM	26	40	20	1	16	5	0	77	14	17	73	0	***289***
8:45 AM ---	9:00 AM	29	23	26	0	15	6	3	70	20	21	61	2	***276***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	109	140	94	8	52	8	13	214	68	110	230	8	***1,054***
7:15 AM ---	8:15 AM	129	160	108	8	71	9	7	225	74	118	281	8	***1,198***
7:30 AM ---	8:30 AM	133	151	115	7	78	9	23	269	84	128	297	8	***1,302***
7:45 AM ---	8:45 AM	129	151	105	6	78	11	23	304	86	119	318	7	***1,337***
8:00 AM ---	9:00 AM	108	109	94	3	75	14	22	285	75	107	292	5	***1,189***

Telephone: (510)232-1271 Fax: (510)232-1272

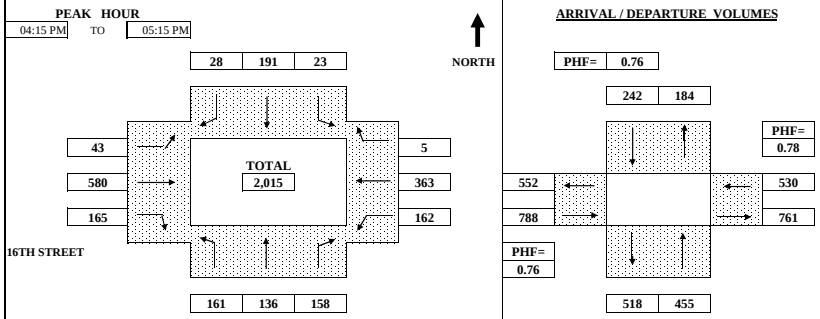
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

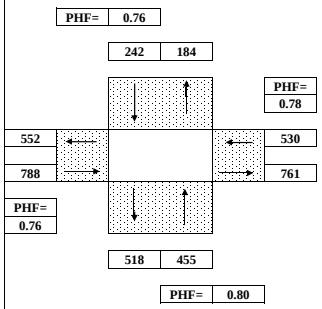
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	16TH STREET	CITY:	MERCED	FILE:	2911071-10PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	35	40	36	7	40	6	12	122	46	31	92	5	***472***
4:15 PM ---	4:30 PM	68	76	70	9	79	16	32	181	87	77	195	7	***897***
4:30 PM ---	4:45 PM	103	115	103	15	118	22	37	399	122	109	257	7	***1,407***
4:45 PM ---	5:00 PM	142	139	143	22	165	28	43	512	157	143	337	8	***1,839***
5:00 PM ---	5:15 PM	196	176	194	30	231	34	55	702	211	193	455	10	***2,487***
5:15 PM ---	5:30 PM	212	189	215	35	256	37	57	765	236	208	497	12	***2,719***
5:30 PM ---	5:45 PM	238	212	270	40	287	42	64	881	272	242	587	17	***3,152***
5:45 PM ---	6:00 PM	268	239	311	44	310	47	67	975	303	264	663	22	***3,513***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	35	40	36	7	40	6	12	122	46	31	92	5	***472***
4:15 PM ---	4:30 PM	33	36	34	2	39	10	20	59	41	46	103	2	***425***
4:30 PM ---	4:45 PM	35	39	33	6	39	6	5	218	35	32	62	0	***510***
4:45 PM ---	5:00 PM	39	24	40	7	47	6	6	113	35	34	80	1	***432***
5:00 PM ---	5:15 PM	54	37	51	8	66	6	12	190	54	50	118	2	***648***
5:15 PM ---	5:30 PM	16	13	21	5	25	3	2	63	25	15	42	2	***232***
5:30 PM ---	5:45 PM	26	23	55	5	31	5	7	116	36	34	90	5	***433***
5:45 PM ---	6:00 PM	30	27	41	4	23	5	3	94	31	22	76	5	***361***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	142	139	143	22	165	28	43	512	157	143	337	8	***1,839***
4:15 PM ---	5:15 PM	161	136	158	23	191	28	43	580	165	162	363	5	***2,015***
4:30 PM ---	5:30 PM	144	113	145	26	177	21	25	584	149	131	302	5	***1,822***
4:45 PM ---	5:45 PM	135	97	167	25	169	20	27	482	150	133	330	10	***1,745***
5:00 PM ---	6:00 PM	126	100	168	22	145	19	24	463	146	121	326	14	***1,674***

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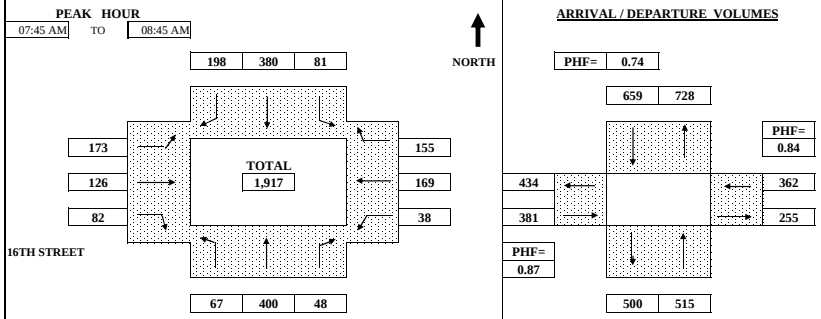
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

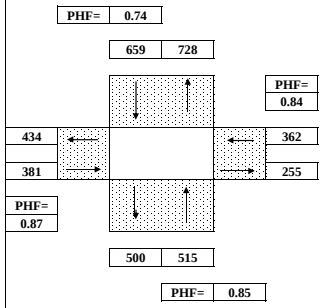
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	G STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	16TH STREET	CITY:	MERCED	FILE:	2911071-11AM

PEAK HOUR

07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	7	29	4	17	62	36	18	18	15	4	25	16	***251***
7:15 AM ---	7:30 AM	17	96	9	37	138	76	39	44	25	7	57	43	***588***
7:30 AM ---	7:45 AM	29	183	21	48	226	115	80	64	40	14	85	72	***977***
7:45 AM ---	8:00 AM	40	300	34	66	326	168	116	101	55	20	133	126	***1,485***
8:00 AM ---	8:15 AM	56	383	51	93	454	236	168	122	74	34	176	161	***2,008***
8:15 AM ---	8:30 AM	75	477	63	110	552	269	210	163	100	45	225	192	***2,481***
8:30 AM ---	8:45 AM	96	583	69	129	606	313	253	190	122	52	254	227	***2,894***
8:45 AM ---	9:00 AM	114	708	77	147	689	358	305	220	138	55	293	253	***3,357***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	7	29	4	17	62	36	18	18	15	4	25	16	***251***
7:15 AM ---	7:30 AM	10	67	5	20	76	40	21	26	10	3	32	27	***337***
7:30 AM ---	7:45 AM	12	87	12	11	88	39	41	20	15	7	28	29	***389***
7:45 AM ---	8:00 AM	11	117	13	18	100	53	36	37	15	6	48	54	***508***
8:00 AM ---	8:15 AM	16	83	17	27	128	68	52	21	19	14	43	35	***523***
8:15 AM ---	8:30 AM	19	94	12	17	98	33	42	41	26	11	49	31	***473***
8:30 AM ---	8:45 AM	21	106	6	19	54	44	43	27	22	7	29	35	***413***
8:45 AM ---	9:00 AM	18	125	8	18	83	45	52	30	16	3	39	26	***463***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	40	300	34	66	326	168	116	101	55	20	133	126	***1,485***
7:15 AM ---	8:15 AM	49	354	47	76	392	200	150	104	59	30	151	145	***1,757***
7:30 AM ---	8:30 AM	58	381	54	73	414	193	171	119	75	38	168	149	***1,893***
7:45 AM ---	8:45 AM	67	400	48	81	380	198	173	126	82	38	169	155	***1,917***
8:00 AM ---	9:00 AM	74	408	43	81	363	190	189	119	83	35	160	127	***1,872***

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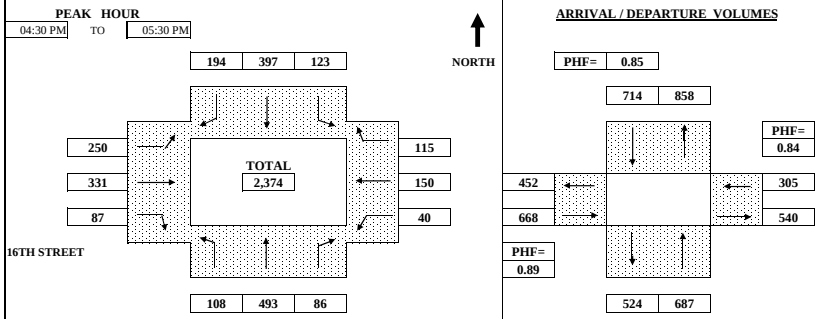
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

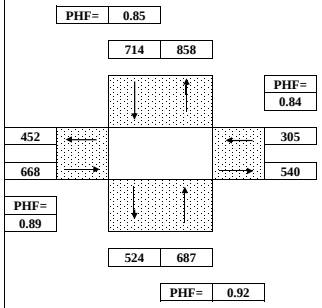
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	G STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	16TH STREET	CITY:	MERCED	FILE:	2911071-11PM

PEAK HOUR

04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	32	126	15	34	105	40	53	64	26	10	43	27	***575***
4:15 PM ---	4:30 PM	49	229	24	67	209	112	96	129	57	20	89	51	***1,132***
4:30 PM ---	4:45 PM	77	356	44	89	313	151	157	202	87	28	130	80	***1,714***
4:45 PM ---	5:00 PM	97	469	63	119	418	196	224	293	107	39	171	119	***2,315***
5:00 PM ---	5:15 PM	131	598	87	159	509	244	289	397	125	49	207	148	***2,943***
5:15 PM ---	5:30 PM	157	722	110	190	606	306	346	460	144	60	239	166	***3,506***
5:30 PM ---	5:45 PM	177	820	126	219	693	361	410	520	159	73	277	190	***4,025***
5:45 PM ---	6:00 PM	195	918	136	249	763	409	478	593	173	82	310	220	***4,526***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	32	126	15	34	105	40	53	64	26	10	43	27	***575***
4:15 PM ---	4:30 PM	17	103	9	33	104	72	43	65	31	10	46	24	***557***
4:30 PM ---	4:45 PM	28	127	20	22	104	39	61	73	30	8	41	29	***582***
4:45 PM ---	5:00 PM	20	113	19	30	105	45	67	91	20	11	41	39	***601***
5:00 PM ---	5:15 PM	34	129	24	40	91	48	65	104	18	10	36	29	***628***
5:15 PM ---	5:30 PM	26	124	23	31	97	62	57	63	19	11	32	18	***563***
5:30 PM ---	5:45 PM	20	98	16	29	87	55	64	60	15	13	38	24	***519***
5:45 PM ---	6:00 PM	18	98	10	30	70	48	68	73	14	9	33	30	***501***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	97	469	63	119	418	196	224	293	107	39	171	119	***2,315***
4:15 PM ---	5:15 PM	99	472	72	125	404	204	236	333	99	39	164	121	***2,368***
4:30 PM ---	5:30 PM	108	493	86	123	397	194	250	331	87	40	150	115	***2,374***
4:45 PM ---	5:45 PM	100	464	82	130	380	210	253	318	72	45	147	110	***2,311***
5:00 PM ---	6:00 PM	98	449	73	130	345	213	254	300	66	43	139	101	***2,211***

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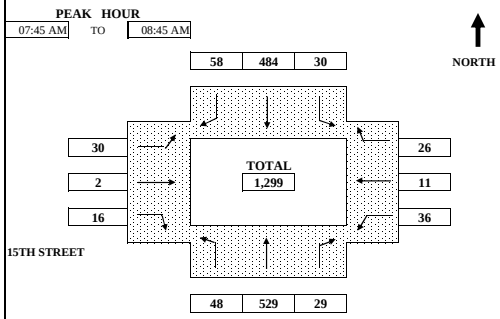
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

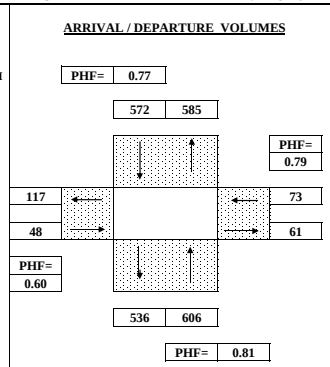
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	V STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	15TH STREET	CITY:	MERCED	FILE:	2911071-12AM

PEAK HOUR

07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	11	80	7	7	100	12	2	0	4	4	0	1	*228*
7:15 AM ---	7:30 AM	32	153	13	14	210	34	6	1	7	8	4	3	*485*
7:30 AM ---	7:45 AM	41	276	22	19	326	42	12	1	11	12	5	9	*776*
7:45 AM ---	8:00 AM	56	437	32	27	490	55	15	1	14	22	8	13	*1,170*
8:00 AM ---	8:15 AM	69	571	41	32	584	72	25	3	18	31	12	19	*1,477*
8:15 AM ---	8:30 AM	81	686	44	39	709	92	29	3	23	35	15	27	*1,783*
8:30 AM ---	8:45 AM	89	805	51	49	810	100	42	3	27	48	16	35	*2,075*
8:45 AM ---	9:00 AM	105	890	66	59	921	112	54	4	34	60	22	40	*2,367*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	11	80	7	7	100	12	2	0	4	4	0	1	*228*
7:15 AM ---	7:30 AM	21	73	6	7	110	22	4	1	3	4	4	2	*257*
7:30 AM ---	7:45 AM	9	123	9	5	116	8	6	0	4	4	1	6	*291*
7:45 AM ---	8:00 AM	15	161	10	8	164	13	3	0	3	10	3	4	*394*
8:00 AM ---	8:15 AM	13	134	9	5	94	17	10	2	4	9	4	6	*307*
8:15 AM ---	8:30 AM	12	115	3	7	125	20	4	0	5	4	3	8	*306*
8:30 AM ---	8:45 AM	8	119	7	10	101	8	13	0	4	13	1	8	*292*
8:45 AM ---	9:00 AM	16	85	15	10	111	12	12	1	7	12	6	5	*292*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	56	437	32	27	490	55	15	1	14	22	8	13	*1,170*
7:15 AM ---	8:15 AM	58	491	34	25	484	60	23	3	14	27	12	18	*1,249*
7:30 AM ---	8:30 AM	49	533	31	25	499	58	23	2	16	27	11	24	*1,298*
7:45 AM ---	8:45 AM	48	529	29	30	484	58	30	2	16	36	11	26	*1,299*
8:00 AM ---	9:00 AM	49	453	34	32	431	57	39	3	20	38	14	27	*1,197*

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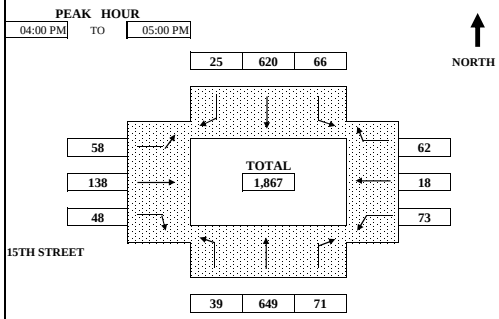
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

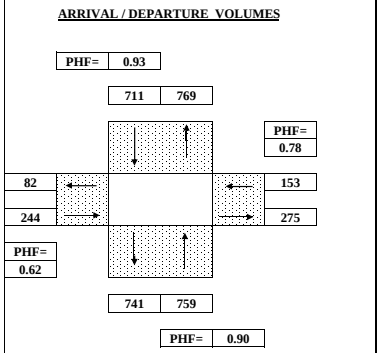
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	V STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	15TH STREET	CITY:	MERCED	FILE:	2911071-12PM

PEAK HOUR

04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	10	185	15	18	153	11	16	2	9	19	3	18	*459*
4:15 PM ---	4:30 PM	21	344	30	35	324	14	33	7	18	42	6	29	*903*
4:30 PM ---	4:45 PM	29	505	54	52	475	20	45	9	33	57	12	49	*1,340*
4:45 PM ---	5:00 PM	39	649	71	66	620	25	58	15	48	73	18	62	*1,744*
5:00 PM ---	5:15 PM	45	818	97	83	785	32	77	20	64	92	20	77	*2,210*
5:15 PM ---	5:30 PM	51	955	110	100	913	37	88	28	82	113	24	99	*2,600*
5:30 PM ---	5:45 PM	57	1,093	124	117	1,040	44	97	30	98	137	26	122	*2,985*
5:45 PM ---	6:00 PM	68	1,218	141	131	1,191	44	102	32	106	154	27	132	*3,346*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	10	185	15	18	153	11	16	57	9	19	3	18	*514*
4:15 PM ---	4:30 PM	11	159	15	17	171	3	17	73	9	23	3	11	*512*
4:30 PM ---	4:45 PM	8	161	24	17	151	6	12	2	15	15	6	20	*437*
4:45 PM ---	5:00 PM	10	144	17	14	145	5	13	6	15	16	6	13	*404*
5:00 PM ---	5:15 PM	6	169	26	17	165	7	19	5	16	19	2	15	*466*
5:15 PM ---	5:30 PM	6	137	13	17	128	5	11	8	18	21	4	22	*390*
5:30 PM ---	5:45 PM	6	138	14	17	127	7	9	2	16	24	2	23	*385*
5:45 PM ---	6:00 PM	11	125	17	14	151	0	5	2	8	17	1	10	*361*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	39	649	71	66	620	25	58	138	48	73	18	62	*1,867*
4:15 PM ---	5:15 PM	35	633	82	65	632	21	61	86	55	73	17	59	*1,819*
4:30 PM ---	5:30 PM	30	611	80	65	589	23	55	21	64	71	18	70	*1,697*
4:45 PM ---	5:45 PM	28	588	70	65	565	24	52	21	65	80	14	73	*1,645*
5:00 PM ---	6:00 PM	29	569	70	65	571	19	44	17	58	81	9	70	*1,602*

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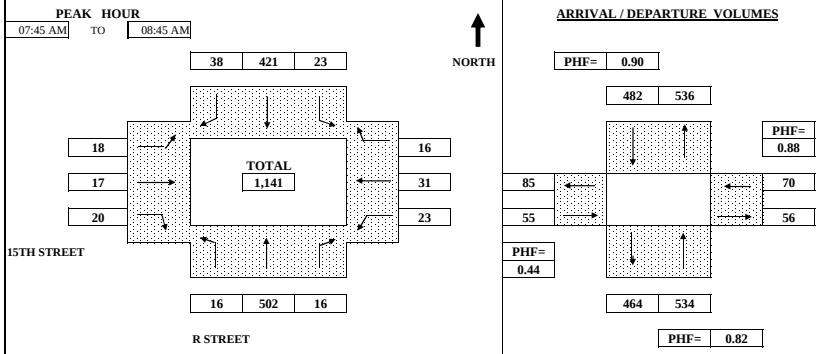
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	R STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	15TH STREET	CITY:	MERCED	FILE:	2911071-13AM

PEAK HOUR

07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	36	4	2	69	10	7	0	3	0	2	2	*135*
7:15 AM ---	7:30 AM	0	104	7	2	148	20	11	3	13	5	5	4	*322*
7:30 AM ---	7:45 AM	1	214	9	4	247	30	17	8	21	7	8	7	*573*
7:45 AM ---	8:00 AM	5	365	16	14	361	40	19	11	27	12	18	11	*899*
8:00 AM ---	8:15 AM	6	490	18	16	474	48	26	19	33	19	23	18	*1,190*
8:15 AM ---	8:30 AM	12	604	24	20	555	57	31	21	37	23	29	20	*1,433*
8:30 AM ---	8:45 AM	17	716	25	27	668	68	35	25	41	30	39	23	*1,714*
8:45 AM ---	9:00 AM	22	851	31	29	758	75	47	35	50	31	53	27	*2,009*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	36	4	2	69	10	7	0	3	0	2	2	*135*
7:15 AM ---	7:30 AM	0	68	3	0	79	10	4	3	10	5	3	2	*187*
7:30 AM ---	7:45 AM	1	110	2	2	99	10	6	5	8	2	3	3	*251*
7:45 AM ---	8:00 AM	4	151	7	10	114	10	2	3	6	5	10	4	*326*
8:00 AM ---	8:15 AM	1	125	2	2	113	8	7	8	6	7	5	7	*291*
8:15 AM ---	8:30 AM	6	114	6	4	81	9	5	2	4	4	6	2	*243*
8:30 AM ---	8:45 AM	5	112	1	7	113	11	4	4	4	7	10	3	*281*
8:45 AM ---	9:00 AM	5	135	6	2	90	7	12	10	9	1	14	4	*295*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	5	365	16	14	361	40	19	11	27	12	18	11	*899*
7:15 AM ---	8:15 AM	6	454	14	14	405	38	19	19	30	19	21	16	*1,055*
7:30 AM ---	8:30 AM	12	500	17	18	407	37	20	18	24	18	24	16	*1,111*
7:45 AM ---	8:45 AM	16	502	16	23	421	38	18	17	20	23	31	16	*1,141*
8:00 AM ---	9:00 AM	17	486	15	15	397	35	28	24	23	19	35	16	*1,110*

Telephone: (510)232-1271 Fax: (510)232-1272

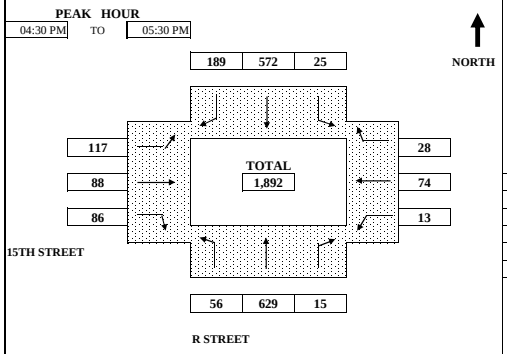
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

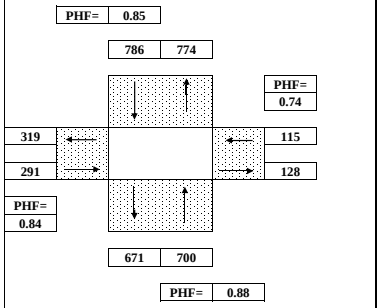
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	R STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	15TH STREET	CITY:	MERCED	FILE:	2911071-13PM

PEAK HOUR

04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	8	163	2	9	167	56	30	34	19	4	17	6	*515*
4:15 PM ---	4:30 PM	13	293	5	10	303	89	73	54	39	10	27	13	*929*
4:30 PM ---	4:45 PM	29	441	6	16	417	144	103	85	58	13	53	23	*1,388*
4:45 PM ---	5:00 PM	42	573	10	23	556	196	136	108	89	15	71	30	*1,849*
5:00 PM ---	5:15 PM	53	757	15	32	709	254	170	123	115	18	91	32	*2,369*
5:15 PM ---	5:30 PM	69	922	20	35	875	278	190	142	125	23	101	41	*2,821*
5:30 PM ---	5:45 PM	81	1,046	21	38	1,014	315	222	170	143	27	117	48	*3,242*
5:45 PM ---	6:00 PM	88	1,163	22	46	1,144	351	249	195	162	29	122	50	*3,621*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	8	163	2	9	167	56	30	34	19	4	17	6	*515*
4:15 PM ---	4:30 PM	5	130	3	1	136	33	43	20	20	6	10	7	*414*
4:30 PM ---	4:45 PM	16	148	1	6	114	55	30	31	19	3	26	10	*459*
4:45 PM ---	5:00 PM	13	132	4	7	139	52	33	23	31	2	18	7	*461*
5:00 PM ---	5:15 PM	11	184	5	9	153	58	34	15	26	3	20	2	*520*
5:15 PM ---	5:30 PM	16	165	5	3	166	24	20	19	10	5	10	9	*452*
5:30 PM ---	5:45 PM	12	124	1	3	139	37	32	28	18	4	16	7	*421*
5:45 PM ---	6:00 PM	7	117	1	8	130	36	27	25	19	2	5	2	*379*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	42	573	10	23	556	196	136	108	89	15	71	30	*1,849*
4:15 PM ---	5:15 PM	45	594	13	23	542	198	140	89	96	14	74	26	*1,854*
4:30 PM ---	5:30 PM	56	629	15	25	572	189	117	88	86	13	74	28	*1,892*
4:45 PM ---	5:45 PM	52	605	15	22	597	171	119	85	85	14	64	25	*1,854*
5:00 PM ---	6:00 PM	46	590	12	23	588	155	113	87	73	14	51	20	*1,772*

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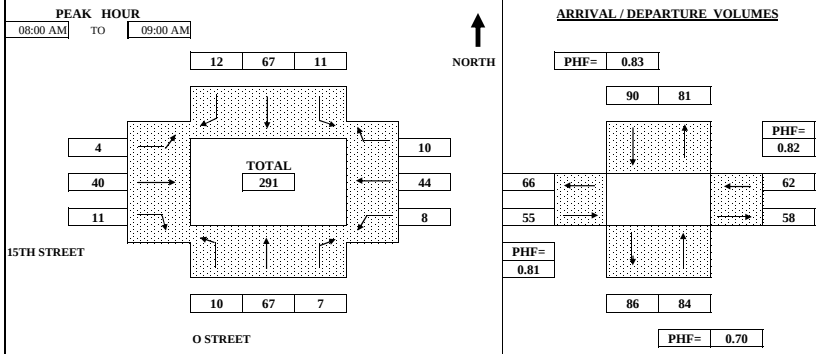
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	O STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	15TH STREET	CITY: MERCED		FILE:	2911071-14AM

PEAK HOUR: 08:00 AM TO 09:00 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	2	9	0	1	18	1	0	2	0	1	1	1	*36*
7:15 AM	7:30 AM	4	25	0	4	27	3	1	9	2	1	7	2	*85*
7:30 AM	7:45 AM	6	35	0	7	41	5	2	13	4	2	23	3	*141*
7:45 AM	8:00 AM	10	54	7	9	51	7	5	20	5	4	33	5	*210*
8:00 AM	8:15 AM	13	71	8	13	71	10	5	28	8	6	41	7	*281*
8:15 AM	8:30 AM	16	90	10	16	88	11	6	39	8	6	55	11	*356*
8:30 AM	8:45 AM	19	100	12	18	101	15	7	50	11	8	63	14	*418*
8:45 AM	9:00 AM	20	121	14	20	118	19	9	60	16	12	77	15	*501*
TOTAL BY PERIOD														
7:00 AM	7:15 AM	2	9	0	1	18	1	0	2	0	1	1	1	*36*
7:15 AM	7:30 AM	2	16	0	3	9	2	1	7	2	0	6	1	*49*
7:30 AM	7:45 AM	2	10	0	3	14	2	1	4	2	1	16	1	*56*
7:45 AM	8:00 AM	4	19	7	2	10	2	3	7	1	2	10	2	*69*
8:00 AM	8:15 AM	3	17	1	4	20	3	0	8	3	2	8	2	*71*
8:15 AM	8:30 AM	3	19	2	3	17	1	1	11	0	0	14	4	*75*
8:30 AM	8:45 AM	3	10	2	2	13	4	1	11	3	2	8	3	*62*
8:45 AM	9:00 AM	1	21	2	2	17	4	2	10	5	4	14	1	*83*
HOURLY TOTALS														
7:00 AM	8:00 AM	10	54	7	9	51	7	5	20	5	4	33	5	*210*
7:15 AM	8:15 AM	11	62	8	12	53	9	5	26	8	5	40	6	*245*
7:30 AM	8:30 AM	12	65	10	12	61	8	5	30	6	5	48	9	*271*
7:45 AM	8:45 AM	13	65	12	11	60	10	5	37	7	6	40	11	*277*
8:00 AM	9:00 AM	10	67	7	11	67	12	4	40	11	8	44	10	*291*

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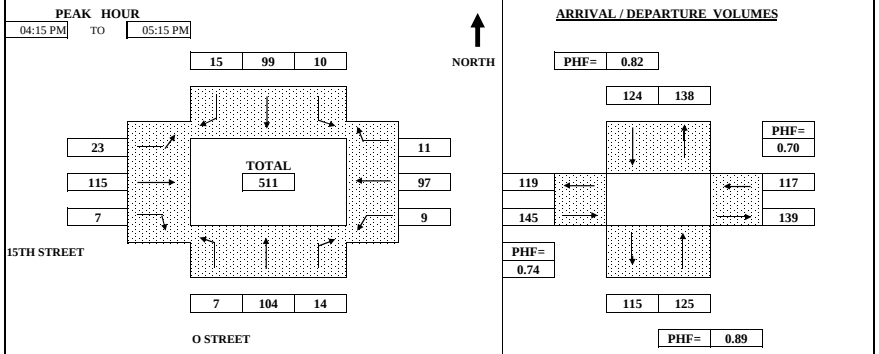
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	O STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	15TH STREET	CITY: MERCED		FILE:	2911071-14PM

PEAK HOUR: 04:15 PM TO 05:15 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	4	24	3	3	30	5	4	27	5	4	34	4	*147*
4:15 PM	4:30 PM	4	53	5	4	48	8	10	51	7	4	58	5	*257*
4:30 PM	4:45 PM	8	79	9	9	75	9	16	74	9	7	83	7	*385*
4:45 PM	5:00 PM	8	102	11	11	102	13	21	100	11	10	104	10	*503*
5:00 PM	5:15 PM	11	128	17	13	129	20	27	142	12	13	131	15	*658*
5:15 PM	5:30 PM	12	153	17	17	143	22	31	167	14	13	142	16	*747*
5:30 PM	5:45 PM	13	165	17	20	171	23	31	183	14	13	161	21	*832*
5:45 PM	6:00 PM	14	179	18	24	190	24	34	202	16	15	172	26	*914*
TOTAL BY PERIOD														
4:00 PM	4:15 PM	4	24	3	3	30	5	4	27	5	4	34	4	*147*
4:15 PM	4:30 PM	0	29	2	1	18	3	6	24	2	0	24	1	*110*
4:30 PM	4:45 PM	4	26	4	5	27	1	6	23	2	3	25	2	*128*
4:45 PM	5:00 PM	0	23	2	2	27	4	5	26	2	3	21	3	*118*
5:00 PM	5:15 PM	3	26	6	2	27	7	6	42	1	3	27	5	*155*
5:15 PM	5:30 PM	1	25	0	4	14	2	4	25	2	0	11	1	*89*
5:30 PM	5:45 PM	1	12	0	3	28	1	0	16	0	0	19	5	*85*
5:45 PM	6:00 PM	1	14	1	4	19	1	3	19	2	2	11	5	*82*
HOURLY TOTALS														
4:00 PM	5:00 PM	8	102	11	11	102	13	21	100	11	10	104	10	*503*
4:15 PM	5:15 PM	7	104	14	10	99	15	23	115	7	9	97	11	*511*
4:30 PM	5:30 PM	8	100	12	13	95	14	21	116	7	9	84	11	*490*
4:45 PM	5:45 PM	5	86	8	11	96	14	15	109	5	6	78	14	*447*
5:00 PM	6:00 PM	6	77	7	13	88	11	13	102	5	5	68	16	*411*

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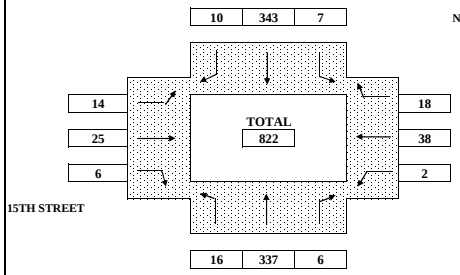
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

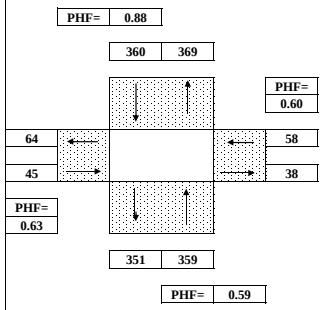
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	M STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	15TH STREET	CITY:	MERCED	FILE:	2911071-15AM

PEAK HOUR: 07:30 AM TO 08:30 AM

NORTH



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	23	1	5	53	0	1	2	1	1	2	0	*89*
7:15 AM ---	7:30 AM	2	63	2	8	116	1	1	8	4	1	9	3	*218*
7:30 AM ---	7:45 AM	6	153	3	11	200	5	2	11	5	1	22	5	*424*
7:45 AM ---	8:00 AM	8	302	4	11	299	8	8	14	7	1	28	11	*701*
8:00 AM ---	8:15 AM	11	355	5	13	388	9	10	21	9	1	36	16	*874*
8:15 AM ---	8:30 AM	18	400	8	15	459	11	15	33	10	3	47	21	*1,040*
8:30 AM ---	8:45 AM	21	446	8	18	527	17	17	42	12	4	57	24	*1,193*
8:45 AM ---	9:00 AM	21	525	10	22	579	20	22	47	13	7	71	31	*1,368*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	23	1	5	53	0	1	2	1	1	2	0	*89*
7:15 AM ---	7:30 AM	2	40	1	3	63	1	0	6	3	0	7	3	*129*
7:30 AM ---	7:45 AM	4	90	1	3	84	4	1	3	1	0	13	2	*206*
7:45 AM ---	8:00 AM	2	149	1	0	99	3	6	3	2	0	6	6	*277*
8:00 AM ---	8:15 AM	3	53	1	2	89	1	2	7	2	0	8	5	*173*
8:15 AM ---	8:30 AM	7	45	3	2	71	2	5	12	1	2	11	5	*166*
8:30 AM ---	8:45 AM	3	46	0	3	68	6	2	9	2	1	10	3	*153*
8:45 AM ---	9:00 AM	0	79	2	4	52	3	5	5	1	3	14	7	*175*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	8	302	4	11	299	8	8	14	7	1	28	11	*701*
7:15 AM ---	8:15 AM	11	332	4	8	335	9	9	19	8	0	34	16	*785*
7:30 AM ---	8:30 AM	16	337	6	7	343	10	14	25	6	2	38	18	*822*
7:45 AM ---	8:45 AM	15	293	5	7	327	12	15	31	7	3	35	19	*769*
8:00 AM ---	9:00 AM	13	223	6	11	280	12	14	33	6	6	43	20	*667*

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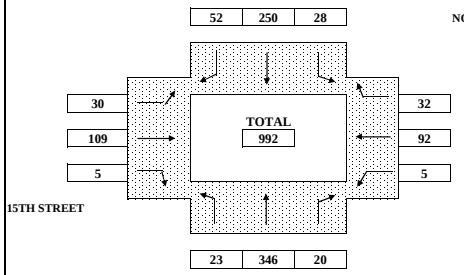
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

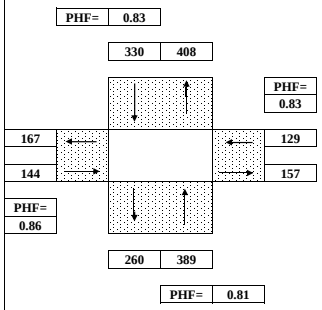
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	M STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	15TH STREET	CITY:	MERCED	FILE:	2911071-15PM

PEAK HOUR: 04:30 PM TO 05:30 PM

NORTH



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	3	89	3	9	65	14	7	18	5	2	25	11	*251*
4:15 PM ---	4:30 PM	8	161	4	14	132	19	12	39	7	7	40	15	*458*
4:30 PM ---	4:45 PM	12	274	7	25	197	28	17	67	8	9	60	25	*729*
4:45 PM ---	5:00 PM	14	338	11	31	256	41	25	87	9	9	83	30	*934*
5:00 PM ---	5:15 PM	22	436	16	37	336	55	35	118	10	12	113	36	*1,226*
5:15 PM ---	5:30 PM	31	507	24	42	382	71	42	148	12	12	132	47	*1,450*
5:30 PM ---	5:45 PM	39	564	24	47	439	78	46	164	16	13	154	59	*1,643*
5:45 PM ---	6:00 PM	45	622	26	50	502	87	53	191	20	14	175	64	*1,849*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	3	89	3	9	65	14	7	18	5	2	25	11	*251*
4:15 PM ---	4:30 PM	5	72	1	5	67	5	5	21	2	5	15	4	*207*
4:30 PM ---	4:45 PM	4	113	3	11	65	9	5	28	1	2	20	10	*271*
4:45 PM ---	5:00 PM	2	64	4	6	59	13	8	20	1	0	23	5	*205*
5:00 PM ---	5:15 PM	8	98	5	6	80	14	10	31	1	3	30	6	*292*
5:15 PM ---	5:30 PM	9	71	8	5	46	16	7	30	2	0	19	11	*224*
5:30 PM ---	5:45 PM	8	57	0	5	57	7	4	16	4	1	22	12	*193*
5:45 PM ---	6:00 PM	6	58	2	3	63	9	7	27	4	1	21	5	*206*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	14	338	11	31	256	41	25	87	9	9	83	30	*934*
4:15 PM ---	5:15 PM	19	347	13	28	271	41	28	100	5	10	88	25	*975*
4:30 PM ---	5:30 PM	23	346	20	28	250	52	30	109	5	5	92	32	*992*
4:45 PM ---	5:45 PM	27	290	17	22	242	50	29	97	8	4	94	34	*914*
5:00 PM ---	6:00 PM	31	284	15	19	246	46	28	104	11	5	92	34	*915*

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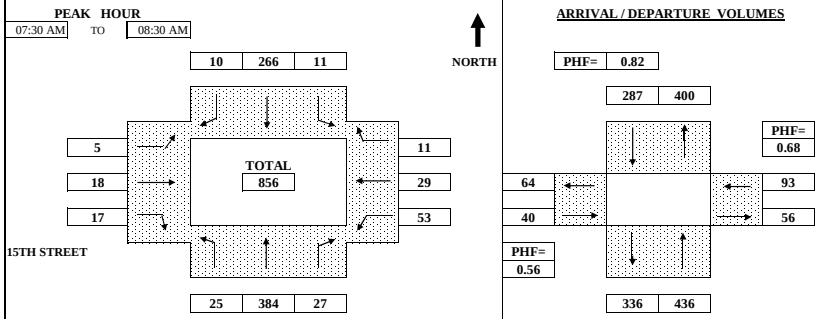
B.A.Y.M.E.T.R.I.C.S.

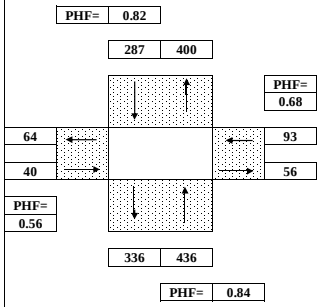
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	15TH STREET	CITY: MERCED		FILE:	2911071-16AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	2	40	2	0	44	0	0	2	7	12	4	1	*114*
7:15 AM ---	7:30 AM	5	98	4	0	93	1	0	7	8	21	6	3	*246*
7:30 AM ---	7:45 AM	14	204	9	4	145	1	1	11	11	29	11	5	*445*
7:45 AM ---	8:00 AM	23	319	14	6	211	3	2	16	14	44	14	8	*674*
8:00 AM ---	8:15 AM	26	405	21	7	293	7	3	23	19	62	26	12	*904*
8:15 AM ---	8:30 AM	30	482	31	11	359	11	5	25	25	74	35	14	*1,102*
8:30 AM ---	8:45 AM	40	556	53	13	400	12	10	32	27	82	44	21	*1,290*
8:45 AM ---	9:00 AM	42	639	61	23	454	15	11	40	36	89	57	27	*1,494*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	2	40	2	0	44	0	0	2	7	12	4	1	*114*
7:15 AM ---	7:30 AM	3	58	2	0	49	1	0	5	1	9	2	2	*132*
7:30 AM ---	7:45 AM	9	106	5	4	52	0	1	4	3	8	5	2	*199*
7:45 AM ---	8:00 AM	9	115	5	2	66	2	1	5	3	15	3	3	*229*
8:00 AM ---	8:15 AM	3	86	7	1	82	4	1	7	5	18	12	4	*230*
8:15 AM ---	8:30 AM	4	77	10	4	66	4	2	2	6	12	9	2	*198*
8:30 AM ---	8:45 AM	10	74	22	2	41	1	5	7	2	8	9	7	*188*
8:45 AM ---	9:00 AM	2	83	8	10	54	3	1	8	9	7	13	6	*204*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	23	319	14	6	211	3	2	16	14	44	14	8	*674*
7:15 AM ---	8:15 AM	24	365	19	7	249	7	3	21	12	50	22	11	*790*
7:30 AM ---	8:30 AM	25	384	27	11	266	10	5	18	17	53	29	11	*856*
7:45 AM ---	8:45 AM	26	352	44	9	255	11	9	21	16	53	33	16	*845*
8:00 AM ---	9:00 AM	19	320	47	17	243	12	9	24	22	45	43	19	*820*

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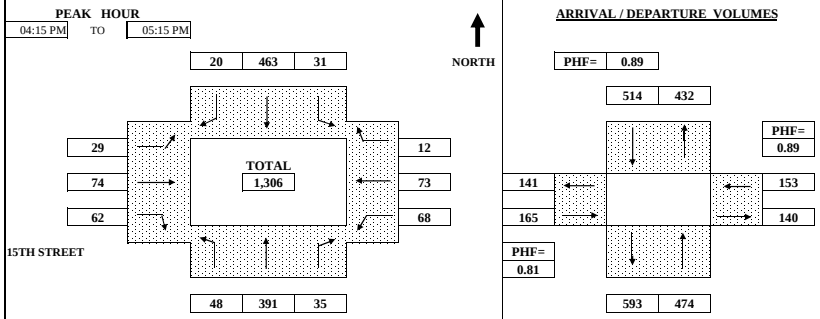
B.A.Y.M.E.T.R.I.C.S.

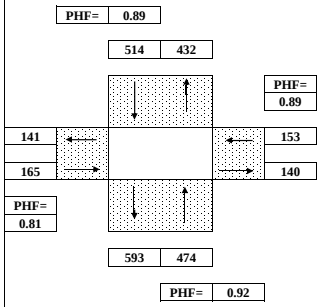
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	15TH STREET	CITY: MERCED		FILE:	2911071-16PM

PEAK HOUR: 04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	15	87	11	5	102	8	12	14	16	16	22	4	*312*
4:15 PM ---	4:30 PM	27	175	23	14	200	11	19	34	32	34	41	6	*616*
4:30 PM ---	4:45 PM	41	281	32	24	312	18	23	53	45	52	55	8	*944*
4:45 PM ---	5:00 PM	53	384	38	32	428	25	31	65	60	67	73	12	*1,268*
5:00 PM ---	5:15 PM	63	478	46	36	565	28	41	88	78	84	95	16	*1,618*
5:15 PM ---	5:30 PM	65	556	55	49	667	31	47	104	91	99	106	16	*1,886*
5:30 PM ---	5:45 PM	80	649	57	64	763	35	57	119	104	109	116	22	*2,175*
5:45 PM ---	6:00 PM	90	736	64	73	842	40	63	139	112	121	124	26	*2,430*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	15	87	11	5	102	8	12	14	16	16	22	4	*312*
4:15 PM ---	4:30 PM	12	88	12	9	98	3	7	20	16	18	19	2	*304*
4:30 PM ---	4:45 PM	14	106	9	10	112	7	4	19	13	18	14	2	*328*
4:45 PM ---	5:00 PM	12	103	6	8	116	7	8	12	15	15	18	4	*324*
5:00 PM ---	5:15 PM	10	94	8	4	137	3	10	23	18	17	22	4	*350*
5:15 PM ---	5:30 PM	2	78	9	13	102	3	6	16	13	15	11	0	*268*
5:30 PM ---	5:45 PM	15	93	2	15	96	4	10	15	13	10	10	6	*289*
5:45 PM ---	6:00 PM	10	87	7	9	79	5	6	20	8	12	8	4	*255*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	53	384	38	32	428	25	31	65	60	67	73	12	*1,268*
4:15 PM ---	5:15 PM	48	391	35	31	463	20	29	74	62	68	73	12	*1,306*
4:30 PM ---	5:30 PM	38	381	32	35	467	20	28	70	59	65	65	10	*1,270*
4:45 PM ---	5:45 PM	39	368	25	40	451	17	34	66	59	57	61	14	*1,231*
5:00 PM ---	6:00 PM	37	352	26	41	414	15	32	74	52	54	51	14	*1,162*

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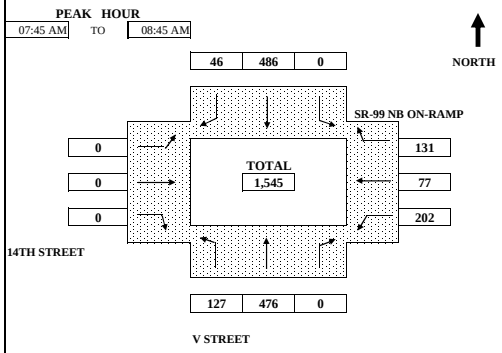
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

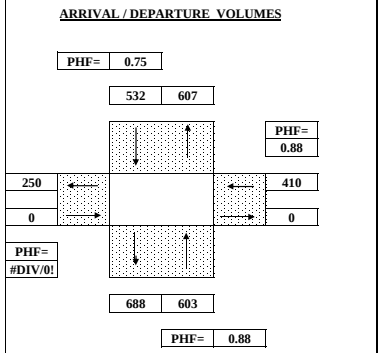
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	V STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	14TH STREET / SR-99 NB ON-RAMP	CITY:	MERCED	FILE:	2911071-17AM

PEAK HOUR

07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	24	65	0	0	103	4	0	0	0	34	17	35	***282***
7:15 AM ---	7:30 AM	66	135	0	0	214	10	0	0	0	70	37	67	***599***
7:30 AM ---	7:45 AM	88	251	0	0	332	16	0	0	0	111	53	92	***943***
7:45 AM ---	8:00 AM	117	393	0	0	500	25	0	0	0	170	67	136	***1,408***
8:00 AM ---	8:15 AM	144	519	0	0	594	35	0	0	0	221	84	166	***1,763***
8:15 AM ---	8:30 AM	177	627	0	0	712	51	0	0	0	267	108	188	***2,130***
8:30 AM ---	8:45 AM	215	727	0	0	818	62	0	0	0	313	130	223	***2,488***
8:45 AM ---	9:00 AM	236	820	0	0	935	75	0	0	0	348	145	247	***2,806***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	24	65	0	0	103	4	0	0	0	34	17	35	***282***
7:15 AM ---	7:30 AM	42	70	0	0	111	6	0	0	0	36	20	32	***317***
7:30 AM ---	7:45 AM	22	116	0	0	118	6	0	0	0	41	16	25	***344***
7:45 AM ---	8:00 AM	29	142	0	0	168	9	0	0	0	59	14	44	***465***
8:00 AM ---	8:15 AM	27	126	0	0	94	10	0	0	0	51	17	30	***355***
8:15 AM ---	8:30 AM	33	108	0	0	118	16	0	0	0	46	24	22	***367***
8:30 AM ---	8:45 AM	38	100	0	0	106	11	0	0	0	46	22	35	***358***
8:45 AM ---	9:00 AM	21	93	0	0	117	13	0	0	0	35	15	24	***318***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	117	393	0	0	500	25	0	0	0	170	67	136	***1,408***
7:15 AM ---	8:15 AM	120	454	0	0	491	31	0	0	0	187	67	131	***1,481***
7:30 AM ---	8:30 AM	111	492	0	0	498	41	0	0	0	197	71	121	***1,531***
7:45 AM ---	8:45 AM	127	476	0	0	486	46	0	0	0	202	77	131	***1,545***
8:00 AM ---	9:00 AM	119	427	0	0	435	50	0	0	0	178	78	111	***1,398***

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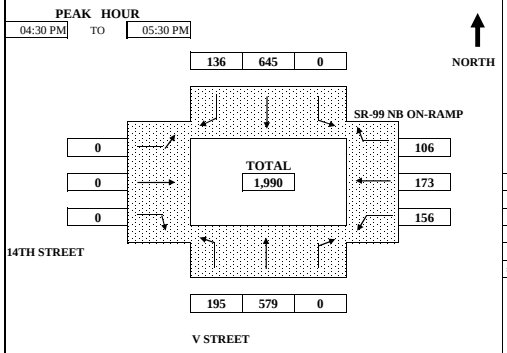
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

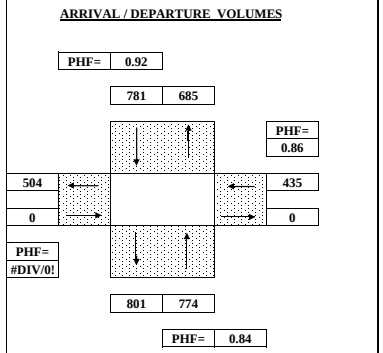
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	V STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	14TH STREET / SR-99 NB ON-RAMP	CITY:	MERCED	FILE:	2911071-17PM

PEAK HOUR

04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	42	187	0	0	126	28	0	0	0	44	40	31	***498***
4:15 PM ---	4:30 PM	77	325	0	0	285	51	0	0	0	78	80	67	***963***
4:30 PM ---	4:45 PM	121	478	0	0	460	79	0	0	0	113	132	99	***1,482***
4:45 PM ---	5:00 PM	155	611	0	0	624	96	0	0	0	147	164	124	***1,921***
5:00 PM ---	5:15 PM	220	773	0	0	782	150	0	0	0	190	217	154	***2,486***
5:15 PM ---	5:30 PM	272	904	0	0	930	187	0	0	0	234	253	173	***2,953***
5:30 PM ---	5:45 PM	299	1,037	0	0	1,091	211	0	0	0	277	286	192	***3,393***
5:45 PM ---	6:00 PM	325	1,128	0	0	1,224	237	0	0	0	300	320	231	***3,765***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	42	187	0	0	126	28	0	0	0	44	40	31	***498***
4:15 PM ---	4:30 PM	35	138	0	0	159	23	0	0	0	34	40	36	***465***
4:30 PM ---	4:45 PM	44	153	0	0	175	28	0	0	0	35	52	32	***519***
4:45 PM ---	5:00 PM	34	133	0	0	164	17	0	0	0	34	32	25	***439***
5:00 PM ---	5:15 PM	65	162	0	0	158	54	0	0	0	43	53	30	***565***
5:15 PM ---	5:30 PM	52	131	0	0	148	37	0	0	0	44	36	19	***467***
5:30 PM ---	5:45 PM	27	133	0	0	161	24	0	0	0	43	33	19	***440***
5:45 PM ---	6:00 PM	26	91	0	0	133	26	0	0	0	23	34	39	***372***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	155	611	0	0	624	96	0	0	0	147	164	124	***1,921***
4:15 PM ---	5:15 PM	178	586	0	0	656	122	0	0	0	146	177	123	***1,988***
4:30 PM ---	5:30 PM	195	579	0	0	645	136	0	0	0	156	173	106	***1,990***
4:45 PM ---	5:45 PM	178	559	0	0	631	132	0	0	0	164	154	93	***1,911***
5:00 PM ---	6:00 PM	170	517	0	0	600	141	0	0	0	153	156	107	***1,844***

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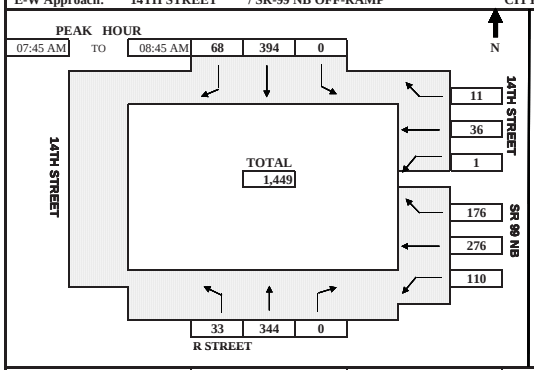
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

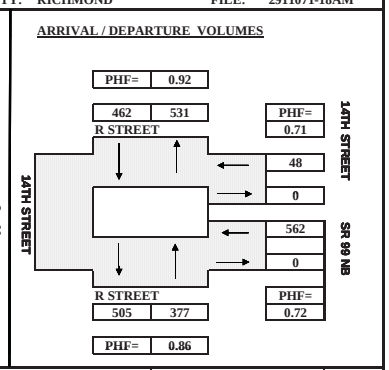
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009			DAY:	WEDNESDAY
N-S Approach:	R STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM		
E-W Approach:	14TH STREET / SR-99 NB OFF-RAMP	CITY:	RICHMOND			FILE:	2911071-18AM

PEAK HOUR

07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	R STREET (NB) Left	Thru	Right	R STREET (SB) Left	Thru	Right	14TH STREET Left	Thru	Right	SR-99 NB OFF-RAMP Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	11	21	0	0	58	14	1	3	0	18	58	19	*203*
7:15 AM ---	7:30 AM	18	70	0	0	135	31	1	13	1	42	112	40	*463*
7:30 AM ---	7:45 AM	30	155	0	0	234	40	2	17	2	67	169	67	*783*
7:45 AM ---	8:00 AM	37	254	0	0	343	54	2	23	4	112	260	126	*1,215*
8:00 AM ---	8:15 AM	46	346	0	0	453	70	2	31	8	135	326	158	*1,575*
8:15 AM ---	8:30 AM	50	412	0	0	529	85	2	45	11	158	386	215	*1,893*
8:30 AM ---	8:45 AM	63	499	0	0	628	108	3	53	13	177	445	243	*2,232*
8:45 AM ---	9:00 AM	73	598	0	0	718	118	4	63	13	196	489	288	*2,560*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	11	21	0	0	58	14	1	3	0	18	58	19	*203*
7:15 AM ---	7:30 AM	7	49	0	0	77	17	0	10	1	24	54	21	*260*
7:30 AM ---	7:45 AM	12	85	0	0	99	9	1	4	1	25	57	27	*320*
7:45 AM ---	8:00 AM	7	99	0	0	109	14	0	6	2	45	91	59	*432*
8:00 AM ---	8:15 AM	9	92	0	0	110	16	0	8	4	23	66	32	*360*
8:15 AM ---	8:30 AM	4	66	0	0	76	15	0	14	3	23	60	57	*318*
8:30 AM ---	8:45 AM	13	87	0	0	99	23	1	8	2	19	59	28	*339*
8:45 AM ---	9:00 AM	10	99	0	0	90	10	1	10	0	19	44	45	*328*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	37	254	0	0	343	54	2	23	4	112	260	126	*1,215*
7:15 AM ---	8:15 AM	35	325	0	0	395	56	1	28	8	117	268	139	*1,372*
7:30 AM ---	8:30 AM	32	342	0	0	394	54	1	32	10	116	274	175	*1,430*
7:45 AM ---	8:45 AM	33	344	0	0	394	68	1	36	11	110	276	176	*1,449*
8:00 AM ---	9:00 AM	36	344	0	0	375	64	2	40	9	84	229	162	*1,345*

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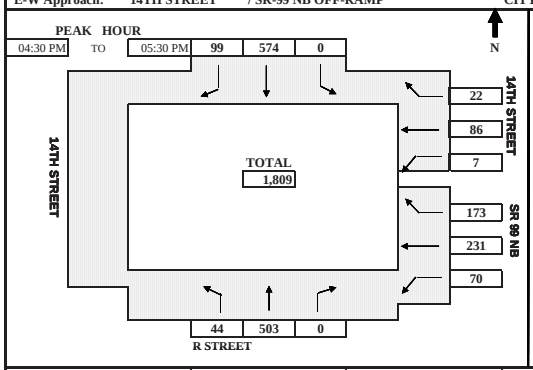
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

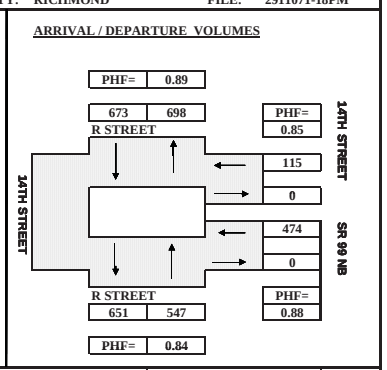
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009			DAY:	WEDNESDAY
N-S Approach:	R STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM		
E-W Approach:	14TH STREET / SR-99 NB OFF-RAMP	CITY:	RICHMOND			FILE:	2911071-18PM

PEAK HOUR

04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	R STREET (NB) Left	Thru	Right	R STREET (SB) Left	Thru	Right	14TH STREET Left	Thru	Right	SR-99 NB OFF-RAMP Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	5	136	0	0	158	32	4	21	2	15	57	35	*465*
4:15 PM ---	4:30 PM	22	235	0	0	288	64	6	33	5	39	105	71	*868*
4:30 PM ---	4:45 PM	32	358	0	0	402	87	7	60	8	56	162	109	*1,281*
4:45 PM ---	5:00 PM	42	462	0	0	548	113	9	79	9	80	228	153	*1,723*
5:00 PM ---	5:15 PM	58	608	0	0	700	144	10	103	12	95	281	203	*2,214*
5:15 PM ---	5:30 PM	66	738	0	0	862	163	13	119	27	109	336	244	*2,677*
5:30 PM ---	5:45 PM	77	839	0	0	1,000	187	15	133	28	130	382	278	*3,069*
5:45 PM ---	6:00 PM	88	919	0	0	1,128	211	17	141	28	148	402	323	*3,405*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	5	136	0	0	158	32	4	21	2	15	57	35	*465*
4:15 PM ---	4:30 PM	17	99	0	0	130	32	2	12	3	24	48	36	*403*
4:30 PM ---	4:45 PM	10	123	0	0	114	23	1	27	3	17	57	38	*413*
4:45 PM ---	5:00 PM	10	104	0	0	146	26	2	19	1	24	66	44	*442*
5:00 PM ---	5:15 PM	16	146	0	0	152	31	1	24	3	15	53	50	*491*
5:15 PM ---	5:30 PM	8	130	0	0	162	19	3	16	15	14	55	41	*463*
5:30 PM ---	5:45 PM	11	101	0	0	138	24	2	14	1	21	46	34	*392*
5:45 PM ---	6:00 PM	11	80	0	0	128	24	2	8	0	18	20	45	*336*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	42	462	0	0	548	113	9	79	9	80	228	153	*1,723*
4:15 PM ---	5:15 PM	53	472	0	0	542	112	6	82	10	80	224	168	*1,749*
4:30 PM ---	5:30 PM	44	503	0	0	574	99	7	86	22	70	231	173	*1,809*
4:45 PM ---	5:45 PM	45	481	0	0	598	100	8	73	20	74	220	169	*1,788*
5:00 PM ---	6:00 PM	46	457	0	0	580	98	8	62	19	68	174	170	*1,682*

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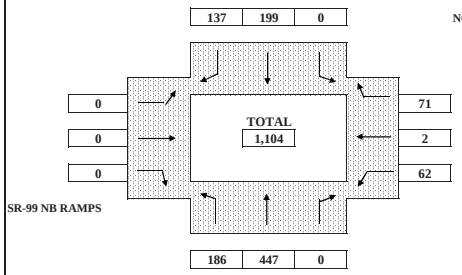
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

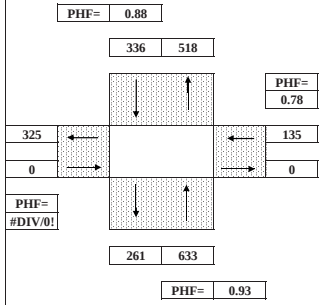
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SR-99 NB RAMPS	CITY:	MERCED	FILE:	2911071-19AM

PEAK HOUR: 07:30 AM TO 08:30 AM

NORTH



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	42	36	0	0	27	46	0	0	0	10	0	7	*168*
7:15 AM	7:30 AM	87	87	0	0	67	82	0	0	0	27	0	18	*368*
7:30 AM	7:45 AM	126	217	0	0	101	118	0	0	0	37	1	35	*635*
7:45 AM	8:00 AM	174	340	0	0	152	145	0	0	0	56	1	59	*927*
8:00 AM	8:15 AM	219	446	0	0	209	184	0	0	0	77	2	75	*1,212*
8:15 AM	8:30 AM	273	534	0	0	266	219	0	0	0	89	2	89	*1,472*
8:30 AM	8:45 AM	324	626	0	0	315	239	0	0	0	97	2	96	*1,699*
8:45 AM	9:00 AM	364	716	0	0	368	268	0	0	0	105	2	111	*1,934*
TOTAL BY PERIOD														
7:00 AM	7:15 AM	42	36	0	0	27	46	0	0	0	10	0	7	*168*
7:15 AM	7:30 AM	45	51	0	0	40	36	0	0	0	17	0	11	*200*
7:30 AM	7:45 AM	39	130	0	0	34	36	0	0	0	10	1	17	*267*
7:45 AM	8:00 AM	48	123	0	0	51	27	0	0	0	19	0	24	*292*
8:00 AM	8:15 AM	45	106	0	0	57	39	0	0	0	21	1	16	*285*
8:15 AM	8:30 AM	54	88	0	0	57	35	0	0	0	12	0	14	*260*
8:30 AM	8:45 AM	51	92	0	0	49	20	0	0	0	8	0	7	*227*
8:45 AM	9:00 AM	40	90	0	0	53	29	0	0	0	8	0	15	*235*
HOURLY TOTALS														
7:00 AM	8:00 AM	174	340	0	0	152	145	0	0	0	56	1	59	*927*
7:15 AM	8:15 AM	177	410	0	0	182	138	0	0	0	67	2	68	*1,044*
7:30 AM	8:30 AM	186	447	0	0	199	137	0	0	0	62	2	71	*1,104*
7:45 AM	8:45 AM	198	409	0	0	214	121	0	0	0	60	1	61	*1,064*
8:00 AM	9:00 AM	190	376	0	0	216	123	0	0	0	49	1	52	*1,007*

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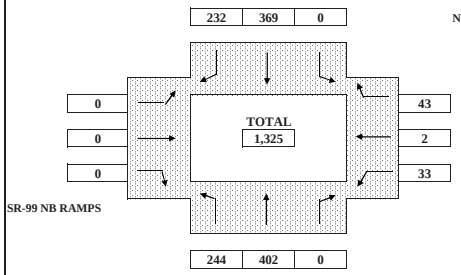
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

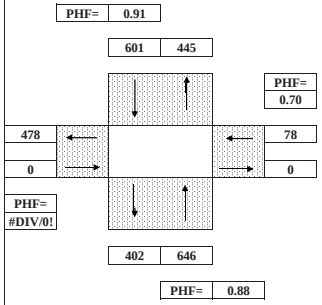
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SR-99 NB RAMPS	CITY:	MERCED	FILE:	2911071-19PM

PEAK HOUR: 04:15 PM TO 05:15 PM

NORTH



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	57	93	0	0	94	50	0	0	0	4	0	15	*313*
4:15 PM	4:30 PM	116	196	0	0	197	94	0	0	0	17	1	29	*650*
4:30 PM	4:45 PM	176	293	0	0	276	151	0	0	0	25	1	42	*964*
4:45 PM	5:00 PM	239	374	0	0	371	208	0	0	0	33	1	53	*1,279*
5:00 PM	5:15 PM	301	495	0	0	463	282	0	0	0	37	2	58	*1,638*
5:15 PM	5:30 PM	357	581	0	0	552	319	0	0	0	50	2	66	*1,927*
5:30 PM	5:45 PM	395	652	0	0	616	362	0	0	0	57	2	78	*2,162*
5:45 PM	6:00 PM	435	733	0	0	678	404	0	0	0	65	3	84	*2,402*
TOTAL BY PERIOD														
4:00 PM	4:15 PM	57	93	0	0	94	50	0	0	0	4	0	15	*313*
4:15 PM	4:30 PM	59	103	0	0	103	44	0	0	0	13	1	14	*337*
4:30 PM	4:45 PM	60	97	0	0	79	57	0	0	0	8	0	13	*314*
4:45 PM	5:00 PM	63	81	0	0	95	57	0	0	0	8	0	11	*315*
5:00 PM	5:15 PM	62	121	0	0	92	74	0	0	0	4	1	5	*359*
5:15 PM	5:30 PM	56	86	0	0	89	37	0	0	0	13	0	8	*289*
5:30 PM	5:45 PM	38	71	0	0	64	43	0	0	0	7	0	12	*235*
5:45 PM	6:00 PM	40	81	0	0	62	42	0	0	0	8	1	6	*240*
HOURLY TOTALS														
4:00 PM	5:00 PM	239	374	0	0	371	208	0	0	0	33	1	53	*1,279*
4:15 PM	5:15 PM	244	402	0	0	369	232	0	0	0	33	2	43	*1,325*
4:30 PM	5:30 PM	241	385	0	0	355	225	0	0	0	33	1	37	*1,277*
4:45 PM	5:45 PM	219	359	0	0	340	211	0	0	0	32	1	36	*1,198*
5:00 PM	6:00 PM	196	359	0	0	307	196	0	0	0	32	2	31	*1,123*

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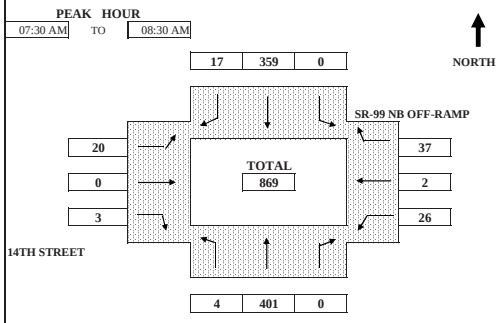
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

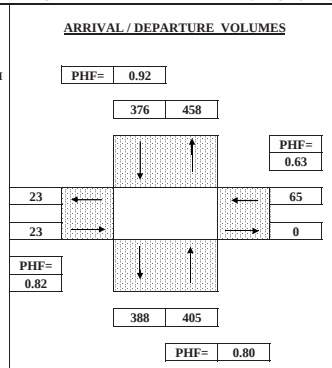
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	G STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	14TH STREET / SR-99 NB OFF-RAMP	CITY:	MERCED	FILE:	2911071-20AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	1	37	0	0	52	11	3	0	0	7	0	4	***115***
7:15 AM ---	7:30 AM	7	101	0	0	98	16	7	0	3	11	0	10	***253***
7:30 AM ---	7:45 AM	9	180	0	0	172	21	12	0	4	18	0	22	***438***
7:45 AM ---	8:00 AM	10	286	0	0	267	26	16	0	6	30	1	35	***677***
8:00 AM ---	8:15 AM	10	390	0	0	367	28	22	0	6	37	1	42	***903***
8:15 AM ---	8:30 AM	11	502	0	0	457	33	27	0	6	37	2	47	***1,122***
8:30 AM ---	8:45 AM	11	590	0	0	505	35	28	0	7	39	3	57	***1,275***
8:45 AM ---	9:00 AM	13	714	0	0	573	37	32	0	7	44	4	70	***1,494***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	1	37	0	0	52	11	3	0	0	7	0	4	***115***
7:15 AM ---	7:30 AM	6	64	0	0	46	5	4	0	3	4	0	6	***138***
7:30 AM ---	7:45 AM	2	79	0	0	74	5	5	0	1	7	0	12	***185***
7:45 AM ---	8:00 AM	1	106	0	0	95	5	4	0	2	12	1	13	***239***
8:00 AM ---	8:15 AM	0	104	0	0	100	2	6	0	0	7	0	7	***226***
8:15 AM ---	8:30 AM	1	112	0	0	90	5	5	0	0	0	1	5	***219***
8:30 AM ---	8:45 AM	0	88	0	0	48	2	1	0	1	2	1	10	***153***
8:45 AM ---	9:00 AM	2	124	0	0	68	2	4	0	0	5	1	13	***219***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	10	286	0	0	267	26	16	0	6	30	1	35	***677***
7:15 AM ---	8:15 AM	9	353	0	0	315	17	19	0	6	30	1	38	***788***
7:30 AM ---	8:30 AM	4	401	0	0	359	17	20	0	3	26	2	37	***869***
7:45 AM ---	8:45 AM	2	410	0	0	333	14	16	0	3	21	3	35	***837***
8:00 AM ---	9:00 AM	3	428	0	0	306	11	16	0	1	14	3	35	***817***

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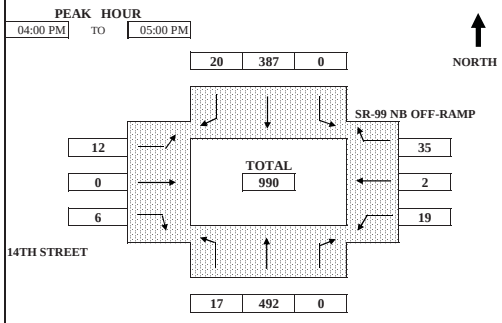
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

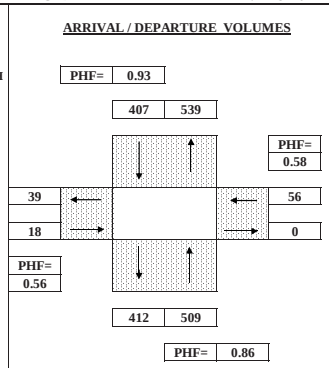
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	G STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	14TH STREET / SR-99 NB OFF-RAMP	CITY:	MERCED	FILE:	2911071-20PM

PEAK HOUR

04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	4	119	0	0	105	4	6	0	2	6	2	16	***264***
4:15 PM ---	4:30 PM	9	220	0	0	200	14	7	0	5	10	2	25	***492***
4:30 PM ---	4:45 PM	16	361	0	0	290	19	9	0	6	14	2	32	***749***
4:45 PM ---	5:00 PM	17	492	0	0	387	20	12	0	6	19	2	35	***990***
5:00 PM ---	5:15 PM	20	636	0	0	455	20	12	0	6	19	2	42	***1,212***
5:15 PM ---	5:30 PM	22	756	0	0	554	21	18	0	6	20	2	51	***1,450***
5:30 PM ---	5:45 PM	23	855	0	0	644	27	21	0	7	25	2	59	***1,663***
5:45 PM ---	6:00 PM	26	947	0	0	726	28	22	0	7	28	2	64	***1,850***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	4	119	0	0	105	4	6	0	2	6	2	16	***264***
4:15 PM ---	4:30 PM	5	101	0	0	95	10	1	0	3	4	0	9	***228***
4:30 PM ---	4:45 PM	7	141	0	0	90	5	2	0	1	4	0	7	***257***
4:45 PM ---	5:00 PM	1	131	0	0	97	1	3	0	0	5	0	3	***241***
5:00 PM ---	5:15 PM	3	144	0	0	68	0	0	0	0	0	0	7	***222***
5:15 PM ---	5:30 PM	2	120	0	0	99	1	6	0	0	1	0	9	***238***
5:30 PM ---	5:45 PM	1	99	0	0	90	6	3	0	1	5	0	8	***213***
5:45 PM ---	6:00 PM	3	92	0	0	82	1	1	0	0	3	0	5	***187***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	17	492	0	0	387	20	12	0	6	19	2	35	***990***
4:15 PM ---	5:15 PM	16	517	0	0	350	16	6	0	4	13	0	26	***948***
4:30 PM ---	5:30 PM	13	536	0	0	354	7	11	0	1	10	0	26	***958***
4:45 PM ---	5:45 PM	7	494	0	0	354	8	12	0	1	11	0	27	***914***
5:00 PM ---	6:00 PM	9	455	0	0	339	8	10	0	1	9	0	29	***860***

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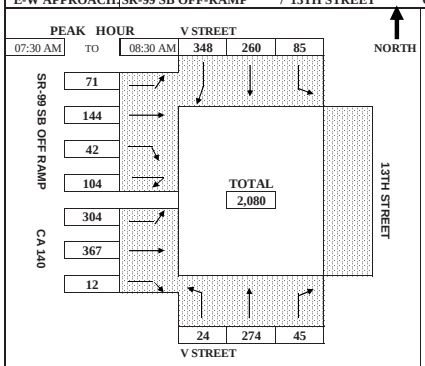
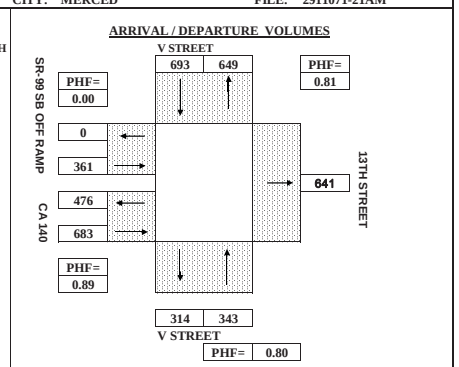
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	V STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SR-99 SB OFF-RAMP / 13TH STREET	CITY:	MERCED	FILE:	2911071-21AM





TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	CA 140 (13TH ST) Left	Thru	Right	SR-99 SB OFF RAMP Left	Thru	Right	CA140	TOTAL
SURVEY DATA															
7:00 AM ---	7:15 AM	5	32	6	13	43	77	44	35	4	6	21	6	11	*303*
7:15 AM ---	7:30 AM	7	87	19	32	105	153	104	101	4	27	53	24	37	*753*
7:30 AM ---	7:45 AM	15	147	28	50	179	236	182	212	7	35	81	45	57	*1,274*
7:45 AM ---	8:00 AM	18	240	39	77	252	351	255	314	9	46	126	70	96	*1,893*
8:00 AM ---	8:15 AM	27	302	53	93	303	421	340	392	11	60	158	82	120	*2,362*
8:15 AM ---	8:30 AM	31	361	64	117	365	501	408	468	16	69	197	95	141	*2,833*
8:30 AM ---	8:45 AM	39	430	76	137	418	575	467	539	21	74	228	104	165	*3,273*
8:45 AM ---	9:00 AM	45	482	86	158	464	654	520	608	25	92	248	115	171	*3,668*
TOTAL BY PERIOD															
7:00 AM ---	7:15 AM	5	32	6	13	43	77	44	35	4	6	21	6	11	*303*
7:15 AM ---	7:30 AM	2	55	13	19	62	76	60	66	0	21	32	18	26	*450*
7:30 AM ---	7:45 AM	8	60	9	18	74	83	78	111	3	8	28	21	20	*521*
7:45 AM ---	8:00 AM	3	93	11	27	73	115	73	102	2	11	45	25	39	*619*
8:00 AM ---	8:15 AM	9	62	14	16	51	70	85	78	2	14	32	12	24	*469*
8:15 AM ---	8:30 AM	4	59	11	24	62	80	68	76	5	9	39	13	21	*471*
8:30 AM ---	8:45 AM	8	69	12	20	53	74	59	71	5	5	31	9	24	*440*
8:45 AM ---	9:00 AM	6	52	10	21	46	79	53	69	4	18	20	11	6	*395*
HOURLY TOTALS															
7:00 AM ---	8:00 AM	18	240	39	77	252	351	255	314	9	46	126	70	96	*1,893*
7:15 AM ---	8:15 AM	22	270	47	80	260	344	296	357	7	54	137	76	109	*2,059*
7:30 AM ---	8:30 AM	24	274	45	85	260	348	304	367	12	42	144	71	104	*2,080*
7:45 AM ---	8:45 AM	24	283	48	87	239	339	285	327	14	39	147	59	108	*1,999*
8:00 AM ---	9:00 AM	27	242	47	81	212	303	265	294	16	46	122	45	75	*1,775*

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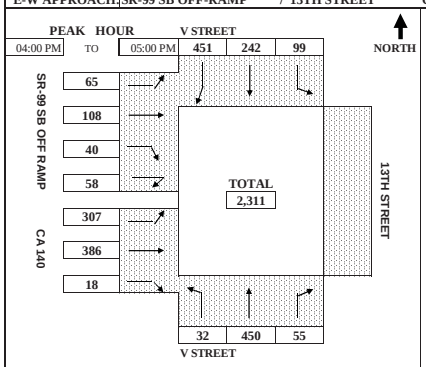
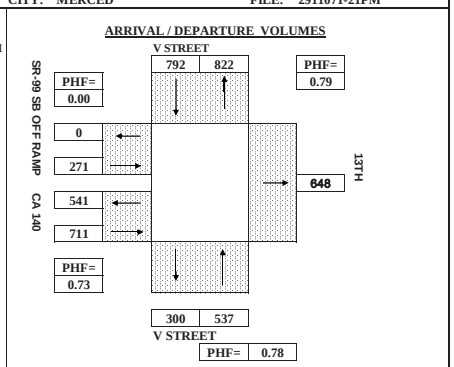
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	V STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SR-99 SB OFF-RAMP / 13TH STREET	CITY:	MERCED	FILE:	2911071-21PM





TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	CA 140 (13TH ST) Left	Thru	Right	SR-99 SB OFF RAMP Left	Thru	Right	CA140	TOTAL
SURVEY DATA															
4:00 PM ---	4:15 PM	4	137	13	21	51	100	71	81	2	10	27	17	15	*549*
4:15 PM ---	4:30 PM	14	238	32	47	122	229	141	154	7	21	58	36	30	*1,129*
4:30 PM ---	4:45 PM	29	313	51	85	195	368	263	268	16	36	90	52	49	*1,815*
4:45 PM ---	5:00 PM	32	450	55	99	242	451	307	386	18	40	108	65	58	*2,311*
5:00 PM ---	5:15 PM	44	602	63	120	316	568	314	391	21	58	141	79	73	*2,790*
5:15 PM ---	5:30 PM	52	679	72	137	374	666	466	469	25	71	161	101	82	*3,355*
5:30 PM ---	5:45 PM	56	756	84	159	428	784	530	528	30	85	179	114	94	*3,827*
5:45 PM ---	6:00 PM	65	817	93	179	489	898	588	579	35	99	198	125	101	*4,266*
TOTAL BY PERIOD															
4:00 PM ---	4:15 PM	4	137	13	21	51	100	71	81	2	10	27	17	15	*549*
4:15 PM ---	4:30 PM	10	101	19	26	71	129	70	73	5	11	31	19	15	*580*
4:30 PM ---	4:45 PM	15	75	19	38	73	139	122	114	9	15	32	16	19	*686*
4:45 PM ---	5:00 PM	3	137	4	14	47	83	44	118	2	4	18	13	9	*496*
5:00 PM ---	5:15 PM	12	152	8	21	74	117	7	5	3	18	33	14	15	*479*
5:15 PM ---	5:30 PM	8	77	9	17	58	98	152	78	4	13	20	22	9	*565*
5:30 PM ---	5:45 PM	4	77	12	22	54	118	64	59	5	14	18	13	12	*472*
5:45 PM ---	6:00 PM	9	61	9	20	61	114	58	51	5	14	19	11	7	*439*
HOURLY TOTALS															
4:00 PM ---	5:00 PM	32	450	55	99	242	451	307	386	18	40	108	65	58	*2,311*
4:15 PM ---	5:15 PM	40	465	50	99	265	468	243	310	19	48	114	62	58	*2,241*
4:30 PM ---	5:30 PM	38	441	40	90	252	437	325	315	18	50	103	65	52	*2,226*
4:45 PM ---	5:45 PM	27	443	33	74	233	416	267	260	14	49	89	62	45	*2,012*
5:00 PM ---	6:00 PM	33	367	38	80	247	447	281	193	17	59	90	60	43	*1,955*

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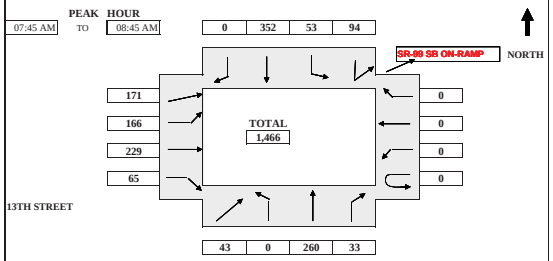
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

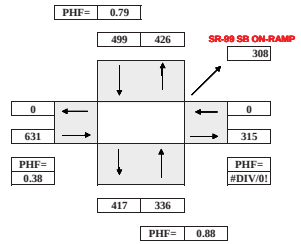
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	R STREET	SURVEY TIME:	7:00 AM TO 9:00 AM		
E-W APPROACH:	13TH STREET / SR-99 SB ON-RAMP	CITY:	MERCED	FILE:	2911071-22AM

PEAK HOUR

07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND On-Ramp	Left	Thru	Right	SOUTHBOUND On-Ramp	Left	Thru	Right	EASTBOUND On-Ramp	Left	Thru	Right	WESTBOUND U-Turn	Left	Thru	Right	TOTAL
SURVEY DATA																		
7:00 AM ---	7:15 AM	13	0	28	0	24	6	46	0	32	20	20	40	0	0	0	0	*229*
7:15 AM ---	7:30 AM	23	0	72	3	40	14	109	0	66	41	67	17	0	0	0	0	*452*
7:30 AM ---	7:45 AM	37	0	132	7	61	26	182	0	111	69	130	27	0	0	0	0	*782*
7:45 AM ---	8:00 AM	43	0	202	21	86	43	298	0	159	121	211	40	0	0	0	0	*1,224*
8:00 AM ---	8:15 AM	52	0	271	27	108	57	385	0	196	160	262	61	0	0	0	0	*1,579*
8:15 AM ---	8:30 AM	67	0	325	32	134	63	456	0	242	199	32	76	0	0	0	0	*1,626*
8:30 AM ---	8:45 AM	80	0	392	40	155	79	534	0	282	235	359	92	0	0	0	0	*2,248*
8:45 AM ---	9:00 AM	92	0	472	44	170	91	613	0	316	269	403	106	0	0	0	0	*2,576*
TOTAL BY PERIOD																		
7:00 AM ---	7:15 AM	13	0	28	0	24	6	46	0	32	20	20	40	0	0	0	0	*229*
7:15 AM ---	7:30 AM	10	0	44	3	16	8	63	0	34	21	47	-23	0	0	0	0	*223*
7:30 AM ---	7:45 AM	14	0	60	4	21	12	73	0	45	28	63	10	0	0	0	0	*330*
7:45 AM ---	8:00 AM	6	0	70	14	25	17	116	0	48	52	81	13	0	0	0	0	*442*
8:00 AM ---	8:15 AM	9	0	69	6	22	14	87	0	37	39	51	21	0	0	0	0	*355*
8:15 AM ---	8:30 AM	15	0	54	5	26	6	71	0	46	39	-230	15	0	0	0	0	*47*
8:30 AM ---	8:45 AM	13	0	67	8	21	16	78	0	40	36	327	16	0	0	0	0	*622*
8:45 AM ---	9:00 AM	12	0	80	4	15	12	79	0	34	34	44	14	0	0	0	0	*328*
HOURLY TOTALS																		
7:00 AM ---	8:00 AM	43	0	202	21	86	43	298	0	159	121	211	40	0	0	0	0	*1,224*
7:15 AM ---	8:15 AM	39	0	243	27	84	51	339	0	164	140	242	21	0	0	0	0	*1,350*
7:30 AM ---	8:30 AM	44	0	253	29	94	49	347	0	176	158	-35	59	0	0	0	0	*1,174*
7:45 AM ---	8:45 AM	43	0	260	33	94	53	352	0	171	166	229	65	0	0	0	0	*1,466*
8:00 AM ---	9:00 AM	49	0	270	23	84	48	315	0	157	148	192	66	0	0	0	0	*1,352*

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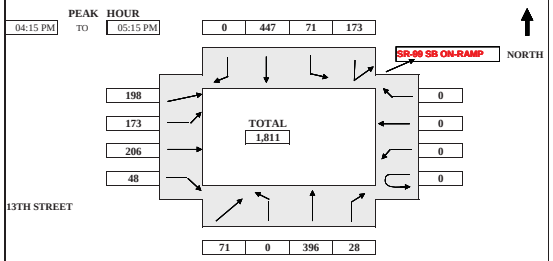
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

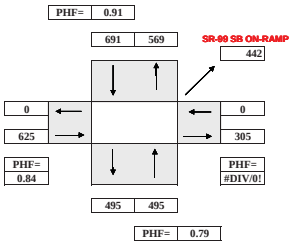
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/18/2009	DAY:	WEDNESDAY
N-S APPROACH:	R STREET	SURVEY TIME:	4:00 PM TO 6:00 PM		
E-W APPROACH:	13TH STREET / SR-99 SB ON-RAMP	CITY:	MERCED	FILE:	2911071-22PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND On-Ramp	Left	Thru	Right	SOUTHBOUND On-Ramp	Left	Thru	Right	EASTBOUND On-Ramp	Left	Thru	Right	WESTBOUND U-Turn	Left	Thru	Right	TOTAL
SURVEY DATA																		
4:00 PM ---	4:15 PM	17	0	90	2	36	15	112	0	54	33	47	12	0	0	0	0	*418*
4:15 PM ---	4:30 PM	27	0	181	12	71	31	237	0	94	65	106	18	0	0	0	0	*842*
4:30 PM ---	4:45 PM	52	0	271	16	104	47	347	0	139	109	149	22	0	0	0	0	*1,256*
4:45 PM ---	5:00 PM	66	0	358	24	150	62	453	0	183	156	201	45	0	0	0	0	*1,698*
5:00 PM ---	5:15 PM	88	0	486	30	209	86	559	0	252	206	253	60	0	0	0	0	*2,229*
5:15 PM ---	5:30 PM	106	0	574	36	253	112	659	0	291	236	293	74	0	0	0	0	*2,634*
5:30 PM ---	5:45 PM	125	0	646	40	299	134	772	0	337	266	327	85	0	0	0	0	*3,031*
5:45 PM ---	6:00 PM	138	0	720	40	348	148	872	0	378	290	355	101	0	0	0	0	*3,390*
TOTAL BY PERIOD																		
4:00 PM ---	4:15 PM	17	0	90	2	36	15	112	0	54	33	47	12	0	0	0	0	*418*
4:15 PM ---	4:30 PM	10	0	91	10	35	16	125	0	40	32	59	6	0	0	0	0	*424*
4:30 PM ---	4:45 PM	25	0	90	4	33	16	110	0	45	44	43	4	0	0	0	0	*414*
4:45 PM ---	5:00 PM	14	0	87	8	46	15	106	0	44	47	52	23	0	0	0	0	*442*
5:00 PM ---	5:15 PM	22	0	128	6	59	24	106	0	69	50	52	15	0	0	0	0	*531*
5:15 PM ---	5:30 PM	18	0	88	6	44	26	100	0	39	30	40	14	0	0	0	0	*405*
5:30 PM ---	5:45 PM	19	0	72	4	46	22	113	0	46	30	34	11	0	0	0	0	*397*
5:45 PM ---	6:00 PM	13	0	74	0	49	14	100	0	41	24	28	16	0	0	0	0	*359*
HOURLY TOTALS																		
4:00 PM ---	5:00 PM	66	0	358	24	150	62	453	0	183	156	201	45	0	0	0	0	*1,698*
4:15 PM ---	5:15 PM	71	0	396	28	173	71	447	0	198	173	206	48	0	0	0	0	*1,811*
4:30 PM ---	5:30 PM	79	0	393	24	182	81	422	0	197	171	187	56	0	0	0	0	*1,792*
4:45 PM ---	5:45 PM	73	0	375	24	195	87	425	0	198	157	178	63	0	0	0	0	*1,775*
5:00 PM ---	6:00 PM	72	0	362	16	198	86	419	0	195	134	154	56	0	0	0	0	*1,692*

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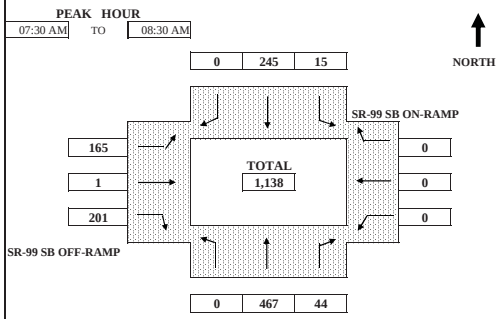
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

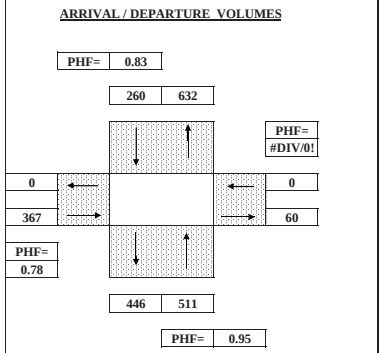
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SR-99 SB OFF-RAMP / SR-99 SB ON-RAMP	CITY:	MERCED	FILE:	2911071-23AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	59	10	7	29	0	17	1	42	0	0	0	***165***
7:15 AM ---	7:30 AM	0	122	15	8	85	0	50	1	80	0	0	0	***361***
7:30 AM ---	7:45 AM	0	240	20	10	126	0	101	2	123	0	0	0	***622***
7:45 AM ---	8:00 AM	0	351	34	11	195	0	161	2	181	0	0	0	***935***
8:00 AM ---	8:15 AM	0	469	51	18	266	0	194	2	231	0	0	0	***1,231***
8:15 AM ---	8:30 AM	0	589	59	23	330	0	215	2	281	0	0	0	***1,499***
8:30 AM ---	8:45 AM	0	701	67	31	378	0	246	2	321	0	0	0	***1,746***
8:45 AM ---	9:00 AM	0	794	76	36	433	0	283	2	347	0	0	0	***1,971***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	59	10	7	29	0	17	1	42	0	0	0	***165***
7:15 AM ---	7:30 AM	0	63	5	1	56	0	33	0	38	0	0	0	***196***
7:30 AM ---	7:45 AM	0	118	5	2	41	0	51	1	43	0	0	0	***261***
7:45 AM ---	8:00 AM	0	111	14	1	69	0	60	0	58	0	0	0	***313***
8:00 AM ---	8:15 AM	0	118	17	7	71	0	33	0	50	0	0	0	***296***
8:15 AM ---	8:30 AM	0	120	8	5	64	0	21	0	50	0	0	0	***268***
8:30 AM ---	8:45 AM	0	112	8	8	48	0	31	0	40	0	0	0	***247***
8:45 AM ---	9:00 AM	0	93	9	5	55	0	37	0	26	0	0	0	***225***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	0	351	34	11	195	0	161	2	181	0	0	0	***935***
7:15 AM ---	8:15 AM	0	410	41	11	237	0	177	1	189	0	0	0	***1,066***
7:30 AM ---	8:30 AM	0	467	44	15	245	0	165	1	201	0	0	0	***1,138***
7:45 AM ---	8:45 AM	0	461	47	21	252	0	145	0	198	0	0	0	***1,124***
8:00 AM ---	9:00 AM	0	443	42	25	238	0	122	0	166	0	0	0	***1,036***

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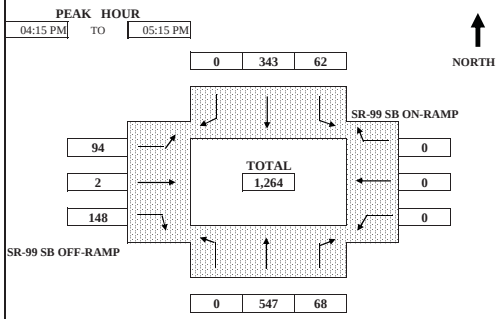
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

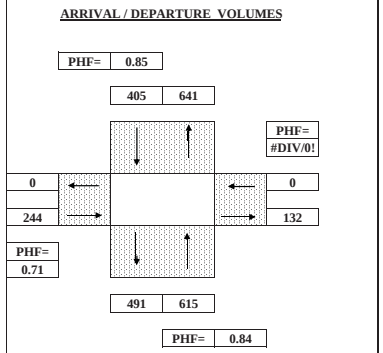
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SR-99 SB OFF-RAMP / SR-99 SB ON-RAMP	CITY:	MERCED	FILE:	2911071-23PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	132	13	20	78	0	18	0	44	0	0	0	***305***
4:15 PM ---	4:30 PM	0	263	29	35	182	0	49	2	97	0	0	0	***657***
4:30 PM ---	4:45 PM	0	394	45	44	260	0	73	2	121	0	0	0	***939***
4:45 PM ---	5:00 PM	0	517	61	59	348	0	94	2	152	0	0	0	***1,233***
5:00 PM ---	5:15 PM	0	679	81	82	421	0	112	2	192	0	0	0	***1,569***
5:15 PM ---	5:30 PM	0	786	92	94	512	0	147	2	227	0	0	0	***1,860***
5:30 PM ---	5:45 PM	0	873	105	103	574	0	169	3	265	0	0	0	***2,092***
5:45 PM ---	6:00 PM	0	970	116	114	633	0	192	3	296	0	0	0	***2,324***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	132	13	20	78	0	18	0	44	0	0	0	***305***
4:15 PM ---	4:30 PM	0	131	16	15	104	0	31	2	53	0	0	0	***352***
4:30 PM ---	4:45 PM	0	131	16	9	78	0	24	0	24	0	0	0	***282***
4:45 PM ---	5:00 PM	0	123	16	15	88	0	21	0	31	0	0	0	***294***
5:00 PM ---	5:15 PM	0	162	20	23	73	0	18	0	40	0	0	0	***336***
5:15 PM ---	5:30 PM	0	107	11	12	91	0	35	0	35	0	0	0	***291***
5:30 PM ---	5:45 PM	0	87	13	9	62	0	22	1	38	0	0	0	***232***
5:45 PM ---	6:00 PM	0	97	11	11	59	0	23	0	31	0	0	0	***232***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	0	517	61	59	348	0	94	2	152	0	0	0	***1,233***
4:15 PM ---	5:15 PM	0	547	68	62	343	0	94	2	148	0	0	0	***1,264***
4:30 PM ---	5:30 PM	0	523	63	59	330	0	98	0	130	0	0	0	***1,203***
4:45 PM ---	5:45 PM	0	479	60	59	314	0	96	1	144	0	0	0	***1,153***
5:00 PM ---	6:00 PM	0	453	55	55	285	0	98	1	144	0	0	0	***1,091***

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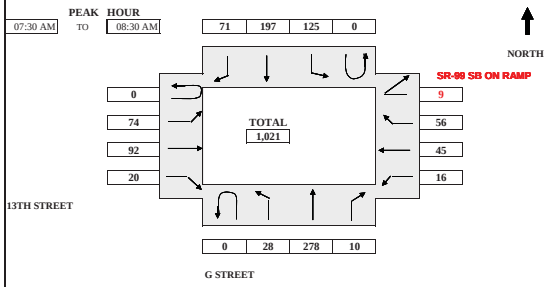
B.A.Y.M.E.T.R.I.C.S.

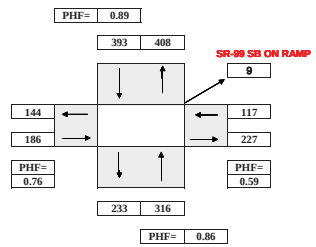
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	G STREET	SURVEY TIME:	7:00 AM TO 9:00 AM		
E-W APPROACH:	13TH STREET / SR-99 NB ON-RAMP	CITY:	MERCED	FILE:	2911071-24AM

PEAK HOUR 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND U-Turn	Left	Thru	Right	SOUTHBOUND U-Turn	Left	Thru	Right	EASTBOUND U-Turn	Left	Thru	Right	WESTBOUND On Ramp	Left	Thru	Right	TOTAL
SURVEY DATA																		
7:00 AM ---	7:15 AM	0	7	19	2	0	12	37	10	0	8	16	3	2	0	13	11	*140*
7:15 AM ---	7:30 AM	0	10	62	4	0	26	61	25	0	20	28	6	6	3	22	26	*299*
7:30 AM ---	7:45 AM	0	14	115	6	0	55	105	35	0	34	48	11	7	6	34	40	*510*
7:45 AM ---	8:00 AM	0	19	197	8	0	87	152	66	0	48	67	13	10	13	42	52	*774*
8:00 AM ---	8:15 AM	0	24	265	11	0	124	208	82	0	71	91	17	13	16	51	65	*1,038*
8:15 AM ---	8:30 AM	0	38	340	14	0	151	258	96	0	94	120	26	15	19	67	82	*1,320*
8:30 AM ---	8:45 AM	0	42	394	18	0	165	283	108	0	107	142	28	16	24	78	103	*1,508*
8:45 AM ---	9:00 AM	0	45	460	23	0	195	312	123	0	136	162	30	18	26	92	135	*1,757*
TOTAL BY PERIOD																		
7:00 AM ---	7:15 AM	0	7	19	2	0	12	37	10	0	8	16	3	2	0	13	11	*140*
7:15 AM ---	7:30 AM	0	3	43	2	0	14	24	15	0	12	12	3	4	3	9	15	*159*
7:30 AM ---	7:45 AM	0	4	53	2	0	29	44	10	0	14	20	5	1	3	12	14	*211*
7:45 AM ---	8:00 AM	0	5	82	2	0	32	47	31	0	14	19	2	3	7	8	12	*264*
8:00 AM ---	8:15 AM	0	5	68	3	0	37	56	16	0	23	24	4	3	3	9	13	*264*
8:15 AM ---	8:30 AM	0	14	75	3	0	27	50	14	0	23	29	9	2	3	16	17	*282*
8:30 AM ---	8:45 AM	0	4	54	4	0	14	25	12	0	13	22	2	1	5	11	21	*188*
8:45 AM ---	9:00 AM	0	3	66	5	0	30	29	15	0	29	20	2	2	2	14	32	*249*
HOURLY TOTALS																		
7:00 AM ---	8:00 AM	0	19	197	8	0	87	152	66	0	48	67	13	10	13	42	52	*774*
7:15 AM ---	8:15 AM	0	17	246	9	0	112	171	72	0	63	75	14	11	16	38	54	*898*
7:30 AM ---	8:30 AM	0	28	278	10	0	125	197	71	0	74	92	20	9	16	45	56	*1,021*
7:45 AM ---	8:45 AM	0	28	279	12	0	110	178	73	0	73	94	17	9	18	44	63	*998*
8:00 AM ---	9:00 AM	0	26	263	15	0	108	160	57	0	88	95	17	8	13	50	83	*983*

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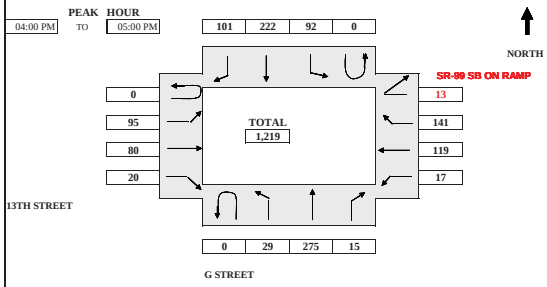
B.A.Y.M.E.T.R.I.C.S.

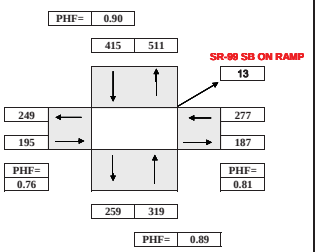
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	G STREET	SURVEY TIME:	4:00 PM TO 6:00 PM		
E-W APPROACH:	13TH STREET / SR-99 NB ON-RAMP	CITY:	MERCED	FILE:	2911071-24PM

PEAK HOUR 04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND U-Turn	Left	Thru	Right	SOUTHBOUND U-Turn	Left	Thru	Right	EASTBOUND U-Turn	Left	Thru	Right	WESTBOUND On Ramp	Left	Thru	Right	TOTAL
SURVEY DATA																		
4:00 PM ---	4:15 PM	0	9	70	4	0	24	64	27	0	24	18	2	2	6	29	30	*309*
4:15 PM ---	4:30 PM	0	16	127	9	0	51	114	52	0	41	40	8	5	9	54	62	*588*
4:30 PM ---	4:45 PM	0	23	195	14	0	71	172	69	0	73	67	13	11	14	80	111	*913*
4:45 PM ---	5:00 PM	0	29	275	15	0	92	222	101	0	95	80	20	13	17	119	141	*1,219*
5:00 PM ---	5:15 PM	0	37	354	18	0	114	260	109	0	115	92	22	15	17	147	191	*1,491*
5:15 PM ---	5:30 PM	0	46	427	24	0	140	325	119	0	136	115	23	19	22	173	220	*1,789*
5:30 PM ---	5:45 PM	0	50	483	29	0	167	380	134	0	154	130	26	20	27	191	247	*2,038*
5:45 PM ---	6:00 PM	0	53	537	31	0	181	438	147	0	173	140	28	20	30	209	269	*2,256*
TOTAL BY PERIOD																		
4:00 PM ---	4:15 PM	0	9	70	4	0	24	64	27	0	24	18	2	2	6	29	30	*309*
4:15 PM ---	4:30 PM	0	7	57	5	0	27	50	25	0	17	22	6	3	3	25	32	*279*
4:30 PM ---	4:45 PM	0	7	68	5	0	20	58	17	0	32	27	5	6	5	26	49	*325*
4:45 PM ---	5:00 PM	0	6	80	1	0	21	50	32	0	22	13	7	2	3	39	30	*306*
5:00 PM ---	5:15 PM	0	8	79	3	0	22	38	8	0	20	12	2	2	0	28	50	*272*
5:15 PM ---	5:30 PM	0	9	73	6	0	26	65	10	0	21	23	1	4	5	26	29	*298*
5:30 PM ---	5:45 PM	0	4	56	5	0	27	55	15	0	18	15	3	1	5	18	27	*249*
5:45 PM ---	6:00 PM	0	3	54	2	0	14	58	13	0	19	10	2	0	3	18	22	*218*
HOURLY TOTALS																		
4:00 PM ---	5:00 PM	0	29	275	15	0	92	222	101	0	95	80	20	13	17	119	141	*1,219*
4:15 PM ---	5:15 PM	0	28	284	14	0	90	196	82	0	91	74	20	13	11	118	161	*1,182*
4:30 PM ---	5:30 PM	0	30	300	15	0	89	211	67	0	95	75	15	14	13	119	158	*1,201*
4:45 PM ---	5:45 PM	0	27	288	15	0	96	208	65	0	81	63	13	9	13	111	136	*1,125*
5:00 PM ---	6:00 PM	0	24	262	16	0	89	216	46	0	78	60	8	7	13	90	128	*1,037*

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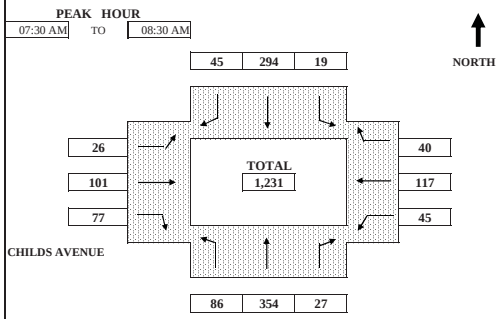
B.A.Y.M.E.T.R.I.C.S.

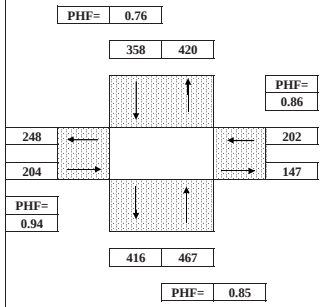
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	CHILDS AVENUE	CITY:	MERCED	FILE:	2911071-25AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	17	36	0	9	56	7	4	9	10	8	14	2	*172*
7:15 AM ---	7:30 AM	41	111	4	11	119	13	8	26	25	14	42	8	*422*
7:30 AM ---	7:45 AM	63	193	10	15	166	24	17	54	39	24	65	18	*688*
7:45 AM ---	8:00 AM	85	301	17	20	266	36	26	86	52	33	95	26	*1,043*
8:00 AM ---	8:15 AM	100	389	28	27	343	48	30	108	73	44	125	38	*1,353*
8:15 AM ---	8:30 AM	127	465	31	30	413	58	34	127	102	59	159	48	*1,653*
8:30 AM ---	8:45 AM	149	547	38	36	457	66	39	148	125	67	170	61	*1,903*
8:45 AM ---	9:00 AM	169	625	43	39	511	81	45	168	137	75	190	71	*2,154*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	17	36	0	9	56	7	4	9	10	8	14	2	*172*
7:15 AM ---	7:30 AM	24	75	4	2	63	6	4	17	15	6	28	6	*250*
7:30 AM ---	7:45 AM	22	82	6	4	47	11	9	28	14	10	23	10	*266*
7:45 AM ---	8:00 AM	22	108	7	5	100	12	9	32	13	9	30	8	*355*
8:00 AM ---	8:15 AM	15	88	11	7	77	12	4	22	21	11	30	12	*310*
8:15 AM ---	8:30 AM	27	76	3	3	70	10	4	19	29	15	34	10	*300*
8:30 AM ---	8:45 AM	22	82	7	6	44	8	5	21	23	8	11	13	*250*
8:45 AM ---	9:00 AM	20	78	5	3	54	15	6	20	12	8	20	10	*251*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	85	301	17	20	266	36	26	86	52	33	95	26	*1,043*
7:15 AM ---	8:15 AM	83	353	28	18	287	41	26	99	63	36	111	36	*1,181*
7:30 AM ---	8:30 AM	86	354	27	19	294	45	26	101	77	45	117	40	*1,231*
7:45 AM ---	8:45 AM	86	354	28	21	291	42	22	94	86	43	105	43	*1,215*
8:00 AM ---	9:00 AM	84	324	26	19	245	45	19	82	85	42	95	45	*1,111*

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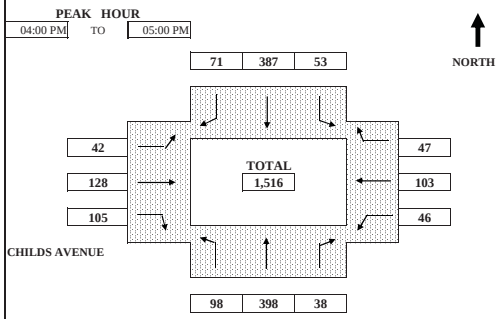
B.A.Y.M.E.T.R.I.C.S.

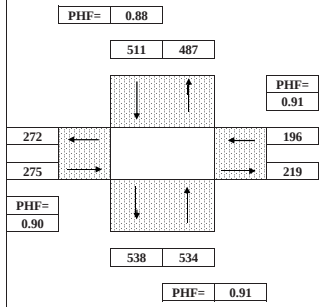
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	CHILDS AVENUE	CITY:	MERCED	FILE:	2911071-25PM

PEAK HOUR: 04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	21	110	5	10	98	16	12	37	21	13	26	14	*383*
4:15 PM ---	4:30 PM	39	226	17	20	189	32	24	73	46	25	49	24	*764*
4:30 PM ---	4:45 PM	65	310	27	34	281	51	33	97	72	39	82	31	*1,122*
4:45 PM ---	5:00 PM	98	398	38	53	387	71	42	128	105	46	103	47	*1,516*
5:00 PM ---	5:15 PM	117	476	49	62	481	84	45	154	145	52	127	66	*1,858*
5:15 PM ---	5:30 PM	135	561	58	66	579	101	60	190	170	62	144	79	*2,205*
5:30 PM ---	5:45 PM	164	640	66	84	671	116	72	217	202	72	170	89	*2,563*
5:45 PM ---	6:00 PM	190	721	73	95	741	130	85	239	228	82	182	102	*2,868*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	21	110	5	10	98	16	12	37	21	13	26	14	*383*
4:15 PM ---	4:30 PM	18	116	12	10	91	16	12	36	25	12	23	10	*381*
4:30 PM ---	4:45 PM	26	84	10	14	92	19	9	24	26	14	33	7	*358*
4:45 PM ---	5:00 PM	33	88	11	19	106	20	9	31	33	7	21	16	*394*
5:00 PM ---	5:15 PM	19	78	11	9	94	13	3	26	40	6	24	19	*342*
5:15 PM ---	5:30 PM	18	85	9	4	98	17	15	36	25	10	17	13	*347*
5:30 PM ---	5:45 PM	29	79	8	18	92	15	12	27	32	10	26	10	*358*
5:45 PM ---	6:00 PM	26	81	7	11	70	14	13	22	26	10	12	13	*305*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	98	398	38	53	387	71	42	128	105	46	103	47	*1,516*
4:15 PM ---	5:15 PM	96	366	44	52	383	68	33	117	124	39	101	52	*1,475*
4:30 PM ---	5:30 PM	96	335	41	46	390	69	36	117	124	37	95	55	*1,441*
4:45 PM ---	5:45 PM	99	330	39	50	390	65	39	120	130	33	88	58	*1,441*
5:00 PM ---	6:00 PM	92	323	35	42	354	59	43	111	123	36	79	55	*1,352*

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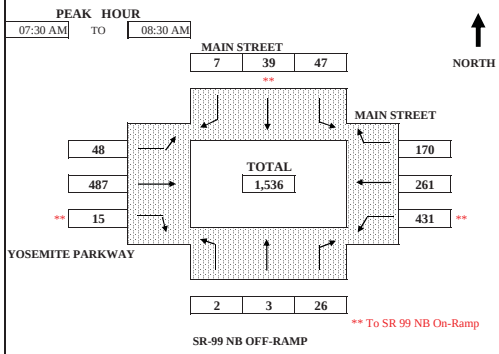
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

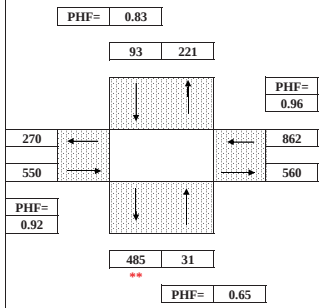
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	SR-99 NB OFF-RAMP / MAIN STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	YOSEMITE PARKWAY / MAIN STREET	CITY:	MERCED	FILE:	2911071-26AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NB(SR99 NB OFF-RAMP) WB Yosr	Main St	EBYosr	SB (MAIN STREET) EBYosr	On Ramp	WB Yosr	EB (YOSEMITE PKWY) Main St	Yosrmite	On Ramp	WB (YOSEMITE PKWY) On Ramp	Yosrmite	Main St	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	3	2	7	8	4	6	53	5	115	34	18	*255*
7:15 AM ---	7:30 AM	0	5	5	15	13	6	6	127	17	202	78	30	*504*
7:30 AM ---	7:45 AM	0	5	14	28	25	7	22	248	18	320	121	70	*878*
7:45 AM ---	8:00 AM	1	5	23	42	36	10	32	368	25	418	193	121	*1,274*
8:00 AM ---	8:15 AM	1	5	26	47	45	10	46	501	28	522	273	162	*1,666*
8:15 AM ---	8:30 AM	2	8	31	62	52	13	54	614	32	633	339	200	*2,040*
8:30 AM ---	8:45 AM	4	8	35	66	60	18	67	711	37	725	378	247	*2,356*
8:45 AM ---	9:00 AM	5	10	44	78	67	24	77	790	40	806	428	282	*2,651*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	3	2	7	8	4	6	53	5	115	34	18	*255*
7:15 AM ---	7:30 AM	0	2	3	8	5	2	0	74	12	87	44	12	*249*
7:30 AM ---	7:45 AM	0	0	9	13	12	1	16	121	1	118	43	40	*374*
7:45 AM ---	8:00 AM	1	0	9	14	11	3	10	120	7	98	72	51	*396*
8:00 AM ---	8:15 AM	0	0	3	5	9	0	14	133	3	104	80	41	*392*
8:15 AM ---	8:30 AM	1	3	5	15	7	3	8	113	4	111	66	38	*374*
8:30 AM ---	8:45 AM	2	0	4	4	8	5	13	97	5	92	39	47	*316*
8:45 AM ---	9:00 AM	1	2	9	12	7	6	10	79	3	81	50	35	*295*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	1	5	23	42	36	10	32	368	25	418	193	121	*1,274*
7:15 AM ---	8:15 AM	1	2	24	40	37	6	40	448	23	407	239	144	*1,411*
7:30 AM ---	8:30 AM	2	3	26	47	39	7	48	487	15	431	261	170	*1,536*
7:45 AM ---	8:45 AM	4	3	21	38	35	11	45	463	19	405	257	177	*1,478*
8:00 AM ---	9:00 AM	4	5	21	36	31	14	45	422	15	388	235	161	*1,377*

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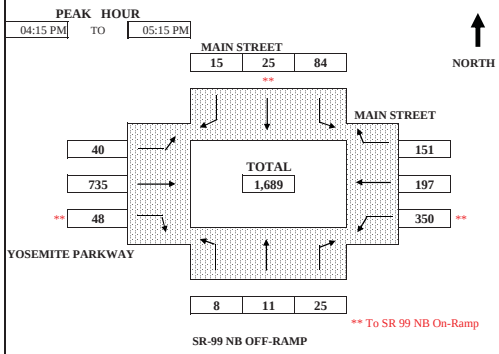
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

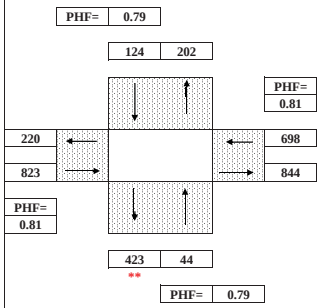
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	SR-99 NB OFF-RAMP / MAIN STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	YOSEMITE PARKWAY / MAIN STREET	CITY:	MERCED	FILE:	2911071-26PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NB(SR99 NB OFF-RAMP) WB Yosr	Main St	EBYosr	SB (MAIN STREET) EBYosr	On Ramp	WB Yosr	EB (YOSEMITE PKWY) Main St	Yosrmite	On Ramp	WB (YOSEMITE PKWY) On Ramp	Yosrmite	Main St	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	2	2	7	21	8	6	6	188	11	95	56	37	*439*
4:15 PM ---	4:30 PM	3	5	11	38	13	10	15	331	21	207	118	78	*850*
4:30 PM ---	4:45 PM	5	8	20	54	20	11	25	534	28	289	160	110	*1,264*
4:45 PM ---	5:00 PM	6	11	26	75	29	16	33	708	33	366	204	141	*1,648*
5:00 PM ---	5:15 PM	10	13	32	105	33	21	46	923	59	445	253	188	*2,128*
5:15 PM ---	5:30 PM	11	13	37	121	38	23	53	1,083	71	525	299	219	*2,493*
5:30 PM ---	5:45 PM	13	14	44	143	47	27	63	1,256	81	597	337	254	*2,876*
5:45 PM ---	6:00 PM	13	15	48	157	54	29	74	1,428	92	655	376	296	*3,237*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	2	2	7	21	8	6	6	188	11	95	56	37	*439*
4:15 PM ---	4:30 PM	1	3	4	17	5	4	9	143	10	112	62	41	*411*
4:30 PM ---	4:45 PM	2	3	9	16	7	1	10	203	7	82	42	32	*414*
4:45 PM ---	5:00 PM	1	3	6	21	9	5	8	174	5	77	44	31	*384*
5:00 PM ---	5:15 PM	4	2	6	30	4	5	13	215	26	79	49	47	*480*
5:15 PM ---	5:30 PM	1	0	5	16	5	2	7	160	12	80	46	31	*365*
5:30 PM ---	5:45 PM	2	1	7	22	9	4	10	173	10	72	38	35	*383*
5:45 PM ---	6:00 PM	0	1	4	14	7	2	11	172	11	58	39	42	*361*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	6	11	26	75	29	16	33	708	33	366	204	141	*1,648*
4:15 PM ---	5:15 PM	8	11	25	84	25	15	40	735	48	350	197	151	*1,689*
4:30 PM ---	5:30 PM	8	8	26	83	25	13	38	752	50	318	181	141	*1,643*
4:45 PM ---	5:45 PM	8	6	24	89	27	16	38	722	53	308	177	144	*1,612*
5:00 PM ---	6:00 PM	7	4	22	82	25	13	41	720	59	289	172	155	*1,589*

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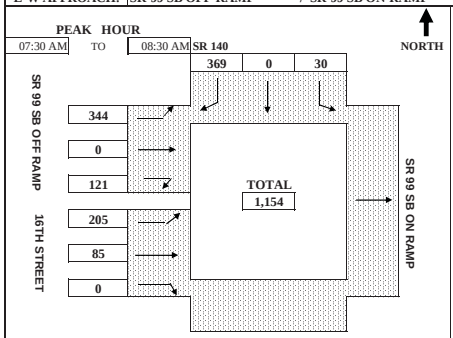
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

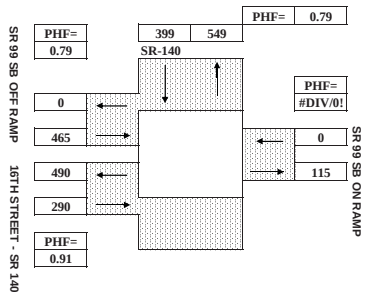
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	16TH STREET - SR 140 / SR 140	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SR-99 SB OFF-RAMP / SR-99 SB ON-RAMP	CITY:	MERCED	FILE:	2911071-27AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	16TH STREET - SR 140 Left	Thru	Right	SOUTHBOUND Left	Thru	Right	SR 99 SB OFF RAMP Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	25	26	0	9	0	47	47	0	15	0	0	0	*169*
7:15 AM ---	7:30 AM	56	51	0	15	0	107	106	0	31	0	0	0	*366*
7:30 AM ---	7:45 AM	99	67	0	21	0	176	190	0	61	0	0	0	*614*
7:45 AM ---	8:00 AM	159	87	0	28	0	296	289	0	109	0	0	0	*968*
8:00 AM ---	8:15 AM	208	114	0	31	0	409	382	0	141	0	0	0	*1,285*
8:15 AM ---	8:30 AM	261	136	0	45	0	476	450	0	152	0	0	0	*1,520*
8:30 AM ---	8:45 AM	312	158	0	50	0	533	509	0	165	0	0	0	*1,727*
8:45 AM ---	9:00 AM	353	187	0	57	0	602	565	0	181	0	0	0	*1,945*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	25	26	0	9	0	47	47	0	15	0	0	0	*169*
7:15 AM ---	7:30 AM	31	25	0	6	0	60	59	0	16	0	0	0	*197*
7:30 AM ---	7:45 AM	43	16	0	6	0	69	84	0	30	0	0	0	*248*
7:45 AM ---	8:00 AM	60	20	0	7	0	120	99	0	48	0	0	0	*354*
8:00 AM ---	8:15 AM	49	27	0	3	0	113	93	0	32	0	0	0	*317*
8:15 AM ---	8:30 AM	53	22	0	14	0	67	68	0	11	0	0	0	*235*
8:30 AM ---	8:45 AM	51	22	0	5	0	57	59	0	13	0	0	0	*207*
8:45 AM ---	9:00 AM	41	29	0	7	0	69	56	0	16	0	0	0	*218*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	159	87	0	28	0	296	289	0	109	0	0	0	*968*
7:15 AM ---	8:15 AM	183	88	0	22	0	362	335	0	126	0	0	0	*1,116*
7:30 AM ---	8:30 AM	205	85	0	30	0	369	344	0	121	0	0	0	*1,154*
7:45 AM ---	8:45 AM	213	91	0	29	0	357	319	0	104	0	0	0	*1,113*
8:00 AM ---	9:00 AM	194	100	0	29	0	306	276	0	72	0	0	0	*977*

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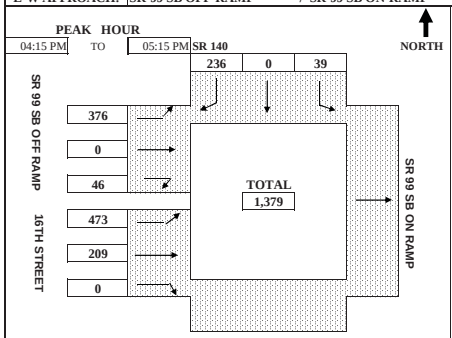
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

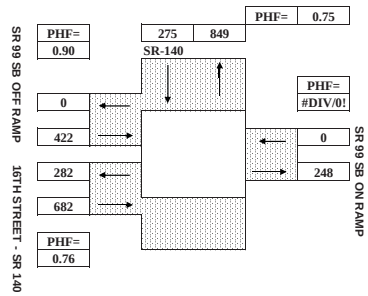
PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/17/2009	DAY:	TUESDAY
N-S APPROACH:	16TH STREET - SR 140 / SR 140	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SR-99 SB OFF-RAMP / SR-99 SB ON-RAMP	CITY:	MERCED	FILE:	2911071-27PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	16TH STREET - SR 140 Left	Thru	Right	SOUTHBOUND Left	Thru	Right	SR 99 SB OFF RAMP Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	91	48	0	11	0	62	101	0	11	0	0	0	*324*
4:15 PM ---	4:30 PM	177	98	0	25	0	140	188	0	29	0	0	0	*657*
4:30 PM ---	4:45 PM	286	136	0	32	0	207	295	0	39	0	0	0	*995*
4:45 PM ---	5:00 PM	402	194	0	42	0	243	394	0	47	0	0	0	*1,322*
5:00 PM ---	5:15 PM	564	257	0	50	0	298	477	0	57	0	0	0	*1,703*
5:15 PM ---	5:30 PM	669	304	0	52	0	351	568	0	69	0	0	0	*2,013*
5:30 PM ---	5:45 PM	765	348	0	57	0	414	667	0	81	0	0	0	*2,332*
5:45 PM ---	6:00 PM	847	387	0	59	0	464	762	0	91	0	0	0	*2,610*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	91	48	0	11	0	62	101	0	11	0	0	0	*324*
4:15 PM ---	4:30 PM	86	50	0	14	0	78	87	0	18	0	0	0	*333*
4:30 PM ---	4:45 PM	109	38	0	7	0	67	107	0	10	0	0	0	*338*
4:45 PM ---	5:00 PM	116	58	0	10	0	36	99	0	8	0	0	0	*327*
5:00 PM ---	5:15 PM	162	63	0	8	0	55	83	0	10	0	0	0	*381*
5:15 PM ---	5:30 PM	105	47	0	2	0	53	91	0	12	0	0	0	*310*
5:30 PM ---	5:45 PM	96	44	0	5	0	63	99	0	12	0	0	0	*319*
5:45 PM ---	6:00 PM	82	39	0	2	0	50	95	0	10	0	0	0	*278*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	402	194	0	42	0	243	394	0	47	0	0	0	*1,322*
4:15 PM ---	5:15 PM	473	209	0	39	0	236	376	0	46	0	0	0	*1,379*
4:30 PM ---	5:30 PM	492	206	0	27	0	211	380	0	40	0	0	0	*1,356*
4:45 PM ---	5:45 PM	479	212	0	25	0	207	372	0	42	0	0	0	*1,337*
5:00 PM ---	6:00 PM	445	193	0	17	0	221	368	0	44	0	0	0	*1,288*

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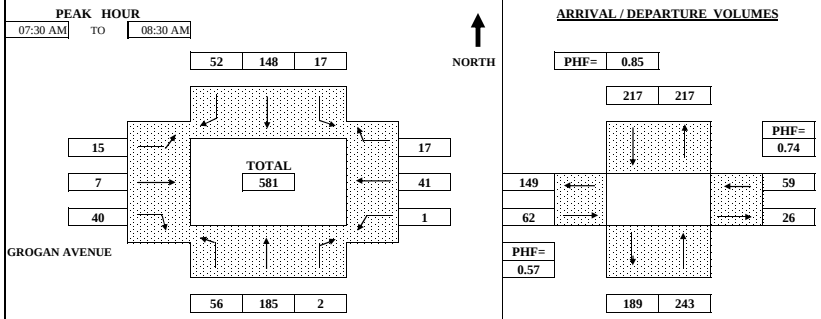
B.A.Y.M.E.T.R.I.C.S.

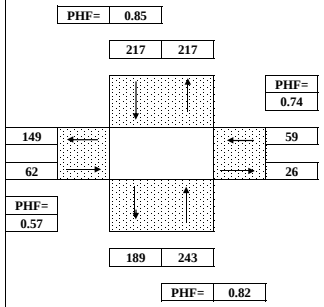
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	NORTHWEST AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	GROGAN AVENUE / W 2ND STREET	CITY:	MERCED	FILE:	3005030-4AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	4	30	0	1	23	5	1	4	7	3	7	0	*85*
7:15 AM ---	7:30 AM	15	72	1	2	54	9	6	6	16	4	15	5	*205*
7:30 AM ---	7:45 AM	33	128	1	3	88	21	13	6	23	4	29	11	*360*
7:45 AM ---	8:00 AM	53	173	2	12	128	36	16	6	35	4	41	16	*522*
8:00 AM ---	8:15 AM	61	216	2	17	168	50	19	9	50	5	49	19	*665*
8:15 AM ---	8:30 AM	71	257	3	19	202	61	21	13	56	5	56	22	*786*
8:30 AM ---	8:45 AM	82	286	4	22	243	72	34	17	66	6	66	26	*924*
8:45 AM ---	9:00 AM	92	326	6	26	273	85	42	24	72	9	77	27	*1,059*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	4	30	0	1	23	5	1	4	7	3	7	0	*85*
7:15 AM ---	7:30 AM	11	42	1	1	31	4	5	2	9	1	8	5	*120*
7:30 AM ---	7:45 AM	18	56	0	1	34	12	7	0	7	0	14	6	*155*
7:45 AM ---	8:00 AM	20	45	1	9	40	15	3	0	12	0	12	5	*162*
8:00 AM ---	8:15 AM	8	43	0	5	40	14	3	3	15	1	8	3	*143*
8:15 AM ---	8:30 AM	10	41	1	2	34	11	2	4	6	0	7	3	*121*
8:30 AM ---	8:45 AM	11	29	1	3	41	11	13	4	10	1	10	4	*138*
8:45 AM ---	9:00 AM	10	40	2	4	30	13	8	7	6	3	11	1	*135*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	53	173	2	12	128	36	16	6	35	4	41	16	*522*
7:15 AM ---	8:15 AM	57	186	2	16	145	45	18	5	43	2	42	19	*580*
7:30 AM ---	8:30 AM	56	185	2	17	148	52	15	7	40	1	41	17	*581*
7:45 AM ---	8:45 AM	49	158	3	19	155	51	21	11	43	2	37	15	*564*
8:00 AM ---	9:00 AM	39	153	4	14	145	49	26	18	37	5	36	11	*537*

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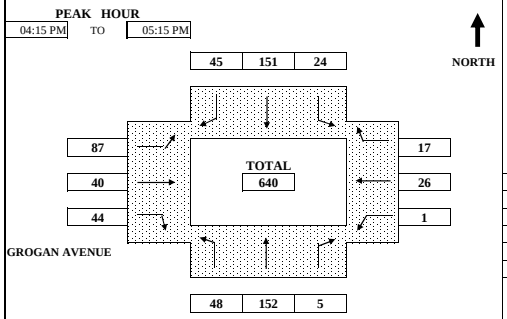
B.A.Y.M.E.T.R.I.C.S.

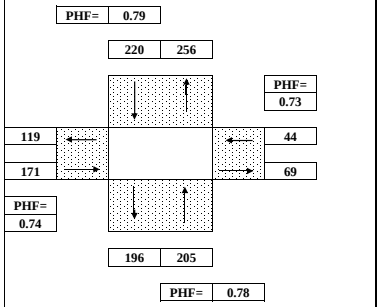
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	NORTHWEST AVENUE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	GROGAN AVENUE / W 2ND STREET	CITY:	MERCED	FILE:	3005030-4PM

PEAK HOUR: 04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	9	55	2	6	40	9	19	10	6	1	3	3	*163*
4:15 PM ---	4:30 PM	18	96	3	11	84	21	40	18	21	1	12	9	*334*
4:30 PM ---	4:45 PM	26	136	4	12	114	31	57	30	30	1	21	11	*473*
4:45 PM ---	5:00 PM	43	170	5	16	146	43	75	39	34	1	24	17	*613*
5:00 PM ---	5:15 PM	57	207	7	30	191	54	106	50	50	2	29	20	*803*
5:15 PM ---	5:30 PM	65	255	8	34	233	59	115	62	59	3	30	25	*948*
5:30 PM ---	5:45 PM	78	294	8	39	260	65	124	64	70	3	31	31	*1,067*
5:45 PM ---	6:00 PM	83	323	8	45	282	69	139	71	74	3	34	38	*1,169*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	9	55	2	6	40	9	19	10	6	1	3	3	*163*
4:15 PM ---	4:30 PM	9	41	1	5	44	12	21	8	15	0	9	6	*171*
4:30 PM ---	4:45 PM	8	40	1	1	30	10	17	12	9	0	9	2	*139*
4:45 PM ---	5:00 PM	17	34	1	4	32	12	18	9	4	0	3	6	*140*
5:00 PM ---	5:15 PM	14	37	2	14	45	11	31	11	16	1	5	3	*190*
5:15 PM ---	5:30 PM	8	48	1	4	42	5	9	12	9	1	1	5	*145*
5:30 PM ---	5:45 PM	13	39	0	5	27	6	9	2	11	0	1	6	*119*
5:45 PM ---	6:00 PM	5	29	0	6	22	4	15	7	4	0	3	7	*102*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	43	170	5	16	146	43	75	39	34	1	24	17	*613*
4:15 PM ---	5:15 PM	48	152	5	24	151	45	87	40	44	1	26	17	*640*
4:30 PM ---	5:30 PM	47	159	5	23	149	38	75	44	38	2	18	16	*614*
4:45 PM ---	5:45 PM	52	158	4	27	146	34	67	34	40	2	10	20	*594*
5:00 PM ---	6:00 PM	40	153	3	29	136	26	64	32	40	2	10	21	*556*

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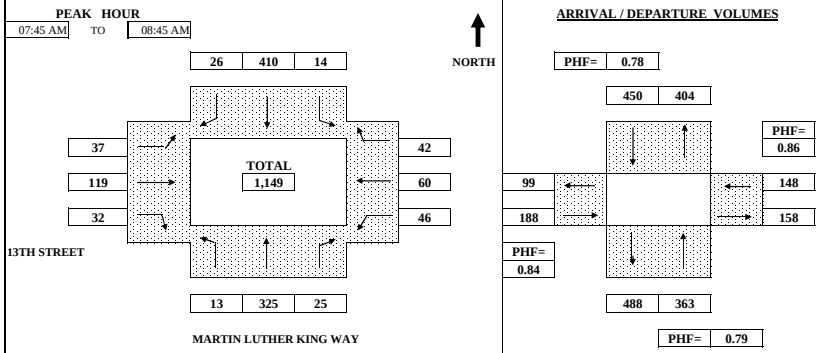
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	13TH STREET	CITY:	MERCED	FILE:	3005030-3AM

PEAK HOUR: 07:45 AM TO 08:45 AM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	2	55	1	2	67	2	3	16	6	12	4	2	*172*
7:15 AM	7:30 AM	2	141	4	2	158	9	8	30	19	23	13	13	*422*
7:30 AM	7:45 AM	5	234	9	3	230	13	14	48	27	32	25	16	*656*
7:45 AM	8:00 AM	8	308	13	8	358	25	22	80	35	52	41	23	*973*
8:00 AM	8:15 AM	9	382	21	11	452	32	30	122	41	62	55	34	*1,251*
8:15 AM	8:30 AM	11	474	25	14	542	36	36	150	47	68	66	48	*1,517*
8:30 AM	8:45 AM	18	559	34	17	640	39	51	167	59	78	85	58	*1,805*
8:45 AM	9:00 AM	20	664	42	18	730	45	60	189	71	87	93	73	*2,092*
TOTAL BY PERIOD														
7:00 AM	7:15 AM	2	55	1	2	67	2	3	16	6	12	4	2	*172*
7:15 AM	7:30 AM	0	86	3	0	91	7	5	14	13	11	9	11	*250*
7:30 AM	7:45 AM	3	93	5	1	72	4	6	18	8	9	12	3	*234*
7:45 AM	8:00 AM	3	74	4	5	128	12	8	32	8	20	16	7	*317*
8:00 AM	8:15 AM	1	74	8	3	94	7	8	42	6	10	14	11	*278*
8:15 AM	8:30 AM	2	92	4	3	90	4	6	28	6	6	11	14	*266*
8:30 AM	8:45 AM	7	85	9	3	98	3	15	17	12	10	19	10	*288*
8:45 AM	9:00 AM	2	105	8	1	90	6	9	22	12	9	8	15	*287*
HOURLY TOTALS														
7:00 AM	8:00 AM	8	308	13	8	358	25	22	80	35	52	41	23	*973*
7:15 AM	8:15 AM	7	327	20	9	385	30	27	106	35	50	51	32	*1,079*
7:30 AM	8:30 AM	9	333	21	12	384	27	28	120	28	45	53	35	*1,095*
7:45 AM	8:45 AM	13	325	25	14	410	26	37	119	32	46	60	42	*1,149*
8:00 AM	9:00 AM	12	356	29	10	372	20	38	109	36	35	52	50	*1,119*

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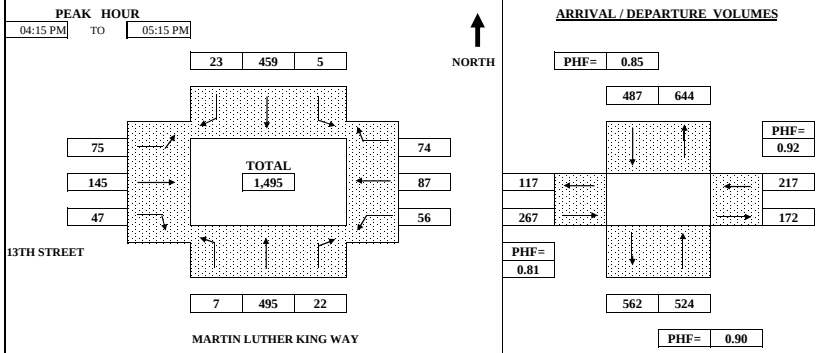
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	13TH STREET	CITY:	MERCED	FILE:	3005030-3PM

PEAK HOUR: 04:15 PM TO 05:15 PM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	2	97	3	3	121	2	18	27	9	14	19	18	*333*
4:15 PM	4:30 PM	3	217	6	5	215	7	36	57	23	34	45	31	*679*
4:30 PM	4:45 PM	5	347	14	5	349	14	54	108	36	49	66	46	*1,093*
4:45 PM	5:00 PM	7	455	18	7	467	20	68	128	44	61	82	67	*1,424*
5:00 PM	5:15 PM	9	592	25	8	580	25	93	172	56	70	106	92	*1,828*
5:15 PM	5:30 PM	11	695	29	10	688	28	112	199	66	79	131	106	*2,154*
5:30 PM	5:45 PM	15	789	35	12	786	29	129	228	75	85	147	118	*2,448*
5:45 PM	6:00 PM	19	859	41	16	905	49	161	252	85	100	170	127	*2,784*
TOTAL BY PERIOD														
4:00 PM	4:15 PM	2	97	3	3	121	2	18	27	9	14	19	18	*333*
4:15 PM	4:30 PM	1	120	3	2	94	5	18	30	14	20	26	13	*346*
4:30 PM	4:45 PM	2	130	8	0	134	7	18	51	13	15	21	15	*414*
4:45 PM	5:00 PM	2	108	4	2	118	6	14	20	8	12	16	21	*331*
5:00 PM	5:15 PM	2	137	7	1	113	5	25	44	12	9	24	25	*404*
5:15 PM	5:30 PM	2	103	4	2	108	3	19	27	10	9	25	14	*326*
5:30 PM	5:45 PM	4	94	6	2	98	1	17	29	9	6	16	12	*294*
5:45 PM	6:00 PM	4	70	6	4	119	20	32	24	10	15	23	9	*336*
HOURLY TOTALS														
4:00 PM	5:00 PM	7	455	18	7	467	20	68	128	44	61	82	67	*1,424*
4:15 PM	5:15 PM	7	495	22	5	459	23	75	145	47	56	87	74	*1,495*
4:30 PM	5:30 PM	8	478	23	5	473	21	76	142	43	45	86	75	*1,475*
4:45 PM	5:45 PM	10	442	21	7	437	15	75	120	39	36	81	72	*1,355*
5:00 PM	6:00 PM	12	404	23	9	438	29	93	124	41	39	88	60	*1,360*

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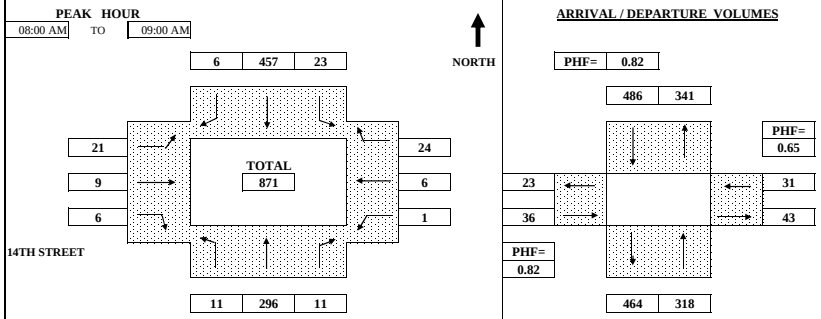
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

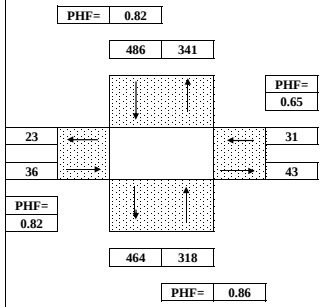
PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	14TH STREET	CITY:	MERCED	FILE:	3005030-2AM

PEAK HOUR

08:00 AM TO 09:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	1	38	0	1	64	0	5	0	2	2	0	2	*115*
7:15 AM ---	7:30 AM	3	110	2	2	150	0	8	0	4	3	1	6	*289*
7:30 AM ---	7:45 AM	4	176	3	4	245	1	16	3	4	3	1	6	*466*
7:45 AM ---	8:00 AM	6	247	4	15	372	6	20	3	4	4	3	13	*697*
8:00 AM ---	8:15 AM	9	308	8	21	464	6	23	5	7	4	5	15	*875*
8:15 AM ---	8:30 AM	9	383	11	27	585	6	30	8	8	4	7	22	*1,100*
8:30 AM ---	8:45 AM	14	468	13	34	687	10	35	9	8	4	8	27	*1,317*
8:45 AM ---	9:00 AM	17	543	15	38	829	12	41	12	10	5	9	37	*1,568*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	1	38	0	1	64	0	5	0	2	2	0	2	*115*
7:15 AM ---	7:30 AM	2	72	2	1	86	0	3	0	2	1	1	4	*174*
7:30 AM ---	7:45 AM	1	66	1	2	95	1	8	3	0	0	0	0	*177*
7:45 AM ---	8:00 AM	2	71	1	11	127	5	4	0	0	1	2	7	*231*
8:00 AM ---	8:15 AM	3	61	4	6	92	0	3	2	3	0	2	2	*178*
8:15 AM ---	8:30 AM	0	75	3	6	121	0	7	3	1	0	2	7	*225*
8:30 AM ---	8:45 AM	5	85	2	7	102	4	5	1	0	0	1	5	*217*
8:45 AM ---	9:00 AM	3	75	2	4	142	2	6	3	2	1	1	10	*251*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	6	247	4	15	372	6	20	3	4	4	3	13	*697*
7:15 AM ---	8:15 AM	8	270	8	20	400	6	18	5	5	2	5	13	*760*
7:30 AM ---	8:30 AM	6	273	9	25	435	6	22	8	4	1	6	16	*811*
7:45 AM ---	8:45 AM	10	292	10	30	442	9	19	6	4	1	7	21	*851*
8:00 AM ---	9:00 AM	11	296	11	23	457	6	21	9	6	1	6	24	*871*

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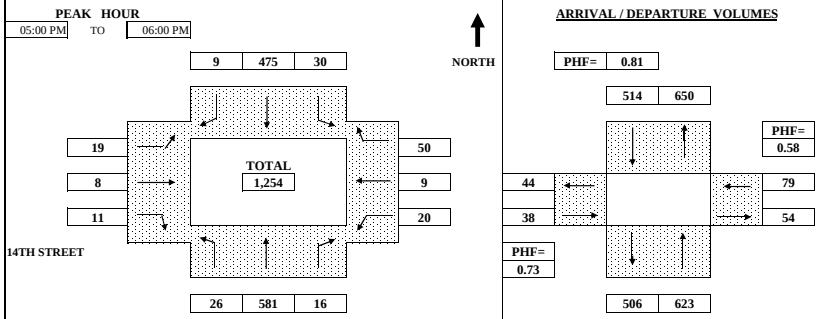
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

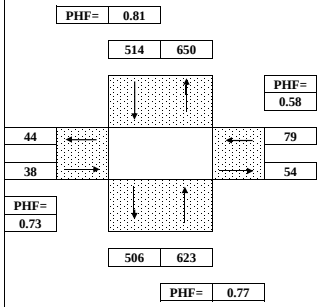
PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	MARTIN LUTHER KING WAY	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	14TH STREET	CITY:	MERCED	FILE:	3005030-2PM

PEAK HOUR

05:00 PM TO 06:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	5	137	4	8	101	4	5	3	0	0	2	9	*278*
4:15 PM ---	4:30 PM	13	264	8	12	212	8	9	4	3	0	2	25	*560*
4:30 PM ---	4:45 PM	20	410	11	18	353	8	18	5	4	1	3	37	*888*
4:45 PM ---	5:00 PM	26	531	13	24	439	10	25	10	5	1	4	50	*1,138*
5:00 PM ---	5:15 PM	32	700	17	36	582	13	30	12	9	2	6	70	*1,509*
5:15 PM ---	5:30 PM	38	836	18	43	690	14	35	13	12	2	8	79	*1,788*
5:30 PM ---	5:45 PM	45	928	19	50	787	18	40	15	14	3	9	88	*2,016*
5:45 PM ---	6:00 PM	52	1,112	29	54	914	19	44	18	16	21	13	100	*2,392*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	5	137	4	8	101	4	5	3	0	0	2	9	*278*
4:15 PM ---	4:30 PM	8	127	4	4	111	4	4	1	3	0	0	16	*282*
4:30 PM ---	4:45 PM	7	146	3	6	141	0	9	1	1	1	1	12	*328*
4:45 PM ---	5:00 PM	6	121	2	6	86	2	7	5	1	0	1	13	*250*
5:00 PM ---	5:15 PM	6	169	4	12	143	3	5	2	4	1	2	20	*371*
5:15 PM ---	5:30 PM	6	136	1	7	108	1	5	1	3	0	2	9	*279*
5:30 PM ---	5:45 PM	7	92	1	7	97	4	5	2	2	1	1	9	*228*
5:45 PM ---	6:00 PM	7	184	10	4	127	1	4	3	2	18	4	12	*376*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	26	531	13	24	439	10	25	10	5	1	4	50	*1,138*
4:15 PM ---	5:15 PM	27	563	13	28	481	9	25	9	9	2	4	61	*1,231*
4:30 PM ---	5:30 PM	25	572	10	31	478	6	26	9	9	2	6	54	*1,228*
4:45 PM ---	5:45 PM	25	518	8	32	434	10	22	10	10	2	6	51	*1,128*
5:00 PM ---	6:00 PM	26	581	16	30	475	9	19	8	11	20	9	50	*1,254*

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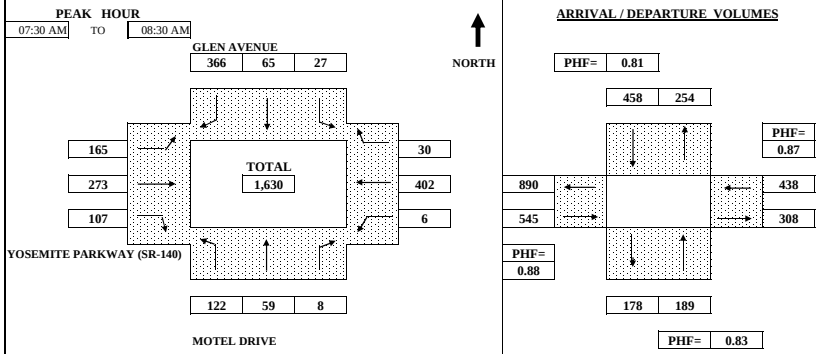
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/11/2010	DAY:	TUESDAY
N-S APPROACH:	MOTEL DRIVE - GLEN AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	YOSEMITE PARKWAY (SR-140)	CITY:	MERCED	FILE:	3005030-1AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	8	7	5	5	6	53	12	34	15	1	62	3	*211*
7:15 AM ---	7:30 AM	35	13	7	7	19	115	34	75	29	1	126	8	*469*
7:30 AM ---	7:45 AM	59	25	8	10	32	204	68	138	51	3	221	14	*833*
7:45 AM ---	8:00 AM	97	43	9	18	53	311	118	206	83	4	339	21	*1,302*
8:00 AM ---	8:15 AM	126	56	13	29	77	417	161	283	118	5	452	31	*1,768*
8:15 AM ---	8:30 AM	157	72	15	34	84	481	199	348	136	7	528	38	*2,099*
8:30 AM ---	8:45 AM	169	79	15	39	96	560	231	393	154	10	602	47	*2,395*
8:45 AM ---	9:00 AM	197	86	17	45	100	596	264	452	173	12	704	59	*2,705*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	8	7	5	5	6	53	12	34	15	1	62	3	*211*
7:15 AM ---	7:30 AM	27	6	2	2	13	62	22	41	14	0	64	5	*258*
7:30 AM ---	7:45 AM	24	12	1	3	13	89	34	63	22	2	95	6	*364*
7:45 AM ---	8:00 AM	38	18	1	8	21	107	50	68	32	1	118	7	*469*
8:00 AM ---	8:15 AM	29	13	4	11	24	106	43	77	35	1	113	10	*466*
8:15 AM ---	8:30 AM	31	16	2	5	7	64	38	65	18	2	76	7	*331*
8:30 AM ---	8:45 AM	12	7	0	5	12	79	32	45	18	3	74	9	*296*
8:45 AM ---	9:00 AM	28	7	2	6	4	36	33	59	19	2	102	12	*310*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	97	43	9	18	53	311	118	206	83	4	339	21	*1,302*
7:15 AM ---	8:15 AM	118	49	8	24	71	364	149	249	103	4	390	28	*1,557*
7:30 AM ---	8:30 AM	122	59	8	27	65	366	165	273	107	6	402	30	*1,630*
7:45 AM ---	8:45 AM	110	54	7	29	64	356	163	255	103	7	381	33	*1,562*
8:00 AM ---	9:00 AM	100	43	8	27	47	285	146	246	90	8	365	38	*1,403*

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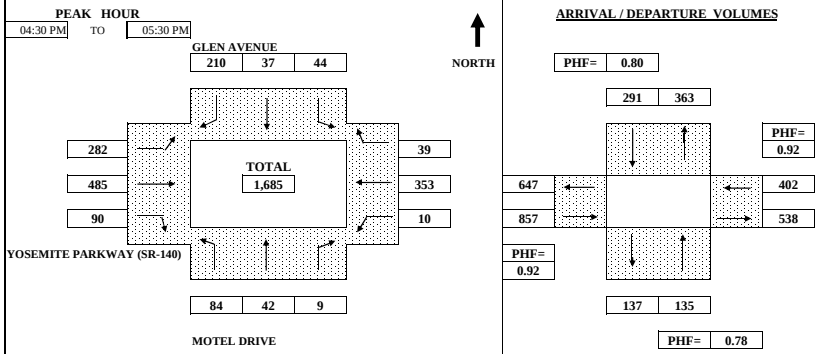
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/11/2010	DAY:	TUESDAY
N-S APPROACH:	MOTEL DRIVE - GLEN AVENUE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	YOSEMITE PARKWAY (SR-140)	CITY:	MERCED	FILE:	3005030-1PM

PEAK HOUR: 04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	30	12	1	19	16	56	53	110	23	1	85	7	*413*
4:15 PM ---	4:30 PM	46	18	3	21	30	96	109	231	51	1	185	14	*805*
4:30 PM ---	4:45 PM	73	29	6	35	38	159	171	341	66	3	283	23	*1,227*
4:45 PM ---	5:00 PM	89	37	9	44	51	209	228	465	91	8	368	31	*1,630*
5:00 PM ---	5:15 PM	109	47	11	56	60	254	304	591	123	9	451	44	*2,059*
5:15 PM ---	5:30 PM	130	60	12	65	67	306	391	716	141	11	538	53	*2,490*
5:30 PM ---	5:45 PM	145	68	14	78	75	375	449	812	161	13	617	65	*2,872*
5:45 PM ---	6:00 PM	166	75	14	83	87	442	508	902	181	15	706	75	*3,254*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	30	12	1	19	16	56	53	110	23	1	85	7	*413*
4:15 PM ---	4:30 PM	16	6	2	2	14	40	56	121	28	0	100	7	*392*
4:30 PM ---	4:45 PM	27	11	3	14	8	63	62	110	15	2	98	9	*422*
4:45 PM ---	5:00 PM	16	8	3	9	13	50	57	124	25	5	85	8	*403*
5:00 PM ---	5:15 PM	20	10	2	12	9	45	76	126	32	1	83	13	*429*
5:15 PM ---	5:30 PM	21	13	1	9	7	52	87	125	18	2	87	9	*431*
5:30 PM ---	5:45 PM	15	8	2	13	8	69	58	96	20	2	79	12	*382*
5:45 PM ---	6:00 PM	21	7	0	5	12	67	59	90	20	2	89	10	*382*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	89	37	9	44	51	209	228	465	91	8	368	31	*1,630*
4:15 PM ---	5:15 PM	79	35	10	37	44	198	251	481	100	8	366	37	*1,646*
4:30 PM ---	5:30 PM	84	42	9	44	37	210	282	485	90	10	353	39	*1,685*
4:45 PM ---	5:45 PM	72	39	8	43	37	216	278	471	95	10	334	42	*1,645*
5:00 PM ---	6:00 PM	77	38	5	39	36	233	280	437	90	7	338	44	*1,624*

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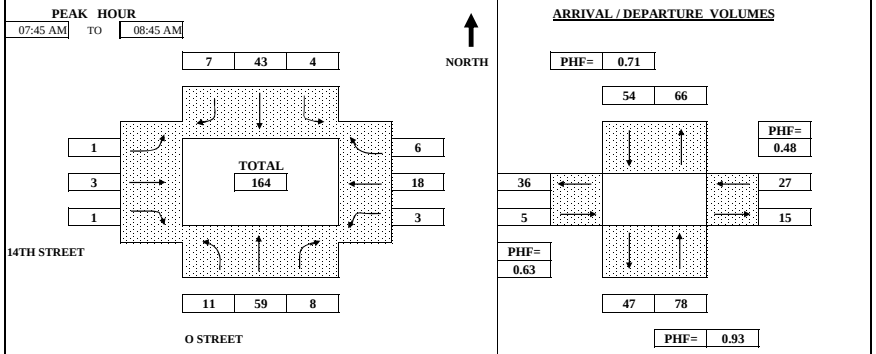
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	O STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	14TH STREET	JURISDICTION:	MERCED	FILE:	3103017-15AM

PEAK HOUR: 07:45 AM TO 08:45 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	2	3	0	0	5	2	0	1	1	1	2	1	*18*
7:15 AM ---	7:30 AM	5	12	1	0	10	2	0	2	2	2	4	1	*41*
7:30 AM ---	7:45 AM	8	21	2	1	20	5	0	3	2	3	8	2	*75*
7:45 AM ---	8:00 AM	10	39	2	2	32	6	0	3	3	3	13	2	*115*
8:00 AM ---	8:15 AM	13	54	5	3	38	9	0	4	3	3	15	3	*150*
8:15 AM ---	8:30 AM	17	66	8	5	46	10	1	5	3	4	17	5	*187*
8:30 AM ---	8:45 AM	19	80	10	5	63	12	1	6	3	6	26	8	*239*
8:45 AM ---	9:00 AM	23	89	15	7	67	12	1	6	3	6	35	10	*274*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	2	3	0	0	5	2	0	1	1	1	2	1	*18*
7:15 AM ---	7:30 AM	3	9	1	0	5	0	0	1	1	1	2	0	*23*
7:30 AM ---	7:45 AM	3	9	1	1	10	3	0	1	0	1	4	1	*34*
7:45 AM ---	8:00 AM	2	18	0	1	12	1	0	0	1	0	5	0	*40*
8:00 AM ---	8:15 AM	3	15	3	1	6	3	0	1	0	0	2	1	*35*
8:15 AM ---	8:30 AM	4	12	3	2	8	1	1	1	0	1	2	2	*37*
8:30 AM ---	8:45 AM	2	14	2	0	17	2	0	1	0	2	9	3	*52*
8:45 AM ---	9:00 AM	4	9	5	2	4	0	0	0	0	0	9	2	*35*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	10	39	2	2	32	6	0	3	3	3	13	2	*115*
7:15 AM ---	8:15 AM	11	51	5	3	33	7	0	3	2	2	13	2	*132*
7:30 AM ---	8:30 AM	12	54	7	5	36	8	1	3	1	2	13	4	*146*
7:45 AM ---	8:45 AM	11	59	8	4	43	7	1	3	1	3	18	6	*164*
8:00 AM ---	9:00 AM	13	50	13	5	35	6	1	3	0	3	22	8	*159*

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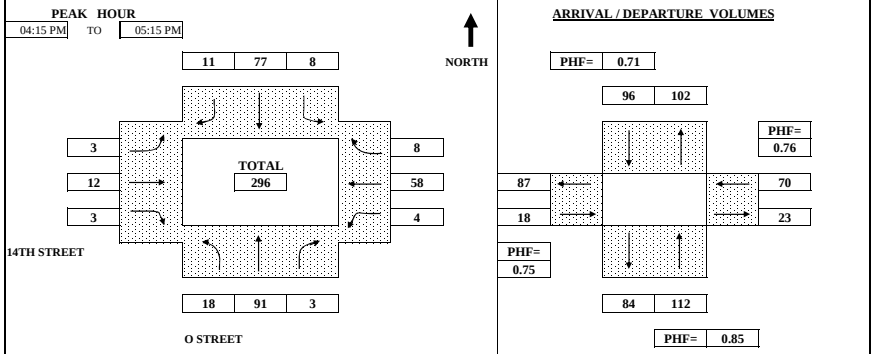
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	O STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	14TH STREET	JURISDICTION:	MERCED	FILE:	3103017-15PM

PEAK HOUR: 04:15 PM TO 05:15 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	5	23	2	1	20	4	0	1	1	0	11	1	*69*
4:15 PM ---	4:30 PM	10	43	2	2	50	7	0	7	1	2	26	3	*153*
4:30 PM ---	4:45 PM	17	68	3	2	64	8	0	8	2	2	46	6	*226*
4:45 PM ---	5:00 PM	18	89	4	4	79	9	1	9	4	3	56	7	*283*
5:00 PM ---	5:15 PM	23	114	5	9	97	15	3	13	4	4	69	9	*365*
5:15 PM ---	5:30 PM	25	128	6	9	111	18	4	16	4	4	78	10	*413*
5:30 PM ---	5:45 PM	27	142	8	12	124	18	5	17	4	6	85	12	*460*
5:45 PM ---	6:00 PM	32	155	8	12	129	18	5	18	4	6	90	12	*489*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	5	23	2	1	20	4	0	1	1	0	11	1	*69*
4:15 PM ---	4:30 PM	5	20	0	1	30	3	0	6	0	2	15	2	*84*
4:30 PM ---	4:45 PM	7	25	1	0	14	1	0	1	1	0	20	3	*73*
4:45 PM ---	5:00 PM	1	21	1	2	15	1	1	1	2	1	10	1	*57*
5:00 PM ---	5:15 PM	5	25	1	5	18	6	2	4	0	1	13	2	*82*
5:15 PM ---	5:30 PM	2	14	1	0	14	3	1	3	0	0	9	1	*48*
5:30 PM ---	5:45 PM	2	14	2	3	13	0	1	1	0	2	7	2	*47*
5:45 PM ---	6:00 PM	5	13	0	0	5	0	0	1	0	0	5	0	*29*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	18	89	4	4	79	9	1	9	4	3	56	7	*283*
4:15 PM ---	5:15 PM	18	91	3	8	77	11	3	12	3	4	58	8	*296*
4:30 PM ---	5:30 PM	15	85	4	7	61	11	4	9	3	2	52	7	*260*
4:45 PM ---	5:45 PM	10	74	5	10	60	10	5	9	2	4	39	6	*234*
5:00 PM ---	6:00 PM	14	66	4	8	50	9	4	9	0	3	34	5	*206*

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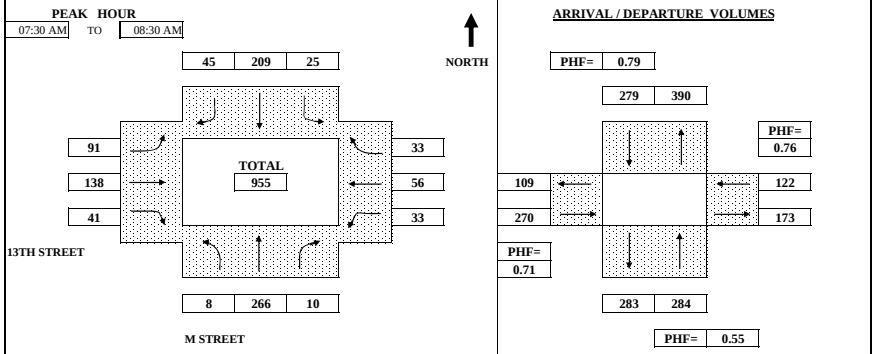
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/15/2011	DAY:	TUESDAY
N-S APPROACH:	M STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	13TH STREET	JURISDICTION:	MERCED	FILE:	3103017-23AM

PEAK HOUR: 07:30 AM TO 08:30 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	2	11	1	6	25	8	9	19	4	2	5	1	*93*
7:15 AM ---	7:30 AM	4	34	2	10	68	18	23	47	7	10	10	4	*237*
7:30 AM ---	7:45 AM	6	89	2	15	105	25	42	77	17	21	22	10	*431*
7:45 AM ---	8:00 AM	9	211	7	25	169	39	84	120	27	29	43	21	*784*
8:00 AM ---	8:15 AM	11	264	11	30	230	55	98	153	35	39	55	26	*1,007*
8:15 AM ---	8:30 AM	12	300	12	35	277	63	114	185	48	43	66	37	*1,192*
8:30 AM ---	8:45 AM	16	339	17	41	304	69	130	223	60	48	76	45	*1,368*
8:45 AM ---	9:00 AM	17	386	24	45	332	76	157	252	72	54	84	49	*1,548*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	2	11	1	6	25	8	9	19	4	2	5	1	*93*
7:15 AM ---	7:30 AM	2	23	1	4	43	10	14	28	3	8	5	3	*144*
7:30 AM ---	7:45 AM	2	55	0	5	37	7	19	30	10	11	12	6	*194*
7:45 AM ---	8:00 AM	3	122	5	10	64	14	42	43	10	8	21	11	*353*
8:00 AM ---	8:15 AM	2	53	4	5	61	16	14	33	8	10	12	5	*223*
8:15 AM ---	8:30 AM	1	36	1	5	47	8	16	32	13	4	11	11	*185*
8:30 AM ---	8:45 AM	4	39	5	6	27	6	16	38	12	5	10	8	*176*
8:45 AM ---	9:00 AM	1	47	7	4	28	7	27	29	12	6	8	4	*180*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	9	211	7	25	169	39	84	120	27	29	43	21	*784*
7:15 AM ---	8:15 AM	9	253	10	24	205	47	89	134	31	37	50	25	*914*
7:30 AM ---	8:30 AM	8	266	10	25	209	45	91	138	41	33	56	33	*955*
7:45 AM ---	8:45 AM	10	250	15	26	199	44	88	146	43	27	54	35	*937*
8:00 AM ---	9:00 AM	8	175	17	20	163	37	73	132	45	25	41	28	*764*

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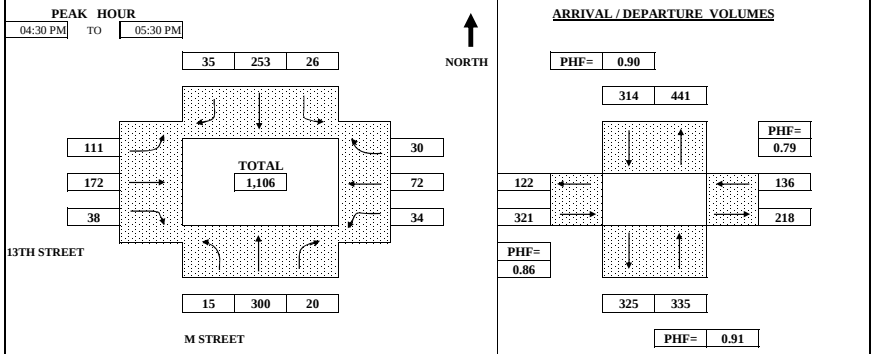
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/15/2011	DAY:	TUESDAY
N-S APPROACH:	M STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	13TH STREET	JURISDICTION:	MERCED	FILE:	3103017-23PM

PEAK HOUR: 04:30 PM TO 05:30 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	3	57	3	6	38	9	13	29	8	5	9	7	*187*
4:15 PM ---	4:30 PM	9	106	5	13	87	14	30	62	12	8	20	13	*379*
4:30 PM ---	4:45 PM	14	167	10	19	144	21	53	99	23	17	37	18	*622*
4:45 PM ---	5:00 PM	17	252	14	27	210	32	88	150	30	26	60	29	*935*
5:00 PM ---	5:15 PM	21	333	19	32	283	41	115	193	39	33	78	37	*1,224*
5:15 PM ---	5:30 PM	24	406	25	39	340	49	141	234	50	42	92	43	*1,485*
5:30 PM ---	5:45 PM	27	468	33	43	383	61	160	272	59	48	101	54	*1,709*
5:45 PM ---	6:00 PM	29	523	40	47	422	68	183	308	73	52	114	61	*1,920*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	3	57	3	6	38	9	13	29	8	5	9	7	*187*
4:15 PM ---	4:30 PM	6	49	2	7	49	5	17	33	4	3	11	6	*192*
4:30 PM ---	4:45 PM	5	61	5	6	57	7	23	37	11	9	17	5	*243*
4:45 PM ---	5:00 PM	3	85	4	8	66	11	35	51	7	9	23	11	*313*
5:00 PM ---	5:15 PM	4	81	5	5	73	9	27	43	9	7	18	8	*289*
5:15 PM ---	5:30 PM	3	73	6	7	57	8	26	41	11	9	14	6	*261*
5:30 PM ---	5:45 PM	3	62	8	4	43	12	19	38	9	6	9	11	*224*
5:45 PM ---	6:00 PM	2	55	7	4	39	7	23	36	14	4	13	7	*211*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	17	252	14	27	210	32	88	150	30	26	60	29	*935*
4:15 PM ---	5:15 PM	18	276	16	26	245	32	102	164	31	28	69	30	*1,037*
4:30 PM ---	5:30 PM	15	300	20	26	253	35	111	172	38	34	72	30	*1,106*
4:45 PM ---	5:45 PM	13	301	23	24	239	40	107	173	36	31	64	36	*1,087*
5:00 PM ---	6:00 PM	12	271	26	20	212	36	95	158	43	26	54	32	*985*

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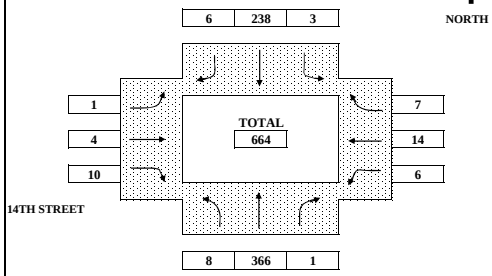
B.A.Y.M.E.T.R.I.C.S.

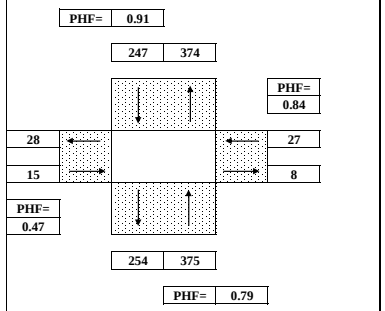
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	M STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	14TH STREET	JURISDICTION:	MERCED	FILE:	3103017-16AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	2	25	0	0	31	1	0	0	1	0	1	0	*61*
7:15 AM ---	7:30 AM	3	71	1	1	83	1	0	1	3	1	4	0	*169*
7:30 AM ---	7:45 AM	6	184	1	2	134	4	0	3	6	2	7	2	*351*
7:45 AM ---	8:00 AM	6	303	1	2	201	5	1	4	8	5	10	3	*549*
8:00 AM ---	8:15 AM	10	370	1	3	264	5	1	4	10	5	15	6	*694*
8:15 AM ---	8:30 AM	11	437	2	4	321	7	1	5	13	7	18	7	*833*
8:30 AM ---	8:45 AM	19	528	3	4	374	11	2	10	15	8	21	10	*1,005*
8:45 AM ---	9:00 AM	24	613	6	4	430	14	4	10	15	8	24	11	*1,163*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	2	25	0	0	31	1	0	0	1	0	1	0	*61*
7:15 AM ---	7:30 AM	1	46	1	1	52	0	0	1	2	1	3	0	*108*
7:30 AM ---	7:45 AM	3	113	0	1	51	3	0	2	3	1	3	2	*182*
7:45 AM ---	8:00 AM	0	119	0	0	67	1	1	1	2	3	3	1	*198*
8:00 AM ---	8:15 AM	4	67	0	1	63	0	0	0	2	0	5	3	*145*
8:15 AM ---	8:30 AM	1	67	1	1	57	2	0	1	3	2	3	1	*139*
8:30 AM ---	8:45 AM	8	91	1	0	53	4	1	5	2	1	3	3	*172*
8:45 AM ---	9:00 AM	5	85	3	0	56	3	2	0	0	0	3	1	*158*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	6	303	1	2	201	5	1	4	8	5	10	3	*549*
7:15 AM ---	8:15 AM	8	345	1	3	233	4	1	4	9	5	14	6	*633*
7:30 AM ---	8:30 AM	8	366	1	3	238	6	1	4	10	6	14	7	*664*
7:45 AM ---	8:45 AM	13	344	2	2	240	7	2	7	9	6	14	8	*654*
8:00 AM ---	9:00 AM	18	310	5	2	229	9	3	6	7	3	14	8	*614*

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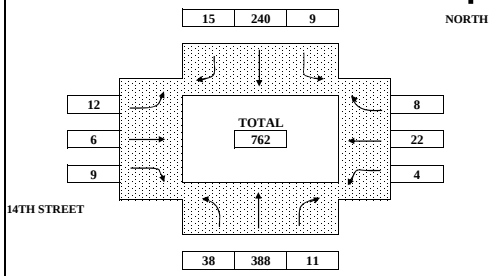
B.A.Y.M.E.T.R.I.C.S.

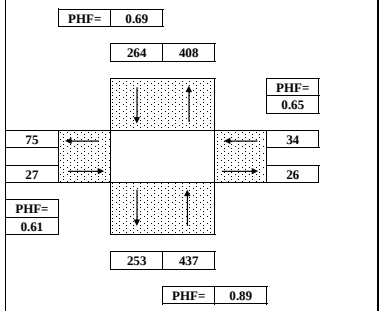
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	M STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	14TH STREET	JURISDICTION:	MERCED	FILE:	3103017-16PM

PEAK HOUR: 04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	1	79	2	2	90	4	0	2	0	1	3	5	*189*
4:15 PM ---	4:30 PM	14	176	6	4	162	7	3	5	5	3	12	7	*404*
4:30 PM ---	4:45 PM	29	272	11	7	212	13	3	5	7	3	16	7	*585*
4:45 PM ---	5:00 PM	32	352	12	7	263	16	8	7	9	5	21	13	*745*
5:00 PM ---	5:15 PM	39	467	13	11	330	19	12	8	9	5	25	13	*951*
5:15 PM ---	5:30 PM	45	541	17	13	374	22	15	9	10	5	29	17	*1,097*
5:30 PM ---	5:45 PM	47	623	21	16	438	26	16	11	11	6	31	20	*1,266*
5:45 PM ---	6:00 PM	51	676	23	16	470	29	19	12	11	9	34	22	*1,372*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	1	79	2	2	90	4	0	2	0	1	3	5	*189*
4:15 PM ---	4:30 PM	13	97	4	2	72	3	3	3	5	2	9	2	*215*
4:30 PM ---	4:45 PM	15	96	5	3	50	6	0	0	2	0	4	0	*181*
4:45 PM ---	5:00 PM	3	80	1	0	51	3	5	2	2	2	5	6	*160*
5:00 PM ---	5:15 PM	7	115	1	4	67	3	4	1	0	0	4	0	*206*
5:15 PM ---	5:30 PM	6	74	4	2	44	3	3	1	1	0	4	4	*146*
5:30 PM ---	5:45 PM	2	82	4	3	64	4	1	2	1	1	2	3	*169*
5:45 PM ---	6:00 PM	4	53	2	0	32	3	3	1	0	3	3	2	*106*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	32	352	12	7	263	16	8	7	9	5	21	13	*745*
4:15 PM ---	5:15 PM	38	388	11	9	240	15	12	6	9	4	22	8	*762*
4:30 PM ---	5:30 PM	31	365	11	9	212	15	12	4	5	2	17	10	*693*
4:45 PM ---	5:45 PM	18	351	10	9	226	13	13	6	4	3	15	13	*681*
5:00 PM ---	6:00 PM	19	324	11	9	207	13	11	5	2	4	13	9	*627*

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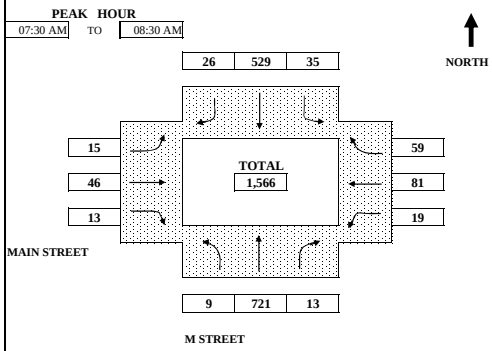
B.A.Y.M.E.T.R.I.C.S.

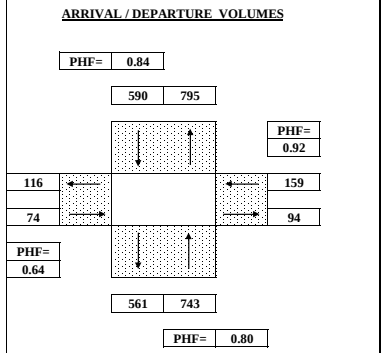
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	M STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	MAIN STREET	JURISDICTION:	MERCED	FILE:	3103017-4AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	0	48	1	4	84	2	1	2	0	2	5	5	154
7:15 AM	7:30 AM	1	146	10	8	191	8	2	11	1	6	18	18	420
7:30 AM	7:45 AM	3	368	17	15	300	13	5	20	2	10	33	33	819
7:45 AM	8:00 AM	4	593	20	23	456	19	11	27	4	15	55	48	1,275
8:00 AM	8:15 AM	6	734	21	35	611	27	13	41	5	18	78	62	1,651
8:15 AM	8:30 AM	10	867	23	43	720	34	17	57	14	25	99	77	1,986
8:30 AM	8:45 AM	11	1,012	30	48	834	38	24	74	17	33	120	88	2,329
8:45 AM	9:00 AM	13	1,154	34	62	949	45	32	88	21	38	134	104	2,674
TOTAL BY PERIOD														
7:00 AM	7:15 AM	0	48	1	4	84	2	1	2	0	2	5	5	154
7:15 AM	7:30 AM	1	98	9	4	107	6	1	9	1	4	13	13	266
7:30 AM	7:45 AM	2	222	7	7	109	5	3	9	1	4	15	15	399
7:45 AM	8:00 AM	1	225	3	8	156	6	6	7	2	5	22	15	456
8:00 AM	8:15 AM	2	141	1	12	155	8	2	14	1	3	23	14	376
8:15 AM	8:30 AM	4	133	2	8	109	7	4	16	9	7	21	15	335
8:30 AM	8:45 AM	1	145	7	5	114	4	7	17	3	8	21	11	343
8:45 AM	9:00 AM	2	142	4	14	115	7	8	14	4	5	14	16	345
HOURLY TOTALS														
7:00 AM	8:00 AM	4	593	20	23	456	19	11	27	4	15	55	48	1,275
7:15 AM	8:15 AM	6	686	20	31	527	25	12	39	5	16	73	57	1,497
7:30 AM	8:30 AM	9	721	13	35	529	26	15	46	13	19	81	59	1,566
7:45 AM	8:45 AM	8	644	13	33	534	25	19	54	15	23	87	55	1,510
8:00 AM	9:00 AM	9	561	14	39	493	26	21	61	17	23	79	56	1,399

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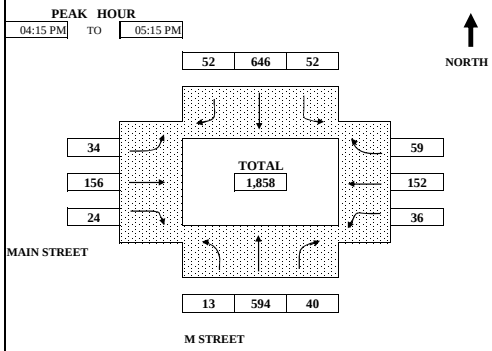
B.A.Y.M.E.T.R.I.C.S.

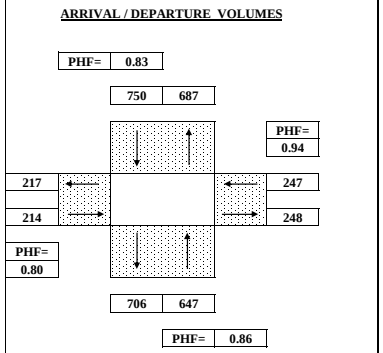
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	M STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	MAIN STREET	JURISDICTION:	MERCED	FILE:	3103017-4PM

PEAK HOUR: 04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	4	136	6	10	170	15	17	23	4	10	31	17	443
4:15 PM	4:30 PM	8	266	19	27	316	27	25	54	7	16	70	38	873
4:30 PM	4:45 PM	11	400	27	40	467	38	33	96	13	24	103	49	1,301
4:45 PM	5:00 PM	16	554	36	51	616	51	41	132	18	35	143	63	1,756
5:00 PM	5:15 PM	17	730	46	62	816	67	51	179	28	46	183	76	2,301
5:15 PM	5:30 PM	20	864	49	75	920	77	65	203	33	57	208	87	2,658
5:30 PM	5:45 PM	23	988	56	98	1,058	94	72	234	38	66	241	100	3,068
5:45 PM	6:00 PM	23	1,108	57	110	1,157	109	75	271	45	75	271	107	3,408
TOTAL BY PERIOD														
4:00 PM	4:15 PM	4	136	6	10	170	15	17	23	4	10	31	17	443
4:15 PM	4:30 PM	4	130	13	17	146	12	8	31	3	6	39	21	430
4:30 PM	4:45 PM	3	134	8	13	151	11	8	42	6	8	33	11	428
4:45 PM	5:00 PM	5	154	9	11	149	13	8	36	5	11	40	14	455
5:00 PM	5:15 PM	1	176	10	11	200	16	10	47	10	11	40	13	545
5:15 PM	5:30 PM	3	134	3	13	104	10	14	24	5	11	25	11	357
5:30 PM	5:45 PM	3	124	7	23	138	17	7	31	5	9	33	13	410
5:45 PM	6:00 PM	0	120	1	12	99	15	3	37	7	9	30	7	340
HOURLY TOTALS														
4:00 PM	5:00 PM	16	554	36	51	616	51	41	132	18	35	143	63	1,756
4:15 PM	5:15 PM	13	594	40	52	646	52	34	156	24	36	152	59	1,858
4:30 PM	5:30 PM	12	598	30	48	604	50	40	149	26	41	138	49	1,785
4:45 PM	5:45 PM	12	588	29	58	591	56	39	138	25	42	138	51	1,767
5:00 PM	6:00 PM	7	554	21	59	541	58	34	139	27	40	128	44	1,652

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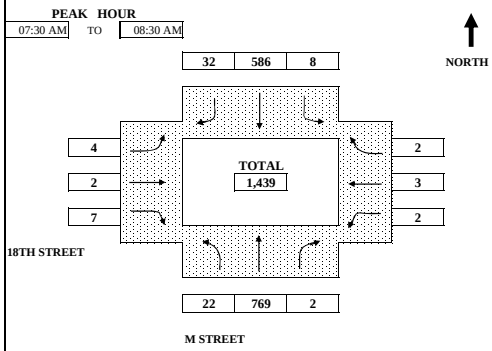
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

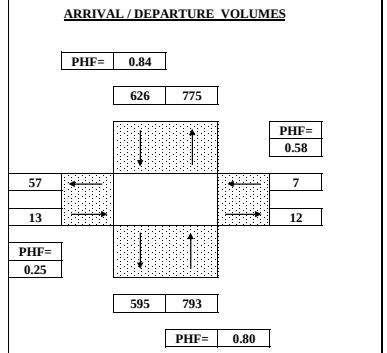
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	M STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	18TH STREET	JURISDICTION:	MERCED	FILE:	3103017-10AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	2	52	0	0	84	3	2	4	0	0	0	1	*148*
7:15 AM ---	7:30 AM	3	163	2	1	205	7	4	4	1	0	1	2	*393*
7:30 AM ---	7:45 AM	6	396	2	2	325	11	4	5	2	0	2	3	*758*
7:45 AM ---	8:00 AM	10	639	3	3	492	29	6	5	3	0	2	3	*1,195*
8:00 AM ---	8:15 AM	17	788	3	4	668	35	8	5	7	1	4	3	*1,543*
8:15 AM ---	8:30 AM	25	932	4	9	791	39	8	6	8	2	4	4	*1,832*
8:30 AM ---	8:45 AM	32	1,086	5	11	913	45	10	7	10	2	4	4	*2,129*
8:45 AM ---	9:00 AM	40	1,260	9	15	1,043	53	18	9	13	3	4	5	*2,472*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	2	52	0	0	84	3	2	4	0	0	0	1	*148*
7:15 AM ---	7:30 AM	1	111	2	1	121	4	2	0	1	0	1	1	*245*
7:30 AM ---	7:45 AM	3	233	0	1	120	4	0	1	1	0	1	1	*365*
7:45 AM ---	8:00 AM	4	243	1	1	167	18	2	0	1	0	0	0	*437*
8:00 AM ---	8:15 AM	7	149	0	1	176	6	2	0	4	1	2	0	*348*
8:15 AM ---	8:30 AM	8	144	1	5	123	4	0	1	1	1	0	1	*289*
8:30 AM ---	8:45 AM	7	154	1	2	122	6	2	1	2	0	0	0	*297*
8:45 AM ---	9:00 AM	8	174	4	4	130	8	8	2	3	1	0	1	*343*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	10	639	3	3	492	29	6	5	3	0	2	3	*1,195*
7:15 AM ---	8:15 AM	15	736	3	4	584	32	6	1	7	1	4	2	*1,395*
7:30 AM ---	8:30 AM	22	769	2	8	586	32	4	2	7	2	3	2	*1,439*
7:45 AM ---	8:45 AM	26	690	3	9	588	34	6	2	8	2	2	1	*1,371*
8:00 AM ---	9:00 AM	30	621	6	12	551	24	12	4	10	3	2	2	*1,277*

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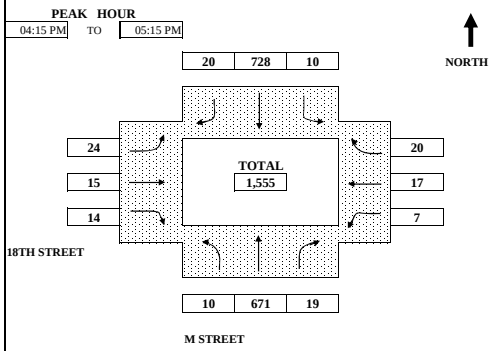
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

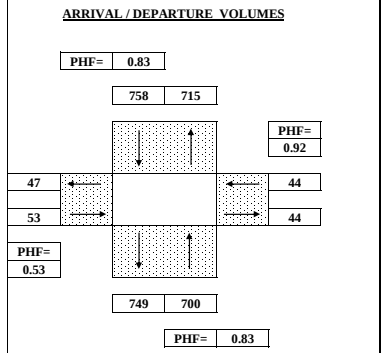
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	M STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	18TH STREET	JURISDICTION:	MERCED	FILE:	3103017-10PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	3	160	5	6	189	12	7	3	4	2	2	3	*396*
4:15 PM ---	4:30 PM	8	310	8	6	361	16	10	3	7	2	5	12	*748*
4:30 PM ---	4:45 PM	9	461	14	11	530	21	14	8	9	5	10	15	*1,107*
4:45 PM ---	5:00 PM	12	626	19	12	699	27	18	12	12	8	14	18	*1,477*
5:00 PM ---	5:15 PM	13	831	24	16	917	32	31	18	18	9	19	23	*1,951*
5:15 PM ---	5:30 PM	18	962	33	20	1,046	34	38	20	19	9	20	27	*2,246*
5:30 PM ---	5:45 PM	19	1,102	39	26	1,218	42	43	24	23	12	26	30	*2,604*
5:45 PM ---	6:00 PM	23	1,227	44	32	1,341	46	44	29	23	14	33	33	*2,889*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	3	160	5	6	189	12	7	3	4	2	2	3	*396*
4:15 PM ---	4:30 PM	5	150	3	0	172	4	3	0	3	0	3	9	*352*
4:30 PM ---	4:45 PM	1	151	6	5	169	5	4	5	2	3	5	3	*359*
4:45 PM ---	5:00 PM	3	165	5	1	169	6	4	4	3	3	4	3	*370*
5:00 PM ---	5:15 PM	1	205	5	4	218	5	13	6	6	1	5	5	*474*
5:15 PM ---	5:30 PM	5	131	9	4	129	2	7	2	1	0	1	4	*295*
5:30 PM ---	5:45 PM	1	140	6	6	172	8	5	4	4	3	6	3	*358*
5:45 PM ---	6:00 PM	4	125	5	6	123	4	1	5	0	2	7	3	*285*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	12	626	19	12	699	27	18	12	12	8	14	18	*1,477*
4:15 PM ---	5:15 PM	10	671	19	10	728	20	24	15	14	7	17	20	*1,555*
4:30 PM ---	5:30 PM	10	652	25	14	685	18	28	17	12	7	15	15	*1,498*
4:45 PM ---	5:45 PM	10	641	25	15	688	21	29	16	14	7	16	15	*1,497*
5:00 PM ---	6:00 PM	11	601	25	20	642	19	26	17	11	6	19	15	*1,412*

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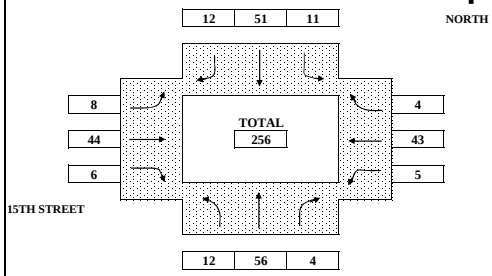
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

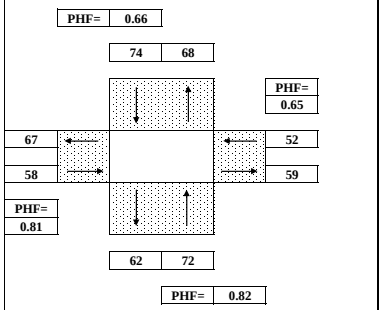
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	CANNAL STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	15TH STREET	JURISDICTION:	MERCED	FILE:	3103017-14AM

PEAK HOUR

07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	4	0	0	11	2	0	7	0	0	2	0	*26*
7:15 AM ---	7:30 AM	0	17	0	2	28	2	1	15	0	1	5	1	*72*
7:30 AM ---	7:45 AM	4	35	0	6	39	5	4	25	1	1	16	2	*138*
7:45 AM ---	8:00 AM	7	50	2	10	59	9	6	37	3	1	25	4	*213*
8:00 AM ---	8:15 AM	8	65	3	11	72	12	10	43	3	2	32	5	*266*
8:15 AM ---	8:30 AM	12	78	4	15	77	14	12	54	4	5	47	5	*327*
8:30 AM ---	8:45 AM	16	91	4	17	90	17	12	69	7	6	59	6	*394*
8:45 AM ---	9:00 AM	18	98	4	20	99	22	16	82	7	7	75	9	*457*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	4	0	0	11	2	0	7	0	0	2	0	*26*
7:15 AM ---	7:30 AM	0	13	0	2	17	0	1	8	0	1	3	1	*46*
7:30 AM ---	7:45 AM	4	18	0	4	11	3	3	10	1	0	11	1	*66*
7:45 AM ---	8:00 AM	3	15	2	4	20	4	2	12	2	0	9	2	*75*
8:00 AM ---	8:15 AM	1	15	1	1	13	3	4	6	0	1	7	1	*53*
8:15 AM ---	8:30 AM	4	13	1	4	5	2	2	11	1	3	15	0	*61*
8:30 AM ---	8:45 AM	4	13	0	2	13	3	0	15	3	1	12	1	*67*
8:45 AM ---	9:00 AM	2	7	0	3	9	5	4	13	0	1	16	3	*63*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	7	50	2	10	59	9	6	37	3	1	25	4	*213*
7:15 AM ---	8:15 AM	8	61	3	11	61	10	10	36	3	2	30	5	*240*
7:30 AM ---	8:30 AM	12	61	4	13	49	12	11	39	4	4	42	4	*255*
7:45 AM ---	8:45 AM	12	56	4	11	51	12	8	44	6	5	43	4	*256*
8:00 AM ---	9:00 AM	11	48	2	10	40	13	10	45	4	6	50	5	*244*

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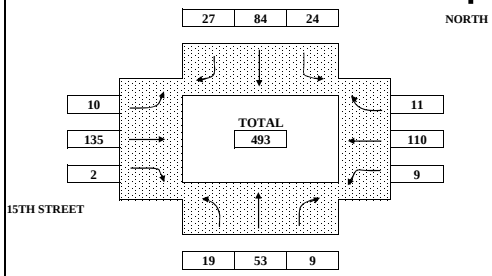
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

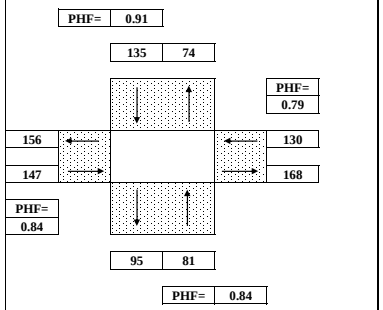
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	CANNAL STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	15TH STREET	JURISDICTION:	MERCED	FILE:	3103017-14PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	8	12	2	2	21	2	2	37	1	0	26	6	*119*
4:15 PM ---	4:30 PM	11	20	4	7	50	5	2	72	1	1	49	6	*228*
4:30 PM ---	4:45 PM	16	33	10	12	64	16	4	106	2	3	72	11	*349*
4:45 PM ---	5:00 PM	23	46	10	17	86	26	7	134	2	7	102	12	*472*
5:00 PM ---	5:15 PM	27	65	11	26	105	29	12	172	3	9	136	17	*612*
5:15 PM ---	5:30 PM	29	79	11	31	119	30	13	197	5	9	155	18	*696*
5:30 PM ---	5:45 PM	34	91	12	34	126	33	16	222	8	12	172	20	*780*
5:45 PM ---	6:00 PM	36	100	13	40	145	34	18	246	9	12	190	20	*863*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	8	12	2	2	21	2	2	37	1	0	26	6	*119*
4:15 PM ---	4:30 PM	3	8	2	5	29	3	0	35	0	1	23	0	*109*
4:30 PM ---	4:45 PM	5	13	6	5	14	11	2	34	1	2	23	5	*121*
4:45 PM ---	5:00 PM	7	13	0	5	22	10	3	28	0	4	30	1	*123*
5:00 PM ---	5:15 PM	4	19	1	9	19	3	5	38	1	2	34	5	*140*
5:15 PM ---	5:30 PM	2	14	0	5	14	1	1	25	2	0	19	1	*84*
5:30 PM ---	5:45 PM	5	12	1	3	7	3	3	25	3	3	17	2	*84*
5:45 PM ---	6:00 PM	2	9	1	6	19	1	2	24	1	0	18	0	*83*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	23	46	10	17	86	26	7	134	2	7	102	12	*472*
4:15 PM ---	5:15 PM	19	53	9	24	84	27	10	135	2	9	110	11	*493*
4:30 PM ---	5:30 PM	18	59	7	24	69	25	11	125	4	8	106	12	*468*
4:45 PM ---	5:45 PM	18	58	2	22	62	17	12	116	6	9	100	9	*431*
5:00 PM ---	6:00 PM	13	54	3	23	59	8	11	112	7	5	88	8	*391*

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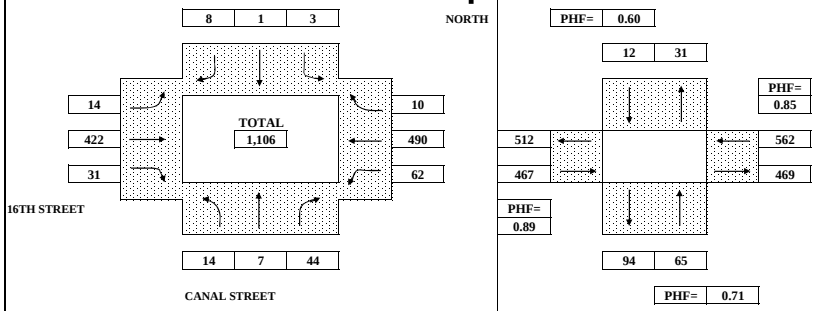
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	CANAL STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	16TH STREET	JURISDICTION:	MERCED	FILE:	3103017-13AM

PEAK HOUR: 07:45 AM TO 08:45 AM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	3	0	1	0	0	0	1	54	2	11	43	0	*115*
7:15 AM	7:30 AM	10	0	7	0	0	1	3	118	6	29	103	0	*277*
7:30 AM	7:45 AM	14	0	21	0	0	2	5	201	12	39	226	3	*523*
7:45 AM	8:00 AM	22	1	35	0	1	4	8	315	26	60	366	7	*845*
8:00 AM	8:15 AM	23	4	45	0	1	5	13	416	30	82	495	9	*1,123*
8:15 AM	8:30 AM	26	6	50	2	1	6	16	517	37	89	612	12	*1,374*
8:30 AM	8:45 AM	28	7	65	3	1	10	19	623	43	101	716	13	*1,629*
8:45 AM	9:00 AM	32	7	76	3	1	14	24	706	50	112	826	13	*1,864*
TOTAL BY PERIOD														
7:00 AM	7:15 AM	3	0	1	0	0	0	1	54	2	11	43	0	*115*
7:15 AM	7:30 AM	7	0	6	0	0	1	2	64	4	18	60	0	*162*
7:30 AM	7:45 AM	4	0	14	0	0	1	2	83	6	10	123	3	*246*
7:45 AM	8:00 AM	8	1	14	0	1	2	3	114	14	21	140	4	*322*
8:00 AM	8:15 AM	1	3	10	0	0	1	5	101	4	22	129	2	*278*
8:15 AM	8:30 AM	3	2	5	2	0	1	3	101	7	7	117	3	*251*
8:30 AM	8:45 AM	2	1	15	1	0	4	3	106	6	12	104	1	*255*
8:45 AM	9:00 AM	4	0	11	0	0	4	5	83	7	11	110	0	*235*
HOURLY TOTALS														
7:00 AM	8:00 AM	22	1	35	0	1	4	8	315	26	60	366	7	*845*
7:15 AM	8:15 AM	20	4	44	0	1	5	12	362	28	71	452	9	*1,008*
7:30 AM	8:30 AM	16	6	43	2	1	5	13	399	31	60	509	12	*1,097*
7:45 AM	8:45 AM	14	7	44	3	1	8	14	422	31	62	490	10	*1,106*
8:00 AM	9:00 AM	10	6	41	3	0	10	16	391	24	52	460	6	*1,019*

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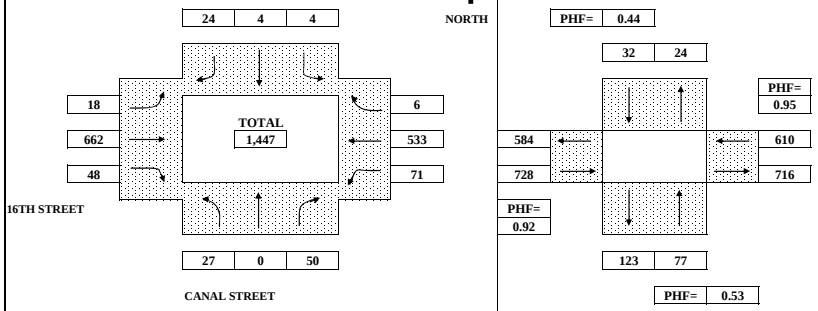
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	CANAL STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	16TH STREET	JURISDICTION:	MERCED	FILE:	3103017-13PM

PEAK HOUR: 04:00 PM TO 05:00 PM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	11	0	12	1	1	3	4	174	10	15	140	3	*374*
4:15 PM	4:30 PM	16	0	18	2	3	9	8	310	28	34	281	3	*712*
4:30 PM	4:45 PM	24	0	33	3	3	16	13	494	36	49	398	5	*1,074*
4:45 PM	5:00 PM	27	0	50	4	4	24	18	662	48	71	533	6	*1,447*
5:00 PM	5:15 PM	37	0	76	5	4	36	25	819	65	91	638	8	*1,804*
5:15 PM	5:30 PM	41	2	84	7	6	45	29	983	70	102	766	9	*2,144*
5:30 PM	5:45 PM	45	3	99	8	7	61	36	1,115	74	113	875	10	*2,446*
5:45 PM	6:00 PM	51	3	106	9	8	72	40	1,251	82	133	974	10	*2,739*
TOTAL BY PERIOD														
4:00 PM	4:15 PM	11	0	12	1	1	3	4	174	10	15	140	3	*374*
4:15 PM	4:30 PM	5	0	6	1	2	6	4	136	18	19	141	0	*338*
4:30 PM	4:45 PM	8	0	15	1	0	7	5	184	8	15	117	2	*362*
4:45 PM	5:00 PM	3	0	17	1	1	8	5	168	12	22	135	1	*373*
5:00 PM	5:15 PM	10	0	26	1	0	12	7	157	17	20	105	2	*357*
5:15 PM	5:30 PM	4	2	8	2	2	9	4	164	5	11	128	1	*340*
5:30 PM	5:45 PM	4	1	15	1	1	16	7	132	4	11	109	1	*302*
5:45 PM	6:00 PM	6	0	7	1	1	11	4	136	8	20	99	0	*293*
HOURLY TOTALS														
4:00 PM	5:00 PM	27	0	50	4	4	24	18	662	48	71	533	6	*1,447*
4:15 PM	5:15 PM	26	0	64	4	3	33	21	645	55	76	498	5	*1,430*
4:30 PM	5:30 PM	25	2	66	5	3	36	21	673	42	68	485	6	*1,432*
4:45 PM	5:45 PM	21	3	66	5	4	45	23	621	38	64	477	5	*1,372*
5:00 PM	6:00 PM	24	3	56	5	4	48	22	589	34	62	441	4	*1,292*

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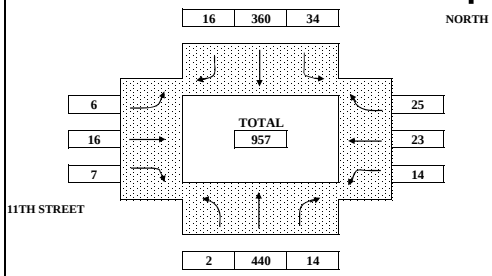
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

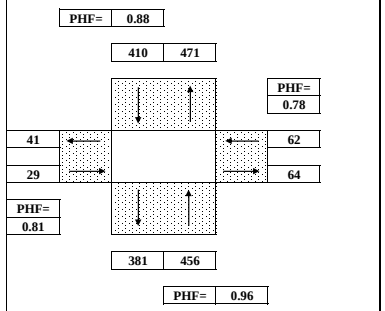
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	11TH STREET	JURISDICTION:	MERCED	FILE:	3103017-18AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	2	72	5	5	67	0	2	7	0	5	11	4	*180*
7:15 AM ---	7:30 AM	3	139	11	11	158	2	6	10	0	11	17	12	*380*
7:30 AM ---	7:45 AM	4	247	18	23	235	11	7	16	1	17	24	16	*619*
7:45 AM ---	8:00 AM	4	363	21	31	330	16	10	18	3	18	26	23	*863*
8:00 AM ---	8:15 AM	5	474	23	39	438	16	10	20	6	22	36	28	*1,117*
8:15 AM ---	8:30 AM	5	579	25	45	518	18	12	26	7	25	40	37	*1,337*
8:30 AM ---	8:45 AM	5	666	30	47	588	19	13	30	9	26	42	45	*1,520*
8:45 AM ---	9:00 AM	7	764	31	51	668	20	16	31	12	27	45	48	*1,720*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	2	72	5	5	67	0	2	7	0	5	11	4	*180*
7:15 AM ---	7:30 AM	1	67	6	6	91	2	4	3	0	6	6	8	*200*
7:30 AM ---	7:45 AM	1	108	7	12	77	9	1	6	1	6	7	4	*239*
7:45 AM ---	8:00 AM	0	116	3	8	95	5	3	2	2	1	2	7	*244*
8:00 AM ---	8:15 AM	1	111	2	8	108	0	0	2	3	4	10	5	*254*
8:15 AM ---	8:30 AM	0	105	2	6	80	2	2	6	1	3	4	9	*220*
8:30 AM ---	8:45 AM	0	87	5	2	70	1	1	4	2	1	2	8	*183*
8:45 AM ---	9:00 AM	2	98	1	4	80	1	3	1	3	1	3	3	*200*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	4	363	21	31	330	16	10	18	3	18	26	23	*863*
7:15 AM ---	8:15 AM	3	402	18	34	371	16	8	13	6	17	25	24	*937*
7:30 AM ---	8:30 AM	2	440	14	34	360	16	6	16	7	14	23	25	*957*
7:45 AM ---	8:45 AM	1	419	12	24	353	8	6	14	8	9	18	29	*901*
8:00 AM ---	9:00 AM	3	401	10	20	338	4	6	13	9	9	19	25	*857*

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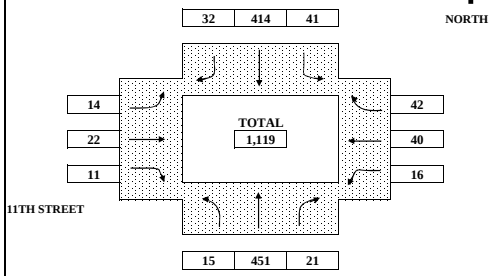
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

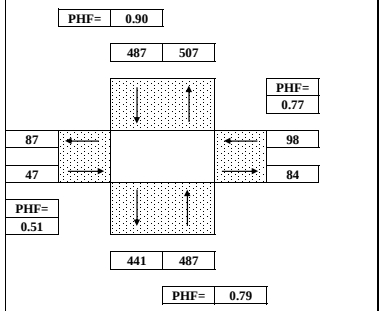
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	11TH STREET	JURISDICTION:	MERCED	FILE:	3103017-18PM

PEAK HOUR

04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	4	119	8	13	100	7	4	6	4	7	13	12	*297*
4:15 PM ---	4:30 PM	7	235	11	20	207	16	8	10	8	8	24	21	*575*
4:30 PM ---	4:45 PM	12	348	17	32	318	29	11	15	9	14	32	30	*867*
4:45 PM ---	5:00 PM	15	451	21	41	414	32	14	22	11	16	40	42	*1,119*
5:00 PM ---	5:15 PM	17	597	28	51	491	39	19	25	11	17	49	45	*1,389*
5:15 PM ---	5:30 PM	22	709	32	56	556	46	34	31	13	20	51	51	*1,621*
5:30 PM ---	5:45 PM	22	791	34	68	659	51	38	34	15	21	55	56	*1,844*
5:45 PM ---	6:00 PM	28	886	38	73	735	68	53	40	16	21	59	65	*2,082*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	4	119	8	13	100	7	4	6	4	7	13	12	*297*
4:15 PM ---	4:30 PM	3	116	3	7	107	9	4	4	4	1	11	9	*278*
4:30 PM ---	4:45 PM	5	113	6	12	111	13	3	5	1	6	8	9	*292*
4:45 PM ---	5:00 PM	3	103	4	9	96	3	3	7	2	2	8	12	*252*
5:00 PM ---	5:15 PM	2	146	7	10	77	7	5	3	0	1	9	3	*270*
5:15 PM ---	5:30 PM	5	112	4	5	65	7	15	6	2	3	2	6	*232*
5:30 PM ---	5:45 PM	0	82	2	12	103	5	4	3	2	1	4	5	*223*
5:45 PM ---	6:00 PM	6	95	4	5	76	17	15	6	1	0	4	9	*238*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	15	451	21	41	414	32	14	22	11	16	40	42	*1,119*
4:15 PM ---	5:15 PM	13	478	20	38	391	32	15	19	7	10	36	33	*1,092*
4:30 PM ---	5:30 PM	15	474	21	36	349	30	26	21	5	12	27	30	*1,046*
4:45 PM ---	5:45 PM	10	443	17	36	341	22	27	19	6	7	23	26	*977*
5:00 PM ---	6:00 PM	13	435	17	32	321	36	39	18	5	5	19	23	*963*

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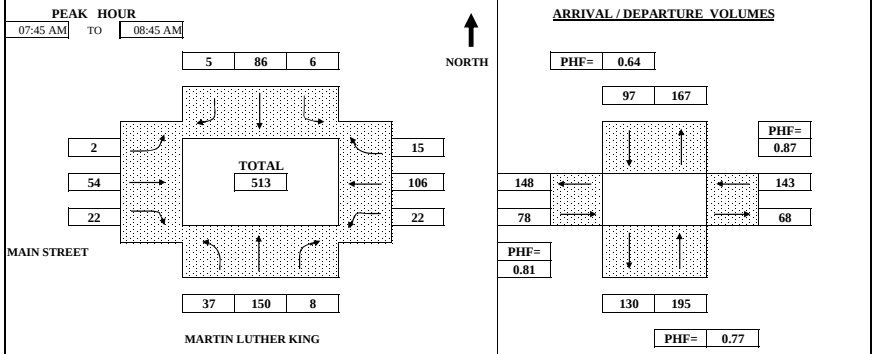
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	MAIN STREET	JURISDICTION:	MERCED	FILE:	3103017-5AM

PEAK HOUR

07:45 AM TO 08:45 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	11	10	1	2	18	2	3	3	1	0	6	2	*59*
7:15 AM ---	7:30 AM	19	26	2	2	31	2	3	11	8	1	21	3	*129*
7:30 AM ---	7:45 AM	22	58	3	3	44	2	4	19	12	2	39	7	*215*
7:45 AM ---	8:00 AM	33	109	4	6	74	3	5	33	16	4	65	15	*367*
8:00 AM ---	8:15 AM	40	147	8	9	107	5	5	50	23	11	91	16	*512*
8:15 AM ---	8:30 AM	47	179	10	9	120	6	6	60	25	14	119	17	*612*
8:30 AM ---	8:45 AM	59	208	11	9	130	7	6	73	34	24	145	22	*728*
8:45 AM ---	9:00 AM	67	237	15	12	162	8	8	87	39	27	172	26	*860*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	11	10	1	2	18	2	3	3	1	0	6	2	*59*
7:15 AM ---	7:30 AM	8	16	1	0	13	0	0	8	7	1	15	1	*70*
7:30 AM ---	7:45 AM	3	32	1	1	13	0	1	8	4	1	18	4	*86*
7:45 AM ---	8:00 AM	11	51	1	3	30	1	1	14	4	2	26	8	*152*
8:00 AM ---	8:15 AM	7	38	4	3	33	2	0	17	7	7	26	1	*145*
8:15 AM ---	8:30 AM	7	32	2	0	13	1	1	10	2	3	28	1	*100*
8:30 AM ---	8:45 AM	12	29	1	0	10	1	0	13	9	10	26	5	*116*
8:45 AM ---	9:00 AM	8	29	4	3	32	1	2	14	5	3	27	4	*132*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	33	109	4	6	74	3	5	33	16	4	65	15	*367*
7:15 AM ---	8:15 AM	29	137	7	7	89	3	2	47	22	11	85	14	*453*
7:30 AM ---	8:30 AM	28	153	8	7	89	4	3	49	17	13	98	14	*483*
7:45 AM ---	8:45 AM	37	150	8	6	86	5	2	54	22	22	106	15	*513*
8:00 AM ---	9:00 AM	34	128	11	6	88	5	3	54	23	23	107	11	*493*

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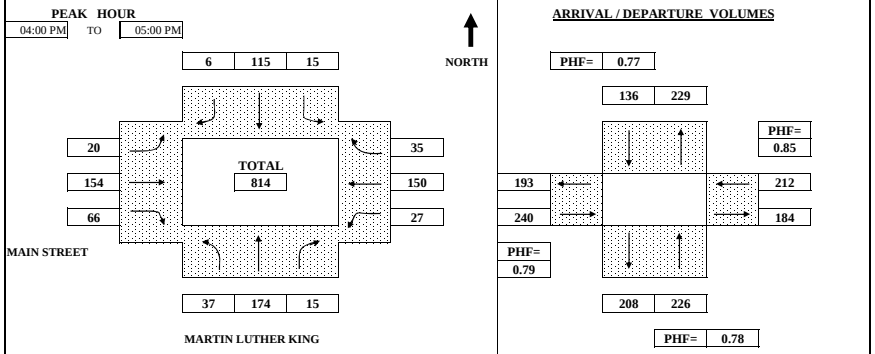
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	MAIN STREET	JURISDICTION:	MERCED	FILE:	3103017-5PM

PEAK HOUR

04:00 PM TO 05:00 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	8	44	2	3	37	1	5	39	22	10	39	13	*223*
4:15 PM ---	4:30 PM	20	97	9	9	62	3	8	71	34	15	79	22	*429*
4:30 PM ---	4:45 PM	33	134	12	12	92	5	16	120	53	19	110	30	*636*
4:45 PM ---	5:00 PM	37	174	15	15	115	6	20	154	66	27	150	35	*814*
5:00 PM ---	5:15 PM	42	226	23	20	153	7	24	200	80	33	185	40	*1,033*
5:15 PM ---	5:30 PM	47	288	23	21	176	10	29	233	98	38	219	46	*1,228*
5:30 PM ---	5:45 PM	58	320	26	24	199	10	33	262	112	45	253	52	*1,394*
5:45 PM ---	6:00 PM	62	340	30	25	223	12	33	293	125	52	284	61	*1,540*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	8	44	2	3	37	1	5	39	22	10	39	13	*223*
4:15 PM ---	4:30 PM	12	53	7	6	25	2	3	32	12	5	40	9	*206*
4:30 PM ---	4:45 PM	13	37	3	3	30	2	8	49	19	4	31	8	*207*
4:45 PM ---	5:00 PM	4	40	3	3	23	1	4	34	13	8	40	5	*178*
5:00 PM ---	5:15 PM	5	52	8	5	38	1	4	46	14	6	35	5	*219*
5:15 PM ---	5:30 PM	5	62	0	1	23	3	5	33	18	5	34	6	*195*
5:30 PM ---	5:45 PM	11	32	3	3	23	0	4	29	14	7	34	6	*166*
5:45 PM ---	6:00 PM	4	20	4	1	24	2	0	31	13	7	31	9	*146*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	37	174	15	15	115	6	20	154	66	27	150	35	*814*
4:15 PM ---	5:15 PM	34	182	21	17	116	6	19	161	58	23	146	27	*810*
4:30 PM ---	5:30 PM	27	191	14	12	114	7	21	162	64	23	140	24	*799*
4:45 PM ---	5:45 PM	25	186	14	12	107	5	17	142	59	26	143	22	*758*
5:00 PM ---	6:00 PM	25	166	15	10	108	6	13	139	59	25	134	26	*726*

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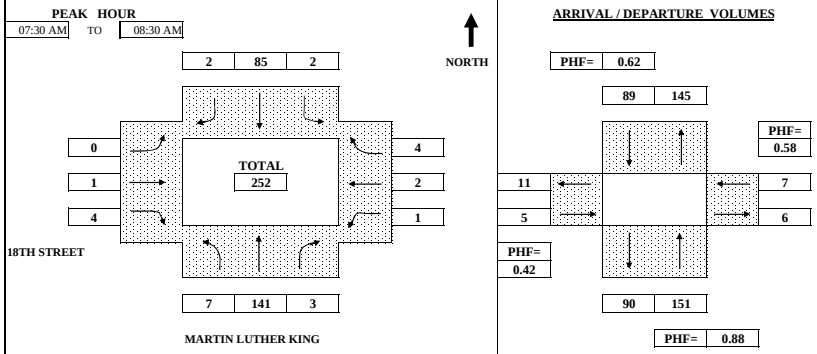
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	18TH STREET	JURISDICTION:	MERCED	FILE:	3103017-11AM

PEAK HOUR 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	2	10	1	0	17	0	1	0	2	1	0	0	*34*
7:15 AM ---	7:30 AM	5	26	1	1	27	0	1	0	3	2	0	1	*67*
7:30 AM ---	7:45 AM	8	63	2	1	43	0	1	0	4	2	0	2	*126*
7:45 AM ---	8:00 AM	10	104	2	1	78	1	1	0	5	2	0	3	*207*
8:00 AM ---	8:15 AM	10	134	4	2	101	2	1	0	6	3	2	3	*268*
8:15 AM ---	8:30 AM	12	167	4	3	112	2	1	1	7	3	2	5	*319*
8:30 AM ---	8:45 AM	13	189	4	3	122	2	1	1	8	4	2	5	*354*
8:45 AM ---	9:00 AM	15	212	4	4	150	2	2	1	9	5	4	5	*413*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	2	10	1	0	17	0	1	0	2	1	0	0	*34*
7:15 AM ---	7:30 AM	3	16	0	1	10	0	0	0	1	1	0	1	*33*
7:30 AM ---	7:45 AM	3	37	1	0	16	0	0	0	1	0	0	1	*59*
7:45 AM ---	8:00 AM	2	41	0	0	35	1	0	0	1	0	0	1	*81*
8:00 AM ---	8:15 AM	0	30	2	1	23	1	0	0	1	1	2	0	*61*
8:15 AM ---	8:30 AM	2	33	0	1	11	0	0	1	1	0	0	2	*51*
8:30 AM ---	8:45 AM	1	22	0	0	10	0	0	0	1	1	0	0	*35*
8:45 AM ---	9:00 AM	2	23	0	1	28	0	1	0	1	1	2	0	*59*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	10	104	2	1	78	1	1	0	5	2	0	3	*207*
7:15 AM ---	8:15 AM	8	124	3	2	84	2	0	0	4	2	2	3	*234*
7:30 AM ---	8:30 AM	7	141	3	2	85	2	0	1	4	1	2	4	*252*
7:45 AM ---	8:45 AM	5	126	2	2	79	2	0	1	4	2	2	3	*228*
8:00 AM ---	9:00 AM	5	108	2	3	72	1	1	1	4	3	4	2	*206*

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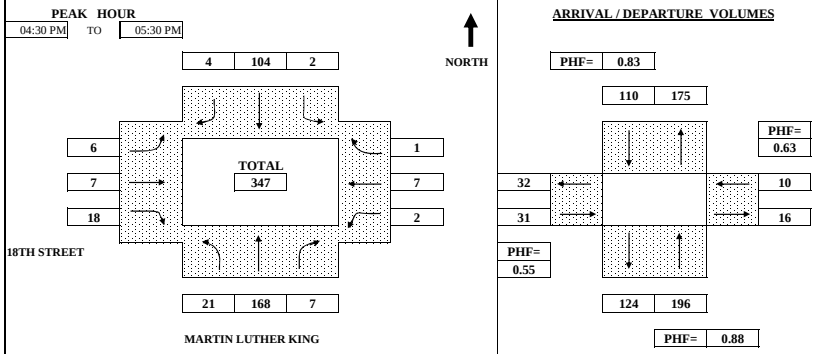
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	MARTIN LUTHER KING	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	18TH STREET	JURISDICTION:	MERCED	FILE:	3103017-11PM

PEAK HOUR 04:30 PM TO 05:30 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	2	40	2	3	27	0	1	3	6	0	2	0	*86*
4:15 PM ---	4:30 PM	5	79	4	3	54	1	5	5	9	0	3	0	*168*
4:30 PM ---	4:45 PM	14	125	4	3	75	2	7	8	14	0	4	0	*256*
4:45 PM ---	5:00 PM	17	163	6	3	98	4	9	10	24	1	6	1	*342*
5:00 PM ---	5:15 PM	19	201	8	4	129	5	11	12	25	1	8	1	*424*
5:15 PM ---	5:30 PM	26	247	11	5	158	5	11	12	27	2	10	1	*515*
5:30 PM ---	5:45 PM	29	261	11	6	178	5	11	15	32	4	12	1	*565*
5:45 PM ---	6:00 PM	31	280	11	6	201	6	11	16	37	5	13	2	*619*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	2	40	2	3	27	0	1	3	6	0	2	0	*86*
4:15 PM ---	4:30 PM	3	39	2	0	27	1	4	2	3	0	1	0	*82*
4:30 PM ---	4:45 PM	9	46	0	0	21	1	2	3	5	0	1	0	*88*
4:45 PM ---	5:00 PM	3	38	2	0	23	2	2	2	10	1	2	1	*86*
5:00 PM ---	5:15 PM	2	38	2	1	31	1	2	2	1	0	2	0	*82*
5:15 PM ---	5:30 PM	7	46	3	1	29	0	0	0	2	1	2	0	*91*
5:30 PM ---	5:45 PM	3	14	0	1	20	0	0	3	5	2	2	0	*50*
5:45 PM ---	6:00 PM	2	19	0	0	23	1	0	1	5	1	1	1	*54*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	17	163	6	3	98	4	9	10	24	1	6	1	*342*
4:15 PM ---	5:15 PM	17	161	6	1	102	5	10	9	19	1	6	1	*338*
4:30 PM ---	5:30 PM	21	168	7	2	104	4	6	7	18	2	7	1	*347*
4:45 PM ---	5:45 PM	15	136	7	3	103	3	4	7	18	4	8	1	*309*
5:00 PM ---	6:00 PM	14	117	5	3	103	2	2	6	13	4	7	1	*277*

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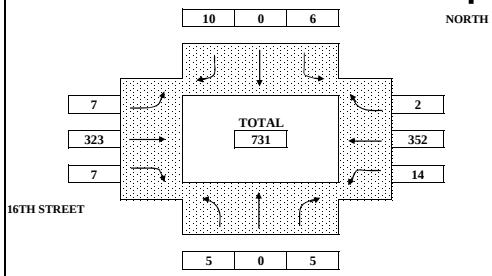
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

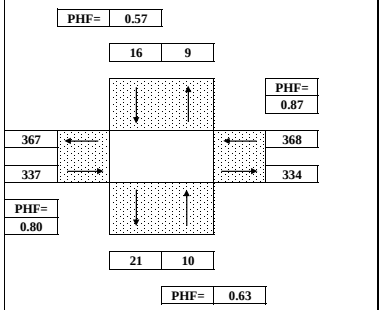
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/15/2011	DAY:	TUESDAY
N-S APPROACH:	H STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	16TH STREET	JURISDICTION:	1MERCED	FILE:	3103017-22AM

PEAK HOUR

07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	1		1	2		0	0	37	1	0	34	1	*77*
7:15 AM ---	7:30 AM	1		1	2		1	2	87	2	0	83	1	*180*
7:30 AM ---	7:45 AM	2		1	3		4	2	153	3	2	151	2	*323*
7:45 AM ---	8:00 AM	4		3	4		7	3	229	7	3	255	3	*518*
8:00 AM ---	8:15 AM	4		4	8		10	5	320	7	7	345	4	*714*
8:15 AM ---	8:30 AM	5		5	8		12	6	389	8	12	437	4	*886*
8:30 AM ---	8:45 AM	7		6	9		14	9	476	10	16	503	4	*1,054*
8:45 AM ---	9:00 AM	7		10	10		18	16	569	15	19	578	6	*1,248*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	1	0	1	2	0	0	0	37	1	0	34	1	*77*
7:15 AM ---	7:30 AM	0	0	0	0	0	1	2	50	1	0	49	0	*103*
7:30 AM ---	7:45 AM	1	0	0	1	0	3	0	66	1	2	68	1	*143*
7:45 AM ---	8:00 AM	2	0	2	1	0	3	1	76	4	1	104	1	*195*
8:00 AM ---	8:15 AM	0	0	1	4	0	3	2	91	0	4	90	1	*196*
8:15 AM ---	8:30 AM	1	0	1	0	0	2	1	69	1	5	92	0	*172*
8:30 AM ---	8:45 AM	2	0	1	1	0	2	3	87	2	4	66	0	*168*
8:45 AM ---	9:00 AM	0	0	4	1	0	4	7	93	5	3	75	2	*194*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	4	0	3	4	0	7	3	229	7	3	255	3	*518*
7:15 AM ---	8:15 AM	3	0	3	6	0	10	5	283	6	7	311	3	*637*
7:30 AM ---	8:30 AM	4	0	4	6	0	11	4	302	6	12	354	3	*706*
7:45 AM ---	8:45 AM	5	0	5	6	0	10	7	323	7	14	352	2	*731*
8:00 AM ---	9:00 AM	3	0	7	6	0	11	13	340	8	16	323	3	*730*

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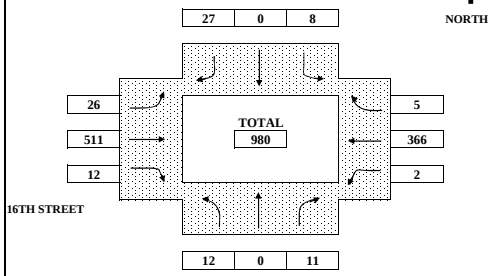
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

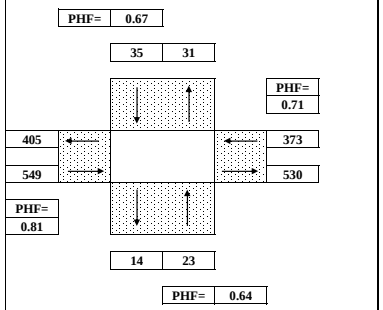
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/15/2011	DAY:	TUESDAY
N-S APPROACH:	H STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	16TH STREET	JURISDICTION:	MERCED	FILE:	3103017-22PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	1		2	2		4	4	132	3	1	128	2	*279*
4:15 PM ---	4:30 PM	2		3	4		7	10	251	6	2	220	3	*508*
4:30 PM ---	4:45 PM	6		7	6		16	14	380	12	3	312	5	*761*
4:45 PM ---	5:00 PM	8		9	9		26	19	485	14	3	398	5	*976*
5:00 PM ---	5:15 PM	13		13	10		31	30	643	15	3	494	7	*1,259*
5:15 PM ---	5:30 PM	15		13	11		38	35	766	15	5	581	8	*1,487*
5:30 PM ---	5:45 PM	17		17	13		46	39	893	18	5	646	10	*1,704*
5:45 PM ---	6:00 PM	17		17	13		54	42	1,007	18	5	746	12	*1,931*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	1	0	2	2	0	4	4	132	3	1	128	2	*279*
4:15 PM ---	4:30 PM	1	0	1	2	0	3	6	119	3	1	92	1	*229*
4:30 PM ---	4:45 PM	4	0	4	2	0	9	4	129	6	1	92	2	*253*
4:45 PM ---	5:00 PM	2	0	2	3	0	10	5	105	2	0	86	0	*215*
5:00 PM ---	5:15 PM	5	0	4	1	0	5	11	158	1	0	96	2	*283*
5:15 PM ---	5:30 PM	2	0	0	1	0	7	5	123	0	2	87	1	*228*
5:30 PM ---	5:45 PM	2	0	4	2	0	8	4	127	3	0	65	2	*217*
5:45 PM ---	6:00 PM	0	0	0	0	0	8	3	114	0	0	100	2	*227*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	8	0	9	9	0	26	19	485	14	3	398	5	*976*
4:15 PM ---	5:15 PM	12	0	11	8	0	27	26	511	12	2	366	5	*980*
4:30 PM ---	5:30 PM	13	0	10	7	0	31	25	515	9	3	361	5	*979*
4:45 PM ---	5:45 PM	11	0	10	7	0	30	25	513	6	2	334	5	*943*
5:00 PM ---	6:00 PM	9	0	8	4	0	28	23	522	4	2	348	7	*955*

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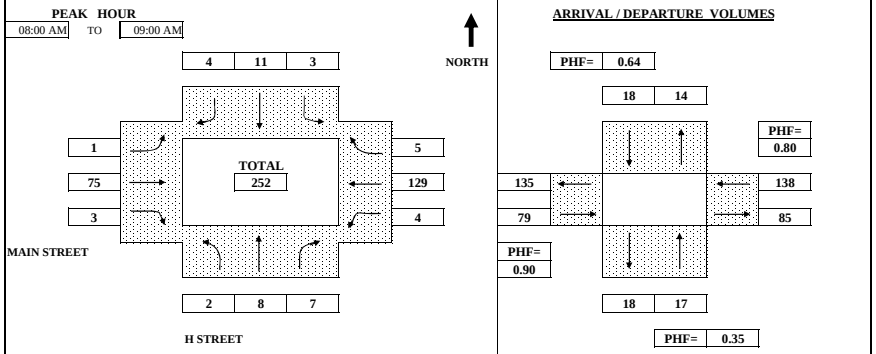
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/15/2011	DAY:	TUESDAY
N-S APPROACH:	H STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	MAIN STREET	JURISDICTION:	1MERCED	FILE:	3103017-21AM

PEAK HOUR: 08:00 AM TO 09:00 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	1	0	0	1	0	0	0	3	0	1	10	0	*16*
7:15 AM	7:30 AM	1	1	1	1	1	0	1	8	1	1	23	1	*40*
7:30 AM	7:45 AM	1	2	1	1	4	0	2	17	2	1	50	3	*84*
7:45 AM	8:00 AM	1	3	2	1	6	0	2	31	3	2	79	3	*133*
8:00 AM	8:15 AM	1	4	2	1	12	1	2	53	3	2	119	5	*205*
8:15 AM	8:30 AM	1	5	2	3	14	3	2	73	3	2	160	7	*275*
8:30 AM	8:45 AM	2	6	3	3	14	3	2	89	5	5	185	7	*324*
8:45 AM	9:00 AM	3	11	9	4	17	4	3	106	6	6	208	8	*385*
TOTAL BY PERIOD														
7:00 AM	7:15 AM	1	0	0	1	0	0	0	3	0	1	10	0	*16*
7:15 AM	7:30 AM	0	1	1	0	1	0	1	5	1	0	13	1	*24*
7:30 AM	7:45 AM	0	1	0	0	3	0	1	9	1	0	27	2	*44*
7:45 AM	8:00 AM	0	1	1	0	2	0	0	14	1	1	29	0	*49*
8:00 AM	8:15 AM	0	1	0	0	6	1	0	22	0	0	40	2	*72*
8:15 AM	8:30 AM	0	1	0	2	2	2	0	20	0	0	41	2	*70*
8:30 AM	8:45 AM	1	1	1	0	0	0	0	16	2	3	25	0	*49*
8:45 AM	9:00 AM	1	5	6	1	3	1	1	17	1	1	23	1	*61*
HOURLY TOTALS														
7:00 AM	8:00 AM	1	3	2	1	6	0	2	31	3	2	79	3	*133*
7:15 AM	8:15 AM	0	4	2	0	12	1	2	50	3	1	109	5	*189*
7:30 AM	8:30 AM	0	4	1	2	13	3	1	65	2	1	137	6	*235*
7:45 AM	8:45 AM	1	4	2	2	10	3	0	72	3	4	135	4	*240*
8:00 AM	9:00 AM	2	8	7	3	11	4	1	75	3	4	129	5	*252*

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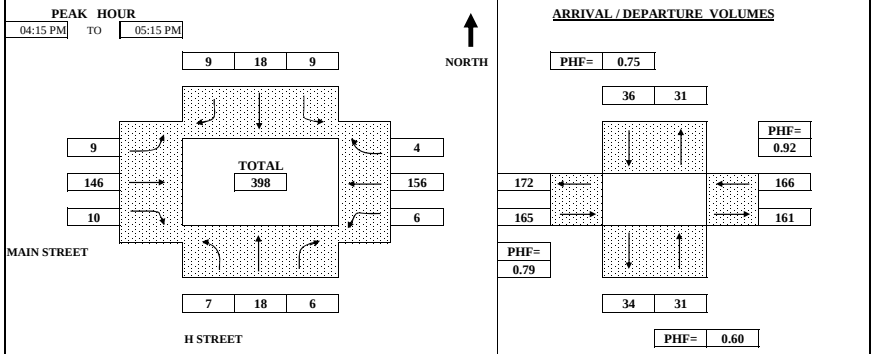
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/15/2011	DAY:	TUESDAY
N-S APPROACH:	H STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	MAIN STREET	JURISDICTION:	MERCED	FILE:	3103017-21PM

PEAK HOUR: 04:15 PM TO 05:15 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	1	1	3	0	1	2	2	43	2	0	33	2	*90*
4:15 PM	4:30 PM	2	5	6	2	2	6	4	70	8	2	73	3	*183*
4:30 PM	4:45 PM	4	7	6	4	9	9	7	98	9	5	112	3	*273*
4:45 PM	5:00 PM	4	13	6	7	14	10	8	141	11	6	151	5	*376*
5:00 PM	5:15 PM	8	19	9	9	19	11	11	189	12	6	189	6	*488*
5:15 PM	5:30 PM	9	20	10	11	21	17	16	219	16	7	221	6	*573*
5:30 PM	5:45 PM	9	23	14	13	26	18	19	255	18	7	247	8	*657*
5:45 PM	6:00 PM	16	26	14	13	29	23	21	275	20	10	288	9	*744*
TOTAL BY PERIOD														
4:00 PM	4:15 PM	1	1	3	0	1	2	2	43	2	0	33	2	*90*
4:15 PM	4:30 PM	1	4	3	2	1	4	2	27	6	2	40	1	*93*
4:30 PM	4:45 PM	2	2	0	2	7	3	3	28	1	3	39	0	*90*
4:45 PM	5:00 PM	0	6	0	3	5	1	1	43	2	1	39	2	*103*
5:00 PM	5:15 PM	4	6	3	2	5	1	3	48	1	0	38	1	*112*
5:15 PM	5:30 PM	1	1	1	2	2	6	5	30	4	1	32	0	*85*
5:30 PM	5:45 PM	0	3	4	2	5	1	3	36	2	0	26	2	*84*
5:45 PM	6:00 PM	7	3	0	0	3	5	2	20	2	3	41	1	*87*
HOURLY TOTALS														
4:00 PM	5:00 PM	4	13	6	7	14	10	8	141	11	6	151	5	*376*
4:15 PM	5:15 PM	7	18	6	9	18	9	9	146	10	6	156	4	*398*
4:30 PM	5:30 PM	7	15	4	9	19	11	12	149	8	5	148	3	*390*
4:45 PM	5:45 PM	5	16	8	9	17	9	12	157	9	2	135	5	*384*
5:00 PM	6:00 PM	12	13	8	6	15	13	13	134	9	4	137	4	*368*

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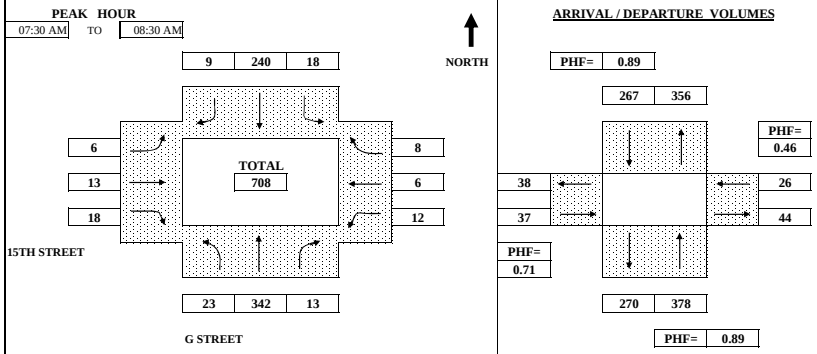
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	G STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	15TH STREET	JURISDICTION:	MERCED	FILE:	3103017-17AM

PEAK HOUR

07:30 AM TO 08:30 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	5	30	0	2	18	2	0	1	2	1	1	3	*65*
7:15 AM ---	7:30 AM	12	69	1	8	36	5	2	6	2	3	2	5	*151*
7:30 AM ---	7:45 AM	19	153	6	11	89	6	4	8	6	4	2	6	*314*
7:45 AM ---	8:00 AM	24	251	9	15	156	10	5	16	10	8	5	11	*520*
8:00 AM ---	8:15 AM	28	330	12	21	216	12	7	17	17	13	6	12	*691*
8:15 AM ---	8:30 AM	35	411	14	26	276	14	8	19	20	15	8	13	*859*
8:30 AM ---	8:45 AM	38	495	17	30	313	17	13	21	24	15	16	19	*1,018*
8:45 AM ---	9:00 AM	46	583	19	31	355	23	16	24	30	21	21	20	*1,189*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	5	30	0	2	18	2	0	1	2	1	1	3	*65*
7:15 AM ---	7:30 AM	7	39	1	6	18	3	2	5	0	2	1	2	*86*
7:30 AM ---	7:45 AM	7	84	5	3	53	1	2	2	4	1	0	1	*163*
7:45 AM ---	8:00 AM	5	98	3	4	67	4	1	8	4	4	3	5	*206*
8:00 AM ---	8:15 AM	4	79	3	6	60	2	2	1	7	5	1	1	*171*
8:15 AM ---	8:30 AM	7	81	2	5	60	2	1	2	3	2	2	1	*168*
8:30 AM ---	8:45 AM	3	84	3	4	37	3	5	2	4	0	8	6	*159*
8:45 AM ---	9:00 AM	8	88	2	1	42	6	3	3	6	6	5	1	*171*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	24	251	9	15	156	10	5	16	10	8	5	11	*520*
7:15 AM ---	8:15 AM	23	300	12	19	198	10	7	16	15	12	5	9	*626*
7:30 AM ---	8:30 AM	23	342	13	18	240	9	6	13	18	12	6	8	*708*
7:45 AM ---	8:45 AM	19	342	11	19	224	11	9	13	18	11	14	13	*704*
8:00 AM ---	9:00 AM	22	332	10	16	199	13	11	8	20	13	16	9	*669*

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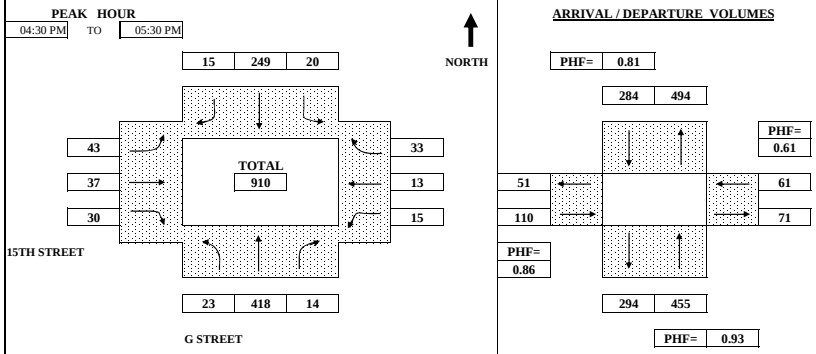
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	G STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	15TH STREET	JURISDICTION:	MERCED	FILE:	3103017-17PM

PEAK HOUR

04:30 PM TO 05:30 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	9	84	7	4	76	8	15	8	7	7	8	10	*243*
4:15 PM ---	4:30 PM	17	174	11	7	133	12	22	16	14	12	12	14	*444*
4:30 PM ---	4:45 PM	22	277	13	16	203	21	33	26	23	16	17	19	*686*
4:45 PM ---	5:00 PM	30	376	16	21	244	22	36	36	29	18	22	27	*877*
5:00 PM ---	5:15 PM	37	487	20	25	321	24	52	44	37	23	25	41	*1,136*
5:15 PM ---	5:30 PM	40	592	25	27	382	27	65	53	44	27	25	47	*1,354*
5:30 PM ---	5:45 PM	42	668	28	31	445	28	74	62	50	33	31	50	*1,542*
5:45 PM ---	6:00 PM	45	733	28	34	488	34	81	66	51	38	39	54	*1,691*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	9	84	7	4	76	8	15	8	7	7	8	10	*243*
4:15 PM ---	4:30 PM	8	90	4	3	57	4	7	8	7	5	4	4	*201*
4:30 PM ---	4:45 PM	5	103	2	9	70	9	11	10	9	4	5	5	*242*
4:45 PM ---	5:00 PM	8	99	3	5	41	1	3	10	6	2	5	8	*191*
5:00 PM ---	5:15 PM	7	111	4	4	77	2	16	8	8	5	3	14	*259*
5:15 PM ---	5:30 PM	3	105	5	2	61	3	13	9	7	4	0	6	*218*
5:30 PM ---	5:45 PM	2	76	3	4	63	1	9	9	6	6	6	3	*188*
5:45 PM ---	6:00 PM	3	65	0	3	43	6	7	4	1	5	8	4	*149*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	30	376	16	21	244	22	36	36	29	18	22	27	*877*
4:15 PM ---	5:15 PM	28	403	13	21	245	16	37	36	30	16	17	31	*893*
4:30 PM ---	5:30 PM	23	418	14	20	249	15	43	37	30	15	13	33	*910*
4:45 PM ---	5:45 PM	20	391	15	15	242	7	41	36	27	17	14	31	*856*
5:00 PM ---	6:00 PM	15	357	12	13	244	12	45	30	22	20	17	27	*814*

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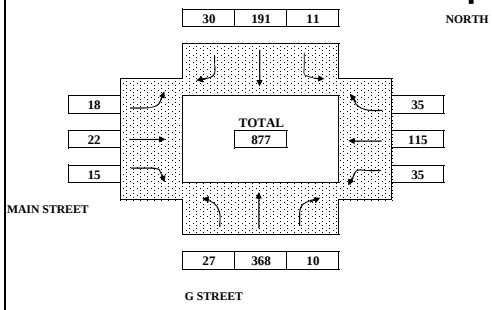
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

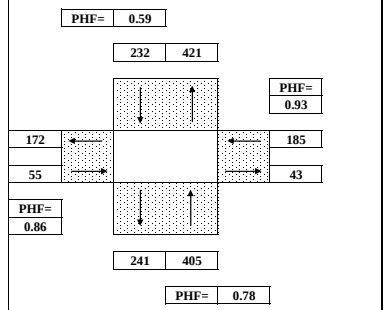
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	G STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	MAIN STREET	JURISDICTION:	MERCED	FILE:	3103017-6AM

PEAK HOUR

07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	31	3	1	12	3	1	2	2	4	8	4	*71*
7:15 AM ---	7:30 AM	4	71	7	6	34	8	3	3	2	11	21	12	*182*
7:30 AM ---	7:45 AM	10	126	15	7	79	15	6	7	3	13	41	24	*346*
7:45 AM ---	8:00 AM	17	205	16	8	127	21	9	12	8	25	69	33	*550*
8:00 AM ---	8:15 AM	22	327	19	11	211	33	18	17	10	32	100	45	*845*
8:15 AM ---	8:30 AM	30	401	20	14	246	37	22	24	15	36	129	55	*1,029*
8:30 AM ---	8:45 AM	37	494	25	18	270	45	24	29	18	48	156	59	*1,223*
8:45 AM ---	9:00 AM	45	586	27	20	308	51	26	32	20	53	178	67	*1,413*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	31	3	1	12	3	1	2	2	4	8	4	*71*
7:15 AM ---	7:30 AM	4	40	4	5	22	5	2	1	0	7	13	8	*111*
7:30 AM ---	7:45 AM	6	55	8	1	45	7	3	4	1	2	20	12	*164*
7:45 AM ---	8:00 AM	7	79	1	1	48	6	3	5	5	12	28	9	*204*
8:00 AM ---	8:15 AM	5	122	3	3	84	12	9	5	2	7	31	12	*295*
8:15 AM ---	8:30 AM	8	74	1	3	35	4	4	7	5	4	29	10	*184*
8:30 AM ---	8:45 AM	7	93	5	4	24	8	2	5	3	12	27	4	*194*
8:45 AM ---	9:00 AM	8	92	2	2	38	6	2	3	2	5	22	8	*190*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	17	205	16	8	127	21	9	12	8	25	69	33	*550*
7:15 AM ---	8:15 AM	22	296	16	10	199	30	17	15	8	28	92	41	*774*
7:30 AM ---	8:30 AM	26	330	13	8	212	29	19	21	13	25	108	43	*847*
7:45 AM ---	8:45 AM	27	368	10	11	191	30	18	22	15	35	115	35	*877*
8:00 AM ---	9:00 AM	28	381	11	12	181	30	17	20	12	28	109	34	*863*

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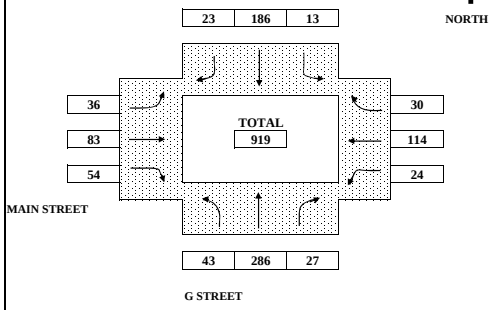
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

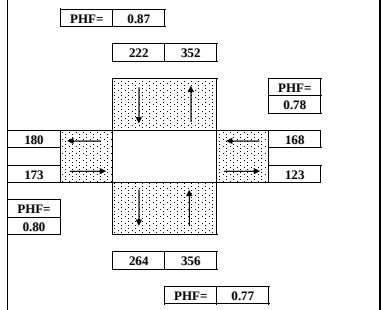
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	G STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	MAIN STREET	JURISDICTION:	MERCED	FILE:	3103017-6PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	9	74	4	5	45	10	6	11	17	8	38	8	*235*
4:15 PM ---	4:30 PM	18	132	7	10	96	16	20	24	30	16	60	13	*442*
4:30 PM ---	4:45 PM	31	195	19	15	149	22	29	54	45	22	95	21	*697*
4:45 PM ---	5:00 PM	43	264	21	17	177	29	34	74	56	28	126	28	*897*
5:00 PM ---	5:15 PM	52	360	31	18	231	33	42	94	71	32	152	38	*1,154*
5:15 PM ---	5:30 PM	65	414	36	21	261	40	48	111	86	38	165	42	*1,327*
5:30 PM ---	5:45 PM	79	470	42	24	307	49	60	127	93	44	193	52	*1,540*
5:45 PM ---	6:00 PM	86	536	48	28	337	57	69	139	103	54	216	61	*1,734*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	9	74	4	5	45	10	6	11	17	8	38	8	*235*
4:15 PM ---	4:30 PM	9	58	3	5	51	6	14	13	13	8	22	5	*207*
4:30 PM ---	4:45 PM	13	63	12	5	53	6	9	30	15	6	35	8	*255*
4:45 PM ---	5:00 PM	12	69	2	2	28	7	5	20	11	6	31	7	*200*
5:00 PM ---	5:15 PM	9	96	10	1	54	4	8	20	15	4	26	10	*257*
5:15 PM ---	5:30 PM	13	54	5	3	30	7	6	17	15	6	13	4	*173*
5:30 PM ---	5:45 PM	14	56	6	3	46	9	12	16	7	6	28	10	*213*
5:45 PM ---	6:00 PM	7	66	6	4	30	8	9	12	10	10	23	9	*194*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	43	264	21	17	177	29	34	74	56	28	126	28	*897*
4:15 PM ---	5:15 PM	43	286	27	13	186	23	36	83	54	24	114	30	*919*
4:30 PM ---	5:30 PM	47	282	29	11	165	24	28	87	56	22	105	29	*885*
4:45 PM ---	5:45 PM	48	275	23	9	158	27	31	73	48	22	98	31	*843*
5:00 PM ---	6:00 PM	43	272	27	11	160	28	35	65	47	26	90	33	*837*

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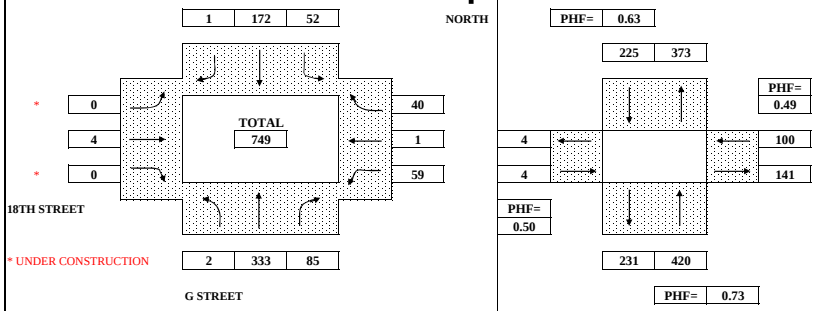
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	G STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	18TH STREET	JURISDICTION:	MERCED	FILE:	3103017-12AM

PEAK HOUR: 07:45 AM TO 08:45 AM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	31	4	1	14	0	0	0	0	3	0	0	*53*
7:15 AM ---	7:30 AM	0	78	9	9	44	0	0	0	0	7	0	4	*151*
7:30 AM ---	7:45 AM	1	135	18	21	87	0	0	0	0	20	3	12	*297*
7:45 AM ---	8:00 AM	1	204	38	32	127	0	0	1	0	33	3	25	*464*
8:00 AM ---	8:15 AM	2	302	83	57	191	0	0	1	0	69	4	39	*748*
8:15 AM ---	8:30 AM	2	379	92	68	225	0	0	3	0	75	4	49	*897*
8:30 AM ---	8:45 AM	3	468	103	73	259	1	0	4	0	79	4	52	*1,046*
8:45 AM ---	9:00 AM	4	545	125	76	304	1	0	5	0	82	4	63	*1,209*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	31	4	1	14	0	0	0	0	3	0	0	*53*
7:15 AM ---	7:30 AM	0	47	5	8	30	0	0	0	0	4	0	4	*98*
7:30 AM ---	7:45 AM	1	57	9	12	43	0	0	0	0	13	3	8	*146*
7:45 AM ---	8:00 AM	0	69	20	11	40	0	0	1	0	13	0	13	*167*
8:00 AM ---	8:15 AM	1	98	45	25	64	0	0	0	0	36	1	14	*284*
8:15 AM ---	8:30 AM	0	77	9	11	34	0	0	2	0	6	0	10	*149*
8:30 AM ---	8:45 AM	1	89	11	5	34	1	0	1	0	4	0	3	*149*
8:45 AM ---	9:00 AM	1	77	22	3	45	0	0	1	0	3	0	11	*163*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	1	204	38	32	127	0	0	1	0	33	3	25	*464*
7:15 AM ---	8:15 AM	2	271	79	56	177	0	0	1	0	66	4	39	*695*
7:30 AM ---	8:30 AM	2	301	83	59	181	0	0	3	0	68	4	45	*746*
7:45 AM ---	8:45 AM	2	333	85	52	172	1	0	4	0	59	1	40	*749*
8:00 AM ---	9:00 AM	3	341	87	44	177	1	0	4	0	49	1	38	*745*

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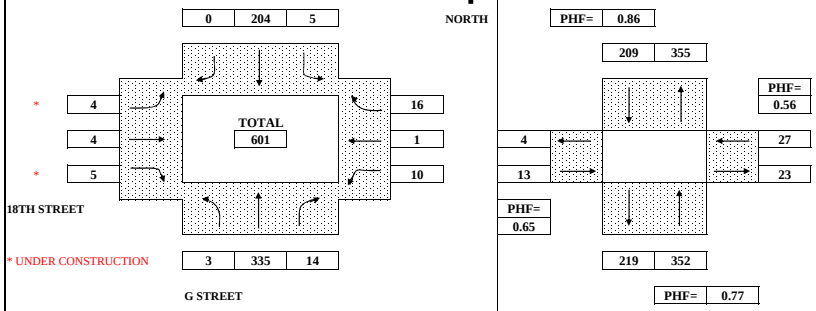
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	G STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	18TH STREET	JURISDICTION:	MERCED	FILE:	3103017-12PM

PEAK HOUR: 04:15 PM TO 05:15 PM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	4	78	5	5	54	0	1	1	2	3	1	5	*159*
4:15 PM ---	4:30 PM	4	152	10	8	110	0	1	2	4	8	1	12	*312*
4:30 PM ---	4:45 PM	4	228	13	8	171	0	4	4	4	10	1	15	*462*
4:45 PM ---	5:00 PM	5	303	16	9	204	0	4	5	5	11	1	19	*582*
5:00 PM ---	5:15 PM	7	413	19	10	258	0	5	5	7	13	2	21	*760*
5:15 PM ---	5:30 PM	8	471	23	11	297	1	6	5	8	14	2	25	*871*
5:30 PM ---	5:45 PM	9	546	26	13	354	3	8	7	9	15	2	30	*1,022*
5:45 PM ---	6:00 PM	11	617	36	14	393	3	11	8	10	16	4	31	*1,154*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	4	78	5	5	54	0	1	1	2	3	1	5	*159*
4:15 PM ---	4:30 PM	0	74	5	3	56	0	0	1	2	5	0	7	*153*
4:30 PM ---	4:45 PM	0	76	3	0	61	0	3	2	0	2	0	3	*150*
4:45 PM ---	5:00 PM	1	75	3	1	33	0	0	1	1	1	0	4	*120*
5:00 PM ---	5:15 PM	2	110	3	1	54	0	1	0	2	2	1	2	*178*
5:15 PM ---	5:30 PM	1	58	4	1	39	1	1	0	1	1	0	4	*111*
5:30 PM ---	5:45 PM	1	75	3	2	57	2	2	2	1	1	0	5	*151*
5:45 PM ---	6:00 PM	2	71	10	1	39	0	3	1	1	1	2	1	*132*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	5	303	16	9	204	0	4	5	5	11	1	19	*582*
4:15 PM ---	5:15 PM	3	335	14	5	204	0	4	4	5	10	1	16	*601*
4:30 PM ---	5:30 PM	4	319	13	3	187	1	5	3	4	6	1	13	*559*
4:45 PM ---	5:45 PM	5	318	13	5	183	3	4	3	5	5	1	15	*560*
5:00 PM ---	6:00 PM	6	314	20	5	189	3	7	3	5	5	3	12	*572*

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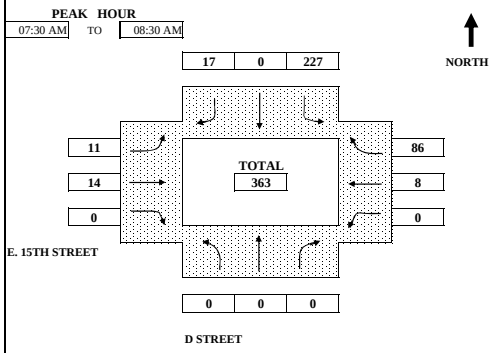
B.A.Y.M.E.T.R.I.C.S.

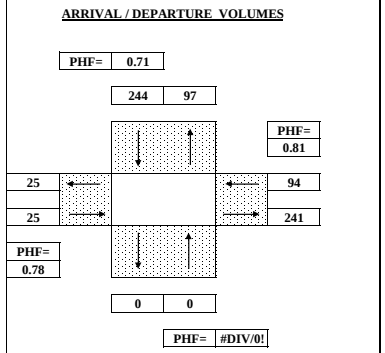
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	D STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	E. 15TH STREET	JURISDICTION:	MERCED	FILE:	3103017-20AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM				33		1	0	2			2	7	45
7:15 AM	7:30 AM				66		2	1	9			2	22	102
7:30 AM	7:45 AM				113		4	4	14			5	48	188
7:45 AM	8:00 AM				192		11	8	16			8	69	304
8:00 AM	8:15 AM				250		17	9	21			8	94	399
8:15 AM	8:30 AM				293		19	12	23			10	108	465
8:30 AM	8:45 AM				314		23	15	27			17	129	525
8:45 AM	9:00 AM				352		31	18	29			17	145	592
TOTAL BY PERIOD														
7:00 AM	7:15 AM	0	0	0	33	0	1	0	2	0	0	2	7	45
7:15 AM	7:30 AM	0	0	0	33	0	1	1	7	0	0	0	15	57
7:30 AM	7:45 AM	0	0	0	47	0	2	3	5	0	0	3	26	86
7:45 AM	8:00 AM	0	0	0	79	0	7	4	2	0	0	3	21	116
8:00 AM	8:15 AM	0	0	0	58	0	6	1	5	0	0	0	25	95
8:15 AM	8:30 AM	0	0	0	43	0	2	3	2	0	0	2	14	66
8:30 AM	8:45 AM	0	0	0	21	0	4	3	4	0	0	7	21	60
8:45 AM	9:00 AM	0	0	0	38	0	8	3	2	0	0	0	16	67
HOURLY TOTALS														
7:00 AM	8:00 AM	0	0	0	192	0	11	8	16	0	0	8	69	304
7:15 AM	8:15 AM	0	0	0	217	0	16	9	19	0	0	6	87	354
7:30 AM	8:30 AM	0	0	0	227	0	17	11	14	0	0	8	86	363
7:45 AM	8:45 AM	0	0	0	201	0	19	11	13	0	0	12	81	337
8:00 AM	9:00 AM	0	0	0	160	0	20	10	13	0	0	9	76	288

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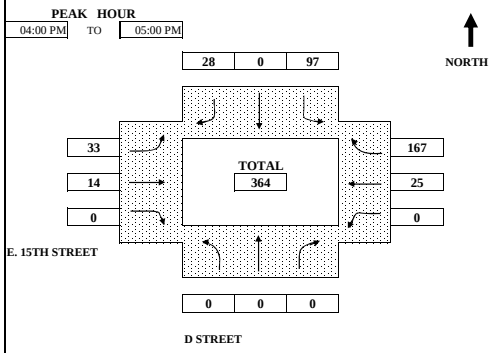
B.A.Y.M.E.T.R.I.C.S.

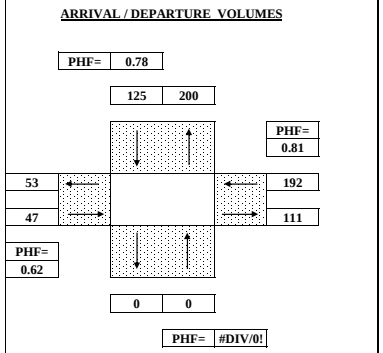
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	D STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	E. 15TH STREET	JURISDICTION:	MERCED	FILE:	3103017-20PM

PEAK HOUR: 04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM				28		12	8	3			8	43	102
4:15 PM	4:30 PM				59		18	13	5			13	82	190
4:30 PM	4:45 PM				84		24	26	11			20	123	288
4:45 PM	5:00 PM				97		28	33	14			25	167	364
5:00 PM	5:15 PM				112		31	42	14			33	218	450
5:15 PM	5:30 PM				136		33	49	16			36	246	516
5:30 PM	5:45 PM				156		41	59	17			40	270	583
5:45 PM	6:00 PM				176		46	64	21			44	301	652
TOTAL BY PERIOD														
4:00 PM	4:15 PM	0	0	0	28	0	12	8	3	0	0	8	43	102
4:15 PM	4:30 PM	0	0	0	31	0	6	5	2	0	0	5	39	88
4:30 PM	4:45 PM	0	0	0	25	0	6	13	6	0	0	7	41	98
4:45 PM	5:00 PM	0	0	0	13	0	4	7	3	0	0	5	44	76
5:00 PM	5:15 PM	0	0	0	15	0	3	9	0	0	0	8	51	86
5:15 PM	5:30 PM	0	0	0	24	0	2	7	2	0	0	3	28	66
5:30 PM	5:45 PM	0	0	0	20	0	8	10	1	0	0	4	24	67
5:45 PM	6:00 PM	0	0	0	20	0	5	5	4	0	0	4	31	69
HOURLY TOTALS														
4:00 PM	5:00 PM	0	0	0	97	0	28	33	14	0	0	25	167	364
4:15 PM	5:15 PM	0	0	0	84	0	19	34	11	0	0	25	175	348
4:30 PM	5:30 PM	0	0	0	77	0	15	36	11	0	0	23	164	326
4:45 PM	5:45 PM	0	0	0	72	0	17	33	6	0	0	20	147	295
5:00 PM	6:00 PM	0	0	0	79	0	18	31	7	0	0	19	134	288

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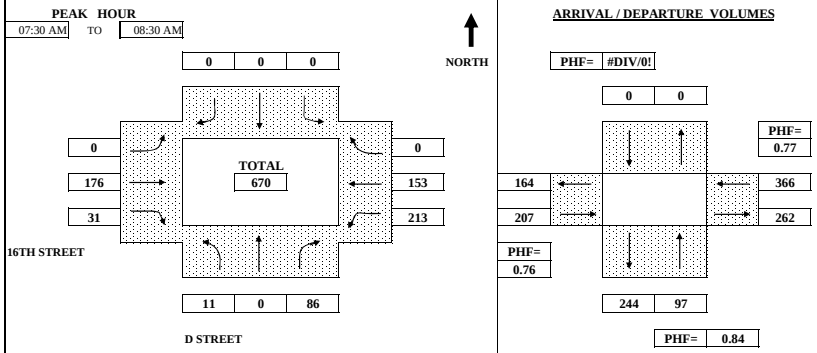
B.A.Y.M.E.T.R.I.C.S.

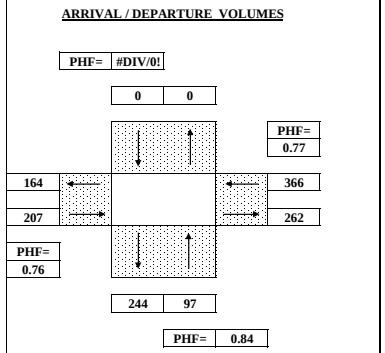
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	D STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	16TH STREET	JURISDICTION:	MERCED	FILE:	3103017-19AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	2		3					24	6	28	11		*74*
7:15 AM ---	7:30 AM	6		17					52	7	61	29		*172*
7:30 AM ---	7:45 AM	8		44					104	11	107	62		*336*
7:45 AM ---	8:00 AM	15		62					158	25	179	109		*548*
8:00 AM ---	8:15 AM	15		88					196	33	234	140		*706*
8:15 AM ---	8:30 AM	17		103					228	38	274	182		*842*
8:30 AM ---	8:45 AM	20		124					263	41	296	205		*949*
8:45 AM ---	9:00 AM	22		141					314	44	338	252		*1,111*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	2	0	3	0	0	0	0	24	6	28	11	0	*74*
7:15 AM ---	7:30 AM	4	0	14	0	0	0	0	28	1	33	18	0	*98*
7:30 AM ---	7:45 AM	2	0	27	0	0	0	0	52	4	46	33	0	*164*
7:45 AM ---	8:00 AM	7	0	18	0	0	0	0	54	14	72	47	0	*212*
8:00 AM ---	8:15 AM	0	0	26	0	0	0	0	38	8	55	31	0	*158*
8:15 AM ---	8:30 AM	2	0	15	0	0	0	0	32	5	40	42	0	*136*
8:30 AM ---	8:45 AM	3	0	21	0	0	0	0	35	3	22	23	0	*107*
8:45 AM ---	9:00 AM	2	0	17	0	0	0	0	51	3	42	47	0	*162*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	15	0	62	0	0	0	0	158	25	179	109	0	*548*
7:15 AM ---	8:15 AM	13	0	85	0	0	0	0	172	27	206	129	0	*632*
7:30 AM ---	8:30 AM	11	0	86	0	0	0	0	176	31	213	153	0	*670*
7:45 AM ---	8:45 AM	12	0	80	0	0	0	0	159	30	189	143	0	*613*
8:00 AM ---	9:00 AM	7	0	79	0	0	0	0	156	19	159	143	0	*563*

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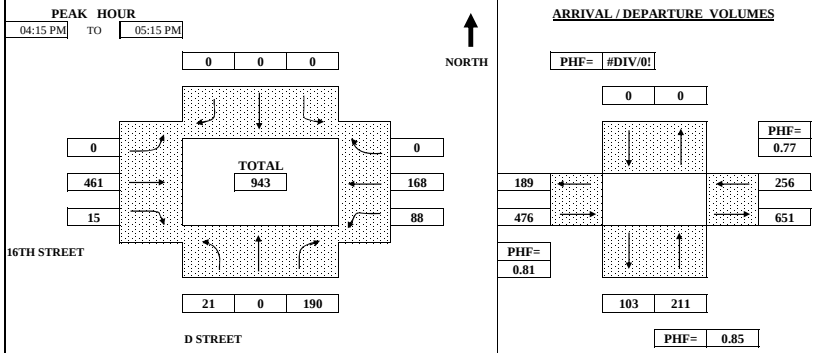
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/8/2011	DAY:	TUESDAY
N-S APPROACH:	D STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	16TH STREET	JURISDICTION:	MERCED	FILE:	3103017-19PM

PEAK HOUR: 04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	5		46					95	4	36	33		*219*
4:15 PM ---	4:30 PM	8		87					214	8	69	79		*465*
4:30 PM ---	4:45 PM	13		136					322	13	95	122		*701*
4:45 PM ---	5:00 PM	17		183					412	16	109	191		*928*
5:00 PM ---	5:15 PM	26		236					556	19	124	201		*1,162*
5:15 PM ---	5:30 PM	27		268					669	20	149	231		*1,364*
5:30 PM ---	5:45 PM	32		297					763	22	175	266		*1,555*
5:45 PM ---	6:00 PM	40		325					856	26	196	285		*1,728*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	5	0	46	0	0	0	0	95	4	36	33	0	*219*
4:15 PM ---	4:30 PM	3	0	41	0	0	0	0	119	4	33	46	0	*246*
4:30 PM ---	4:45 PM	5	0	49	0	0	0	0	108	5	26	43	0	*236*
4:45 PM ---	5:00 PM	4	0	47	0	0	0	0	90	3	14	69	0	*227*
5:00 PM ---	5:15 PM	9	0	53	0	0	0	0	144	3	15	10	0	*234*
5:15 PM ---	5:30 PM	1	0	32	0	0	0	0	113	1	25	30	0	*202*
5:30 PM ---	5:45 PM	5	0	29	0	0	0	0	94	2	26	35	0	*191*
5:45 PM ---	6:00 PM	8	0	28	0	0	0	0	93	4	21	19	0	*173*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	17	0	183	0	0	0	0	412	16	109	191	0	*928*
4:15 PM ---	5:15 PM	21	0	190	0	0	0	0	461	15	88	168	0	*943*
4:30 PM ---	5:30 PM	19	0	181	0	0	0	0	455	12	80	152	0	*899*
4:45 PM ---	5:45 PM	19	0	161	0	0	0	0	441	9	80	144	0	*854*
5:00 PM ---	6:00 PM	23	0	142	0	0	0	0	444	10	87	94	0	*800*

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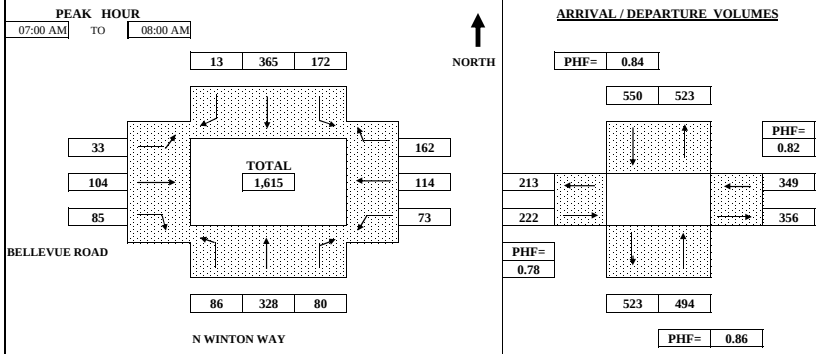
HMF CASTLE COMMERCE INTERSECTION COUNTS

B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	N WINTON WAY	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	BELLEVUE ROAD	CITY:	MERCED	FILE:	3005030-5AM

PEAK HOUR: 07:00 AM TO 08:00 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	7	59	16	51	56	1	5	24	14	14	12	38	***297***
7:15 AM ---	7:30 AM	31	155	40	96	144	4	8	56	31	41	48	82	***736***
7:30 AM ---	7:45 AM	54	242	65	128	251	7	21	77	53	55	78	128	***1,159***
7:45 AM ---	8:00 AM	86	328	80	172	365	13	33	104	85	73	114	162	***1,615***
8:00 AM ---	8:15 AM	92	381	97	224	433	15	38	118	93	97	116	185	***1,889***
8:15 AM ---	8:30 AM	97	430	121	248	480	15	45	120	96	115	120	197	***2,084***
8:30 AM ---	8:45 AM	101	473	147	267	522	16	49	126	101	144	128	210	***2,284***
8:45 AM ---	9:00 AM	103	505	178	286	571	17	52	137	110	163	130	222	***2,474***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	7	59	16	51	56	1	5	24	14	14	12	38	***297***
7:15 AM ---	7:30 AM	24	96	24	45	88	3	3	32	17	27	36	44	***439***
7:30 AM ---	7:45 AM	23	87	25	32	107	3	13	21	22	14	30	46	***423***
7:45 AM ---	8:00 AM	32	86	15	44	114	6	12	27	32	18	36	34	***456***
8:00 AM ---	8:15 AM	6	53	17	52	68	2	5	14	8	24	2	23	***274***
8:15 AM ---	8:30 AM	5	49	24	24	47	0	7	2	3	18	4	12	***195***
8:30 AM ---	8:45 AM	4	43	26	19	42	1	4	6	5	29	8	13	***200***
8:45 AM ---	9:00 AM	2	32	31	19	49	1	3	11	9	19	2	12	***190***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	86	328	80	172	365	13	33	104	85	73	114	162	***1,615***
7:15 AM ---	8:15 AM	85	322	81	173	377	14	33	94	79	83	104	147	***1,592***
7:30 AM ---	8:30 AM	66	275	81	152	336	11	37	64	65	74	72	115	***1,348***
7:45 AM ---	8:45 AM	47	231	82	139	271	9	28	49	48	89	50	82	***1,125***
8:00 AM ---	9:00 AM	17	177	98	114	206	4	19	33	25	90	16	60	***859***

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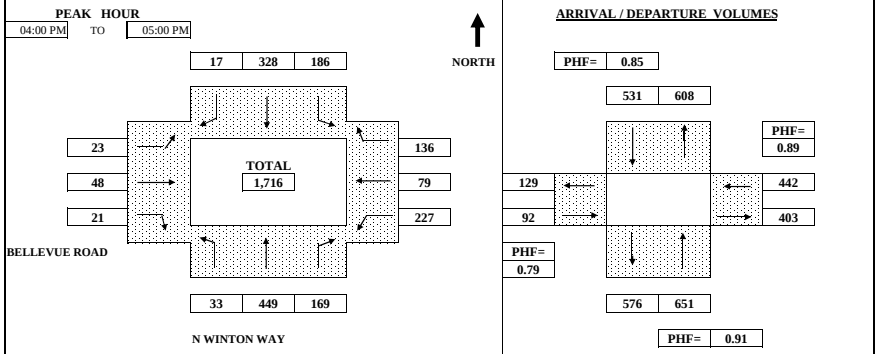
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	N WINTON WAY	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	BELLEVUE ROAD	CITY:	MERCED	FILE:	3005030-5PM

PEAK HOUR: 04:00 PM TO 05:00 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	4	132	42	48	79	3	6	14	7	58	13	41	***447***
4:15 PM ---	4:30 PM	13	239	82	113	167	7	10	24	12	117	33	76	***893***
4:30 PM ---	4:45 PM	22	329	122	146	224	10	15	34	14	164	52	102	***1,234***
4:45 PM ---	5:00 PM	33	449	169	186	328	17	23	48	21	227	79	136	***1,716***
5:00 PM ---	5:15 PM	40	557	211	236	412	19	29	57	29	278	95	184	***2,147***
5:15 PM ---	5:30 PM	44	656	245	267	474	21	30	69	30	314	115	212	***2,477***
5:30 PM ---	5:45 PM	51	755	275	287	549	23	38	84	35	361	131	243	***2,832***
5:45 PM ---	6:00 PM	53	838	291	312	621	26	46	97	35	410	140	269	***3,138***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	4	132	42	48	79	3	6	14	7	58	13	41	***447***
4:15 PM ---	4:30 PM	9	107	40	65	88	4	4	10	5	59	20	35	***446***
4:30 PM ---	4:45 PM	9	90	40	33	57	3	5	10	2	47	19	26	***341***
4:45 PM ---	5:00 PM	11	120	47	40	104	7	8	14	7	63	27	34	***482***
5:00 PM ---	5:15 PM	7	108	42	50	84	2	6	9	8	51	16	48	***431***
5:15 PM ---	5:30 PM	4	99	34	31	62	2	1	12	1	36	20	28	***330***
5:30 PM ---	5:45 PM	7	99	30	20	75	2	8	15	5	47	16	31	***355***
5:45 PM ---	6:00 PM	2	83	16	25	72	3	8	13	0	49	9	26	***306***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	33	449	169	186	328	17	23	48	21	227	79	136	***1,716***
4:15 PM ---	5:15 PM	36	425	169	188	333	16	23	43	22	220	82	143	***1,700***
4:30 PM ---	5:30 PM	31	417	163	154	307	14	20	45	18	197	82	136	***1,584***
4:45 PM ---	5:45 PM	29	426	153	141	325	13	23	50	21	197	79	141	***1,598***
5:00 PM ---	6:00 PM	20	389	122	126	293	9	23	49	14	183	61	133	***1,422***

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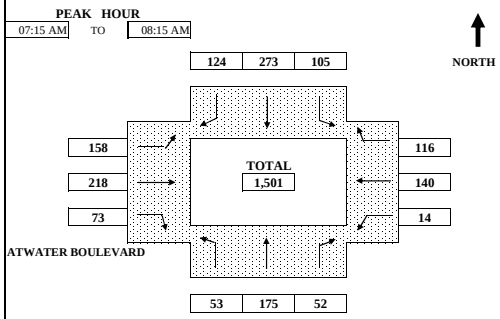
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

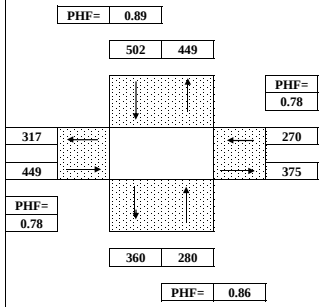
PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	N WINTON WAY	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	ATWATER BOULEVARD	CITY:	MERCED	FILE:	3005030-6AM

PEAK HOUR

07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	14	31	9	29	64	25	12	50	12	4	22	26	*298*
7:15 AM ---	7:30 AM	31	73	23	54	131	49	29	100	36	7	48	56	*637*
7:30 AM ---	7:45 AM	44	130	34	87	204	71	80	163	60	11	87	100	*1,071*
7:45 AM ---	8:00 AM	60	169	45	114	273	116	140	229	77	12	131	125	*1,491*
8:00 AM ---	8:15 AM	67	206	61	134	337	149	170	268	85	18	162	142	*1,799*
8:15 AM ---	8:30 AM	79	232	74	154	394	177	201	313	97	23	196	158	*2,098*
8:30 AM ---	8:45 AM	87	273	87	177	442	193	231	350	106	27	225	185	*2,383*
8:45 AM ---	9:00 AM	94	308	97	202	479	211	260	385	129	28	260	215	*2,668*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	14	31	9	29	64	25	12	50	12	4	22	26	*298*
7:15 AM ---	7:30 AM	17	42	14	25	67	24	17	50	24	3	26	30	*339*
7:30 AM ---	7:45 AM	13	57	11	33	73	22	51	63	24	4	39	44	*434*
7:45 AM ---	8:00 AM	16	39	11	27	69	45	60	66	17	1	44	25	*420*
8:00 AM ---	8:15 AM	7	37	16	20	64	33	30	39	8	6	31	17	*308*
8:15 AM ---	8:30 AM	12	26	13	20	57	28	31	45	12	5	34	16	*299*
8:30 AM ---	8:45 AM	8	41	13	23	48	16	30	37	9	4	29	27	*285*
8:45 AM ---	9:00 AM	7	35	10	25	37	18	29	35	23	1	35	30	*285*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	60	169	45	114	273	116	140	229	77	12	131	125	*1,491*
7:15 AM ---	8:15 AM	53	175	52	105	273	124	158	218	73	14	140	116	*1,501*
7:30 AM ---	8:30 AM	48	159	51	100	263	128	172	213	61	16	148	102	*1,461*
7:45 AM ---	8:45 AM	43	143	53	90	238	122	151	187	46	16	138	85	*1,312*
8:00 AM ---	9:00 AM	34	139	52	88	206	95	120	156	52	16	129	90	*1,177*

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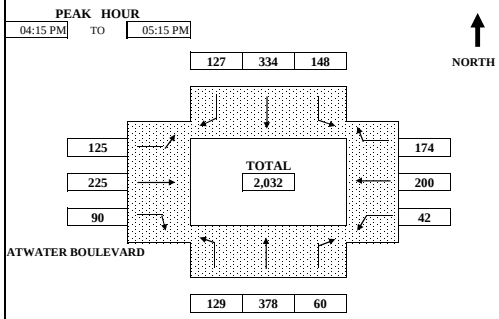
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

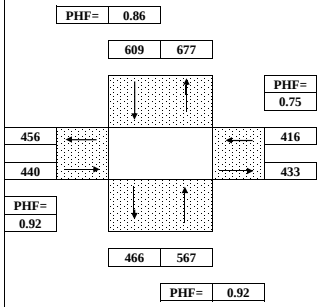
PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	N WINTON WAY	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	ATWATER BOULEVARD	CITY:	MERCED	FILE:	3005030-6PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	38	89	12	24	65	35	34	59	18	7	67	43	*491*
4:15 PM ---	4:30 PM	72	173	23	76	153	72	62	122	39	16	122	77	*1,007*
4:30 PM ---	4:45 PM	102	271	39	106	220	104	89	172	58	30	157	108	*1,456*
4:45 PM ---	5:00 PM	138	370	58	145	310	139	125	225	82	39	224	170	*2,025*
5:00 PM ---	5:15 PM	167	467	72	172	399	162	159	284	108	49	267	217	*2,523*
5:15 PM ---	5:30 PM	196	552	85	216	471	183	194	337	132	57	316	255	*2,994*
5:30 PM ---	5:45 PM	222	635	100	255	537	222	218	395	157	69	368	286	*3,464*
5:45 PM ---	6:00 PM	246	703	113	296	628	256	234	452	176	80	418	319	*3,921*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	38	89	12	24	65	35	34	59	18	7	67	43	*491*
4:15 PM ---	4:30 PM	34	84	11	52	88	37	28	63	21	9	55	34	*516*
4:30 PM ---	4:45 PM	30	98	16	30	67	32	27	50	19	14	35	31	*449*
4:45 PM ---	5:00 PM	36	99	19	39	90	35	36	53	24	9	67	62	*569*
5:00 PM ---	5:15 PM	29	97	14	27	89	23	34	59	26	10	43	47	*498*
5:15 PM ---	5:30 PM	29	85	13	44	72	21	35	53	24	8	49	38	*471*
5:30 PM ---	5:45 PM	26	83	15	39	66	39	24	58	25	12	52	31	*470*
5:45 PM ---	6:00 PM	24	68	13	41	91	34	16	57	19	11	50	33	*457*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	138	370	58	145	310	139	125	225	82	39	224	170	*2,025*
4:15 PM ---	5:15 PM	129	378	60	148	334	127	125	225	90	42	200	174	*2,032*
4:30 PM ---	5:30 PM	124	379	62	140	318	111	132	215	93	41	194	178	*1,987*
4:45 PM ---	5:45 PM	120	364	61	149	317	118	129	223	99	39	211	178	*2,008*
5:00 PM ---	6:00 PM	108	333	55	151	318	117	109	227	94	41	194	149	*1,896*

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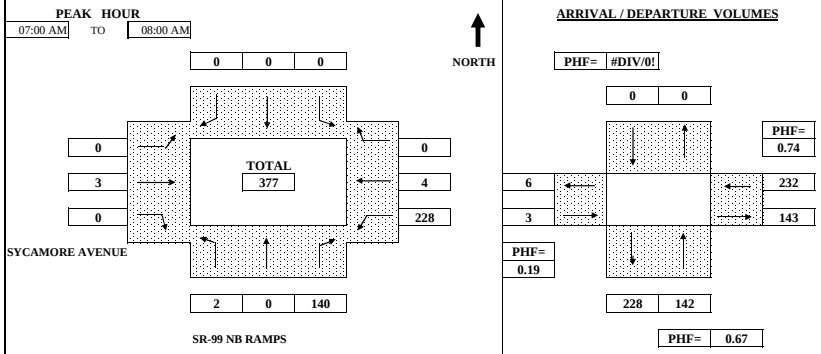
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	SR-99 NB RAMPS	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SYCAMORE AVENUE	CITY:	MERCED	FILE:	3005030-7AM

PEAK HOUR: 07:00 AM TO 08:00 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	0	0	31	0	0	0	0	1	0	39	0	0	*71*
7:15 AM	7:30 AM	1	0	52	0	0	0	0	1	0	94	0	0	*148*
7:30 AM	7:45 AM	1	0	88	0	0	0	0	1	0	153	1	0	*244*
7:45 AM	8:00 AM	2	0	140	0	0	0	0	3	0	228	4	0	*377*
8:00 AM	8:15 AM	3	0	170	0	0	0	0	5	2	258	6	0	*444*
8:15 AM	8:30 AM	3	0	196	0	0	0	0	5	3	303	10	0	*520*
8:30 AM	8:45 AM	4	0	217	0	0	0	0	5	4	329	10	0	*569*
8:45 AM	9:00 AM	4	0	223	0	0	0	0	6	4	346	11	0	*594*
TOTAL BY PERIOD														
7:00 AM	7:15 AM	0	0	31	0	0	0	0	1	0	39	0	0	*71*
7:15 AM	7:30 AM	1	0	21	0	0	0	0	0	0	55	0	0	*77*
7:30 AM	7:45 AM	0	0	36	0	0	0	0	0	0	59	1	0	*96*
7:45 AM	8:00 AM	1	0	52	0	0	0	0	2	0	75	3	0	*133*
8:00 AM	8:15 AM	1	0	30	0	0	0	0	2	2	30	2	0	*67*
8:15 AM	8:30 AM	0	0	26	0	0	0	0	0	1	45	4	0	*76*
8:30 AM	8:45 AM	1	0	21	0	0	0	0	0	1	26	0	0	*49*
8:45 AM	9:00 AM	0	0	6	0	0	0	0	1	0	17	1	0	*25*
HOURLY TOTALS														
7:00 AM	8:00 AM	2	0	140	0	0	0	0	3	0	228	4	0	*377*
7:15 AM	8:15 AM	3	0	139	0	0	0	0	4	2	219	6	0	*373*
7:30 AM	8:30 AM	2	0	144	0	0	0	0	4	3	209	10	0	*372*
7:45 AM	8:45 AM	3	0	129	0	0	0	0	4	4	176	9	0	*325*
8:00 AM	9:00 AM	2	0	83	0	0	0	0	3	4	118	7	0	*217*

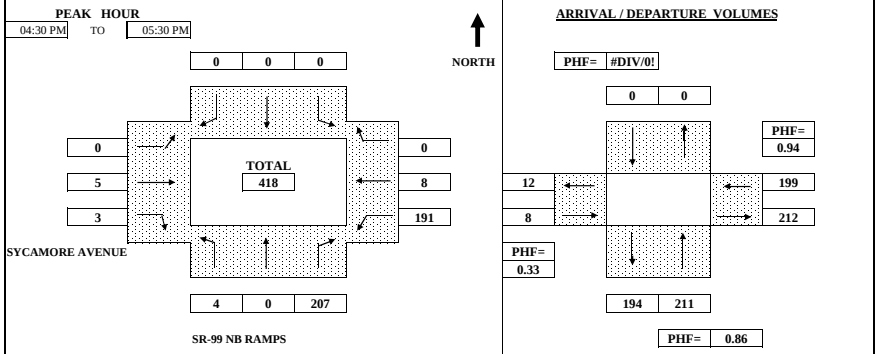
Telephone: (510)232-1271 Fax: (510)232-1272

B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	SR-99 NB RAMPS	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SYCAMORE AVENUE	CITY:	MERCED	FILE:	3005030-7PM

PEAK HOUR: 04:30 PM TO 05:30 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	1	0	46	0	0	0	0	0	0	36	2	0	*85*
4:15 PM	4:30 PM	2	0	91	0	0	0	0	0	0	75	4	0	*172*
4:30 PM	4:45 PM	5	0	146	0	0	0	0	4	2	125	7	0	*289*
4:45 PM	5:00 PM	5	0	193	0	0	0	0	5	2	172	9	0	*386*
5:00 PM	5:15 PM	6	0	237	0	0	0	0	5	3	219	10	0	*480*
5:15 PM	5:30 PM	6	0	298	0	0	0	0	5	3	266	12	0	*590*
5:30 PM	5:45 PM	7	0	350	0	0	0	0	6	3	303	12	0	*681*
5:45 PM	6:00 PM	9	0	397	0	0	0	0	7	3	342	12	0	*770*
TOTAL BY PERIOD														
4:00 PM	4:15 PM	1	0	46	0	0	0	0	0	0	36	2	0	*85*
4:15 PM	4:30 PM	1	0	45	0	0	0	0	0	0	39	2	0	*87*
4:30 PM	4:45 PM	3	0	55	0	0	0	0	4	2	50	3	0	*117*
4:45 PM	5:00 PM	0	0	47	0	0	0	0	1	0	47	2	0	*97*
5:00 PM	5:15 PM	1	0	44	0	0	0	0	0	1	47	1	0	*94*
5:15 PM	5:30 PM	0	0	61	0	0	0	0	0	0	47	2	0	*110*
5:30 PM	5:45 PM	1	0	52	0	0	0	0	1	0	37	0	0	*91*
5:45 PM	6:00 PM	2	0	47	0	0	0	0	1	0	39	0	0	*89*
HOURLY TOTALS														
4:00 PM	5:00 PM	5	0	193	0	0	0	0	5	2	172	9	0	*386*
4:15 PM	5:15 PM	5	0	191	0	0	0	0	5	3	183	8	0	*395*
4:30 PM	5:30 PM	4	0	207	0	0	0	0	5	3	191	8	0	*418*
4:45 PM	5:45 PM	2	0	204	0	0	0	0	2	1	178	5	0	*392*
5:00 PM	6:00 PM	4	0	204	0	0	0	0	2	1	170	3	0	*384*

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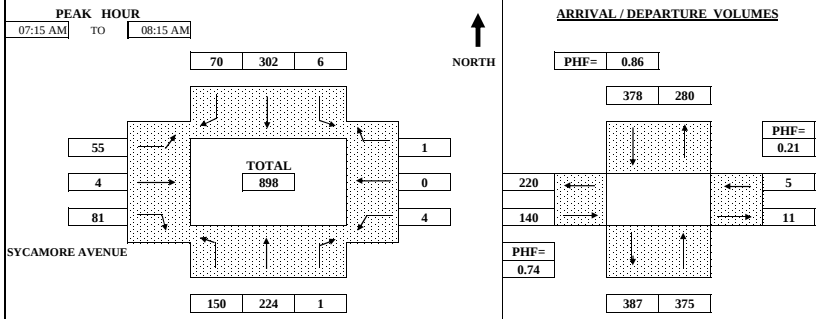
B.A.Y.M.E.T.R.I.C.S.

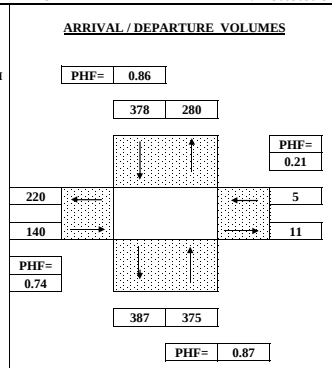
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	APPLEGATE ROAD	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SYCAMORE AVENUE	CITY:	MERCED	FILE:	3005030-8AM

PEAK HOUR: 07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	29	48	0	0	61	19	5	3	19	0	0	1	***185***
7:15 AM ---	7:30 AM	74	109	0	3	130	32	17	4	39	3	0	1	***412***
7:30 AM ---	7:45 AM	116	175	0	6	214	55	37	7	63	4	0	1	***678***
7:45 AM ---	8:00 AM	153	223	0	6	298	69	50	7	84	4	0	1	***895***
8:00 AM ---	8:15 AM	179	272	1	6	363	89	60	7	100	4	0	2	***1,083***
8:15 AM ---	8:30 AM	209	310	2	6	421	103	70	7	127	5	2	5	***1,267***
8:30 AM ---	8:45 AM	245	366	5	8	469	118	79	7	146	5	4	6	***1,458***
8:45 AM ---	9:00 AM	279	402	5	10	508	134	95	7	168	5	4	10	***1,627***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	29	48	0	0	61	19	5	3	19	0	0	1	***185***
7:15 AM ---	7:30 AM	45	61	0	3	69	13	12	1	20	3	0	0	***227***
7:30 AM ---	7:45 AM	42	66	0	3	84	23	20	3	24	1	0	0	***266***
7:45 AM ---	8:00 AM	37	48	0	0	84	14	13	0	21	0	0	0	***217***
8:00 AM ---	8:15 AM	26	49	1	0	65	20	10	0	16	0	0	1	***188***
8:15 AM ---	8:30 AM	30	38	1	0	58	14	10	0	27	1	2	3	***184***
8:30 AM ---	8:45 AM	36	56	3	2	48	15	9	0	19	0	2	1	***191***
8:45 AM ---	9:00 AM	34	36	0	2	39	16	16	0	22	0	0	4	***169***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	153	223	0	6	298	69	50	7	84	4	0	1	***895***
7:15 AM ---	8:15 AM	150	224	1	6	302	70	55	4	81	4	0	1	***898***
7:30 AM ---	8:30 AM	135	201	2	3	291	71	53	3	88	2	2	4	***855***
7:45 AM ---	8:45 AM	129	191	5	2	255	63	42	0	83	1	4	5	***780***
8:00 AM ---	9:00 AM	126	179	5	4	210	65	45	0	84	1	4	9	***732***

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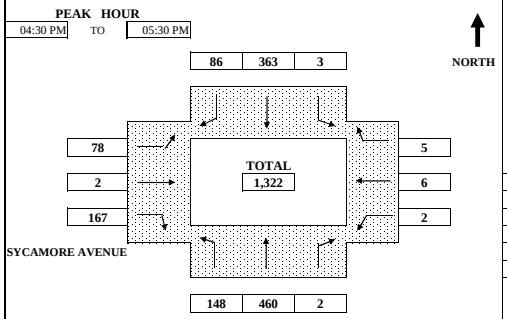
B.A.Y.M.E.T.R.I.C.S.

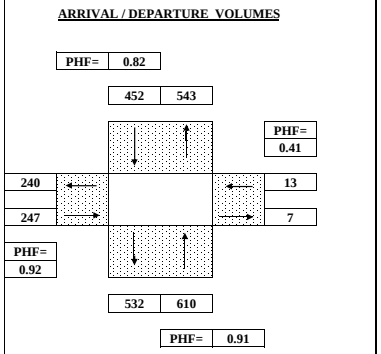
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	APPLEGATE ROAD	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SYCAMORE AVENUE	CITY:	MERCED	FILE:	3005030-8PM

PEAK HOUR: 04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	37	120	1	0	78	12	10	0	39	1	0	2	***300***
4:15 PM ---	4:30 PM	61	221	1	1	179	33	26	0	74	3	0	3	***602***
4:30 PM ---	4:45 PM	104	333	3	4	258	51	46	2	118	4	0	5	***928***
4:45 PM ---	5:00 PM	137	468	3	4	359	73	63	2	163	5	5	7	***1,289***
5:00 PM ---	5:15 PM	169	577	3	4	455	102	87	2	191	5	5	7	***1,607***
5:15 PM ---	5:30 PM	209	681	3	4	542	119	104	2	241	5	6	8	***1,924***
5:30 PM ---	5:45 PM	241	774	5	4	626	138	124	2	279	6	10	9	***2,218***
5:45 PM ---	6:00 PM	262	861	9	5	732	169	134	5	324	8	10	9	***2,528***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	37	120	1	0	78	12	10	0	39	1	0	2	***300***
4:15 PM ---	4:30 PM	24	101	0	1	101	21	16	0	35	2	0	1	***302***
4:30 PM ---	4:45 PM	43	112	2	3	79	18	20	2	44	1	0	2	***326***
4:45 PM ---	5:00 PM	33	135	0	0	101	22	17	0	45	1	5	2	***361***
5:00 PM ---	5:15 PM	32	109	0	0	96	29	24	0	28	0	0	0	***318***
5:15 PM ---	5:30 PM	40	104	0	0	87	17	17	0	50	0	1	1	***317***
5:30 PM ---	5:45 PM	32	93	2	0	84	19	20	0	38	1	4	1	***294***
5:45 PM ---	6:00 PM	21	87	4	1	106	31	10	3	45	2	0	0	***310***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	137	468	3	4	359	73	63	2	163	5	5	7	***1,289***
4:15 PM ---	5:15 PM	132	457	2	4	377	90	77	2	152	4	5	5	***1,307***
4:30 PM ---	5:30 PM	148	460	2	3	363	86	78	2	167	2	6	5	***1,322***
4:45 PM ---	5:45 PM	137	441	2	0	368	87	78	0	161	2	10	4	***1,290***
5:00 PM ---	6:00 PM	125	393	6	1	373	96	71	3	161	3	5	2	***1,239***

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B.A.Y.M.E.T.R.I.C.S.

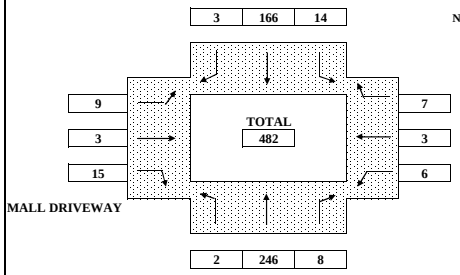
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	BELL LANE / SR-99 SB RAMPS	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	MALL DRIVEWAY	CITY:	MERCED	FILE:	3005030-XAM

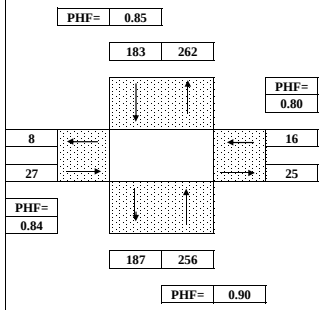
PEAK HOUR

07:15 AM TO 08:15 AM SR-99 SB RAMPS

NORTH



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	1	40	2	3	35	0	2	0	2	0	0	0	*85*
7:15 AM ---	7:30 AM	1	95	4	5	78	0	5	1	5	3	1	1	*199*
7:30 AM ---	7:45 AM	1	154	6	8	111	1	8	1	10	3	1	2	*306*
7:45 AM ---	8:00 AM	2	219	7	13	158	3	10	3	14	5	2	4	*440*
8:00 AM ---	8:15 AM	3	286	10	17	201	3	11	3	17	6	3	7	*567*
8:15 AM ---	8:30 AM	3	325	13	19	240	4	13	4	19	8	5	7	*660*
8:30 AM ---	8:45 AM	3	372	15	21	282	5	14	5	23	10	7	8	*765*
8:45 AM ---	9:00 AM	5	404	17	22	313	7	15	5	25	10	7	9	*839*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	1	40	2	3	35	0	2	0	2	0	0	0	*85*
7:15 AM ---	7:30 AM	0	55	2	2	43	0	3	1	3	3	1	1	*114*
7:30 AM ---	7:45 AM	0	59	2	3	33	1	3	0	5	0	0	1	*107*
7:45 AM ---	8:00 AM	1	65	1	5	47	2	2	2	4	2	1	2	*134*
8:00 AM ---	8:15 AM	1	67	3	4	43	0	1	0	3	1	1	3	*127*
8:15 AM ---	8:30 AM	0	39	3	2	39	1	2	1	2	2	2	0	*93*
8:30 AM ---	8:45 AM	0	47	2	2	42	1	1	1	4	2	2	1	*105*
8:45 AM ---	9:00 AM	2	32	2	1	31	2	1	0	2	0	0	1	*74*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	2	219	7	13	158	3	10	3	14	5	2	4	*440*
7:15 AM ---	8:15 AM	2	246	8	14	166	3	9	3	15	6	3	7	*482*
7:30 AM ---	8:30 AM	2	230	9	14	162	4	8	3	14	5	4	6	*461*
7:45 AM ---	8:45 AM	2	218	9	13	171	4	6	4	13	7	6	6	*459*
8:00 AM ---	9:00 AM	3	185	10	9	155	4	5	2	11	5	5	5	*399*

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B.A.Y.M.E.T.R.I.C.S.

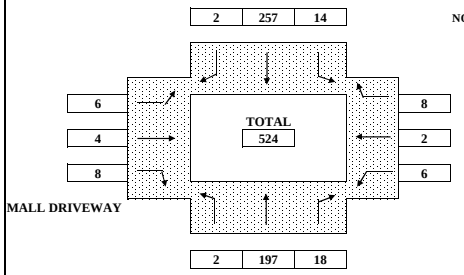
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	BELL LANE / SR-99 SB RAMPS	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	MALL DRIVEWAY	CITY:		FILE:	3005030-XPM

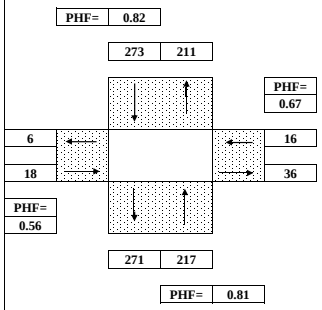
PEAK HOUR

04:45 PM TO 05:45 PM SR-99 SB RAMPS

NORTH



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	53	5	4	53	0	2	0	3	1	1	1	*123*
4:15 PM ---	4:30 PM	1	99	9	7	115	0	3	1	6	3	3	1	*248*
4:30 PM ---	4:45 PM	3	99	13	7	115	1	5	1	10	5	5	3	*267*
4:45 PM ---	5:00 PM	3	160	19	12	192	2	6	1	12	7	6	5	*425*
5:00 PM ---	5:15 PM	4	202	22	16	261	2	6	2	14	8	6	8	*551*
5:15 PM ---	5:30 PM	5	251	27	18	313	3	9	3	17	8	6	9	*669*
5:30 PM ---	5:45 PM	5	296	31	21	372	3	11	5	18	11	7	11	*791*
5:45 PM ---	6:00 PM	7	333	35	25	440	3	15	5	22	13	8	13	*919*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	53	5	4	53	0	2	0	3	1	1	1	*123*
4:15 PM ---	4:30 PM	1	46	4	3	62	0	1	1	3	2	2	0	*125*
4:30 PM ---	4:45 PM	2	0	4	0	0	1	2	0	4	2	2	2	*19*
4:45 PM ---	5:00 PM	0	61	6	5	77	1	1	0	2	2	1	2	*158*
5:00 PM ---	5:15 PM	1	42	3	4	69	0	0	1	2	1	0	3	*126*
5:15 PM ---	5:30 PM	1	49	5	2	52	1	3	1	3	0	0	1	*118*
5:30 PM ---	5:45 PM	0	45	4	3	59	0	2	2	1	3	1	2	*122*
5:45 PM ---	6:00 PM	2	37	4	4	68	0	4	0	4	2	1	2	*128*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	3	160	19	12	192	2	6	1	12	7	6	5	*425*
4:15 PM ---	5:15 PM	4	149	17	12	208	2	4	2	11	7	5	7	*428*
4:30 PM ---	5:30 PM	4	152	18	11	198	3	6	2	11	5	3	8	*421*
4:45 PM ---	5:45 PM	2	197	18	14	257	2	6	4	8	6	2	8	*524*
5:00 PM ---	6:00 PM	4	173	16	13	248	1	9	4	10	6	2	8	*494*

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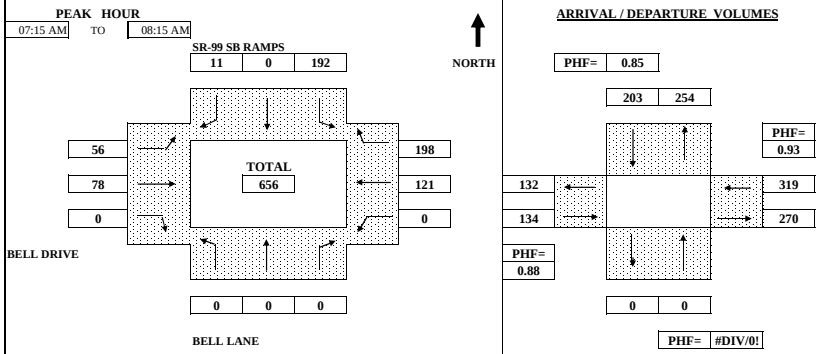
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	BELL LANE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	BELL DRIVE	CITY:	MERCED	FILE:	3005030-9AM

PEAK HOUR

07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	0	0	37	0	1	9	19	0	0	21	34	***121***
7:15 AM ---	7:30 AM	0	0	0	80	0	6	23	40	0	0	58	77	***284***
7:30 AM ---	7:45 AM	0	0	0	114	0	8	32	69	0	0	83	129	***435***
7:45 AM ---	8:00 AM	0	0	0	171	0	10	52	84	0	0	113	175	***605***
8:00 AM ---	8:15 AM	0	0	0	229	0	12	65	97	0	0	142	232	***777***
8:15 AM ---	8:30 AM	0	0	0	270	0	15	73	113	0	0	165	266	***902***
8:30 AM ---	8:45 AM	0	0	0	314	0	17	86	126	0	0	182	302	***1,027***
8:45 AM ---	9:00 AM	0	0	0	343	0	19	94	141	0	0	200	328	***1,125***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	0	0	37	0	1	9	19	0	0	21	34	***121***
7:15 AM ---	7:30 AM	0	0	0	43	0	5	14	21	0	0	37	43	***163***
7:30 AM ---	7:45 AM	0	0	0	34	0	2	9	29	0	0	25	52	***151***
7:45 AM ---	8:00 AM	0	0	0	57	0	2	20	15	0	0	30	46	***170***
8:00 AM ---	8:15 AM	0	0	0	58	0	2	13	13	0	0	29	57	***172***
8:15 AM ---	8:30 AM	0	0	0	41	0	3	8	16	0	0	23	34	***125***
8:30 AM ---	8:45 AM	0	0	0	44	0	2	13	13	0	0	17	36	***125***
8:45 AM ---	9:00 AM	0	0	0	29	0	2	8	15	0	0	18	26	***98***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	0	0	0	171	0	10	52	84	0	0	113	175	***605***
7:15 AM ---	8:15 AM	0	0	0	192	0	11	56	78	0	0	121	198	***656***
7:30 AM ---	8:30 AM	0	0	0	190	0	9	50	73	0	0	107	189	***618***
7:45 AM ---	8:45 AM	0	0	0	200	0	9	54	57	0	0	99	173	***592***
8:00 AM ---	9:00 AM	0	0	0	172	0	9	42	57	0	0	87	153	***520***

Telephone: (510)232-1271 Fax: (510)232-1272

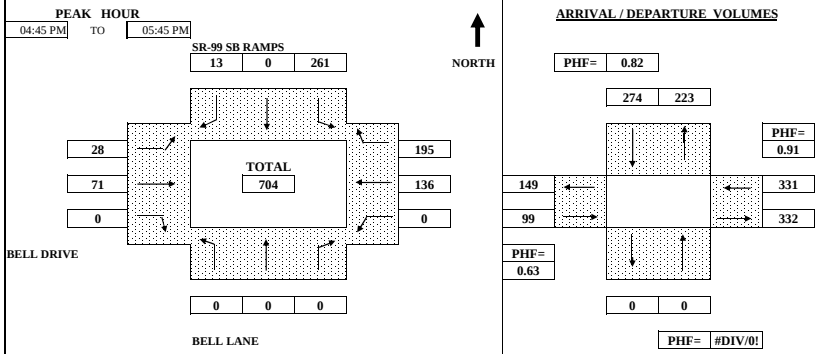
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	BELL LANE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	BELL DRIVE	CITY:	MERCED	FILE:	3005030-9PM

PEAK HOUR

04:45 PM TO 05:45 PM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	0	0	56	0	1	10	21	0	0	39	48	***175***
4:15 PM ---	4:30 PM	0	0	0	121	0	1	19	51	0	0	83	90	***365***
4:30 PM ---	4:45 PM	0	0	0	121	0	1	19	88	0	0	122	90	***441***
4:45 PM ---	5:00 PM	0	0	0	202	0	4	27	103	0	0	141	155	***632***
5:00 PM ---	5:15 PM	0	0	0	272	0	7	32	116	0	0	172	196	***795***
5:15 PM ---	5:30 PM	0	0	0	327	0	7	35	135	0	0	211	248	***963***
5:30 PM ---	5:45 PM	0	0	0	382	0	14	47	159	0	0	258	285	***1,145***
5:45 PM ---	6:00 PM	0	0	0	451	0	17	57	172	0	0	303	318	***1,318***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	0	0	56	0	1	10	21	0	0	39	48	***175***
4:15 PM ---	4:30 PM	0	0	0	65	0	0	9	30	0	0	44	42	***190***
4:30 PM ---	4:45 PM	0	0	0	0	0	0	0	37	0	0	39	0	***76***
4:45 PM ---	5:00 PM	0	0	0	81	0	3	8	15	0	0	19	65	***191***
5:00 PM ---	5:15 PM	0	0	0	70	0	3	5	13	0	0	31	41	***163***
5:15 PM ---	5:30 PM	0	0	0	55	0	0	3	19	0	0	39	52	***168***
5:30 PM ---	5:45 PM	0	0	0	55	0	7	12	24	0	0	47	37	***182***
5:45 PM ---	6:00 PM	0	0	0	69	0	3	10	13	0	0	45	33	***173***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	0	0	0	202	0	4	27	103	0	0	141	155	***632***
4:15 PM ---	5:15 PM	0	0	0	216	0	6	22	95	0	0	133	148	***620***
4:30 PM ---	5:30 PM	0	0	0	206	0	6	16	84	0	0	128	158	***598***
4:45 PM ---	5:45 PM	0	0	0	261	0	13	28	71	0	0	136	195	***704***
5:00 PM ---	6:00 PM	0	0	0	249	0	13	30	69	0	0	162	163	***686***

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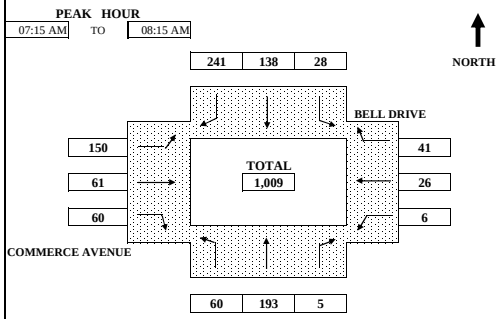
B.A.Y.M.E.T.R.I.C.S.

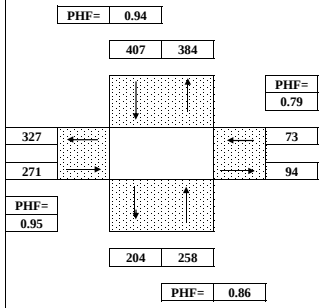
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	APPLEGATE ROAD	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	COMMERCE AVENUE / BELL DRIVE	CITY:	MERCED	FILE:	3005030-10AM

PEAK HOUR: 07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	10	31	0	8	35	33	34	6	14	0	7	12	*190*
7:15 AM ---	7:30 AM	26	89	1	15	66	97	77	10	33	2	13	24	*453*
7:30 AM ---	7:45 AM	37	147	1	21	111	154	112	26	49	2	19	33	*712*
7:45 AM ---	8:00 AM	51	187	3	26	152	215	150	47	61	3	24	42	*961*
8:00 AM ---	8:15 AM	70	224	5	36	173	274	184	67	74	6	33	53	*1,199*
8:15 AM ---	8:30 AM	89	252	5	53	202	306	212	87	84	8	36	65	*1,399*
8:30 AM ---	8:45 AM	103	290	7	64	229	336	244	100	94	9	42	79	*1,597*
8:45 AM ---	9:00 AM	117	326	9	74	254	361	268	108	106	9	47	90	*1,769*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	10	31	0	8	35	33	34	6	14	0	7	12	*190*
7:15 AM ---	7:30 AM	16	58	1	7	31	64	43	4	19	2	6	12	*263*
7:30 AM ---	7:45 AM	11	58	0	6	45	57	35	16	16	0	6	9	*259*
7:45 AM ---	8:00 AM	14	40	2	5	41	61	38	21	12	1	5	9	*249*
8:00 AM ---	8:15 AM	19	37	2	10	21	59	34	20	13	3	9	11	*238*
8:15 AM ---	8:30 AM	19	28	0	17	29	32	28	20	10	2	3	12	*200*
8:30 AM ---	8:45 AM	14	38	2	11	27	30	32	13	10	1	6	14	*198*
8:45 AM ---	9:00 AM	14	36	2	10	25	25	24	8	12	0	5	11	*172*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	51	187	3	26	152	215	150	47	61	3	24	42	*961*
7:15 AM ---	8:15 AM	60	193	5	28	138	241	150	61	60	6	26	41	*1,009*
7:30 AM ---	8:30 AM	63	163	4	38	136	209	135	77	51	6	23	41	*946*
7:45 AM ---	8:45 AM	66	143	6	43	118	182	132	74	45	7	23	46	*885*
8:00 AM ---	9:00 AM	66	139	6	48	102	146	118	61	45	6	23	48	*808*

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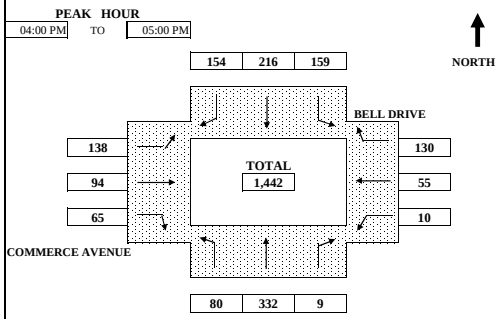
B.A.Y.M.E.T.R.I.C.S.

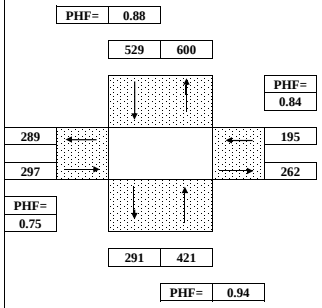
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	APPLEGATE ROAD	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	COMMERCE AVENUE / BELL DRIVE	CITY:	MERCED	FILE:	3005030-10PM

PEAK HOUR: 04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	22	83	7	37	37	47	34	22	18	2	16	36	*361*
4:15 PM ---	4:30 PM	54	140	9	93	78	90	71	56	46	4	34	74	*749*
4:30 PM ---	4:45 PM	65	237	9	114	151	113	101	74	53	6	44	100	*1,067*
4:45 PM ---	5:00 PM	80	332	9	159	216	154	138	94	65	10	55	130	*1,442*
5:00 PM ---	5:15 PM	102	405	10	188	273	194	172	120	89	10	70	165	*1,798*
5:15 PM ---	5:30 PM	127	482	16	216	328	247	205	145	108	11	84	197	*2,166*
5:30 PM ---	5:45 PM	147	533	17	251	369	300	249	164	125	12	97	232	*2,496*
5:45 PM ---	6:00 PM	167	586	19	298	422	351	290	189	137	13	106	248	*2,826*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	22	83	7	37	37	47	34	22	18	2	16	36	*361*
4:15 PM ---	4:30 PM	32	57	2	56	41	43	37	34	28	2	18	38	*388*
4:30 PM ---	4:45 PM	11	97	0	21	73	23	30	18	7	2	10	26	*318*
4:45 PM ---	5:00 PM	15	95	0	45	65	41	37	20	12	4	11	30	*375*
5:00 PM ---	5:15 PM	22	73	1	29	57	40	34	26	24	0	15	35	*356*
5:15 PM ---	5:30 PM	25	77	6	28	55	53	33	25	19	1	14	32	*368*
5:30 PM ---	5:45 PM	20	51	1	35	41	53	44	19	17	1	13	35	*330*
5:45 PM ---	6:00 PM	20	53	2	47	53	51	41	25	12	1	9	16	*330*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	80	332	9	159	216	154	138	94	65	10	55	130	*1,442*
4:15 PM ---	5:15 PM	80	322	3	151	236	147	138	98	71	8	54	129	*1,437*
4:30 PM ---	5:30 PM	73	342	7	123	250	157	134	89	62	7	50	123	*1,417*
4:45 PM ---	5:45 PM	82	296	8	137	218	187	148	90	72	6	53	132	*1,429*
5:00 PM ---	6:00 PM	87	254	10	139	206	197	152	95	72	3	51	118	*1,384*

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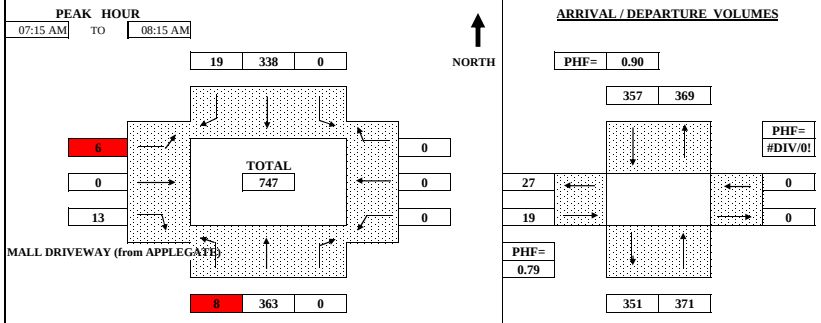
B.A.Y.M.E.T.R.I.C.S.

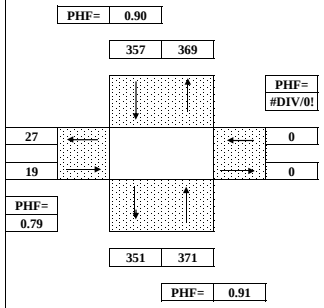
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	6/3/2010	DAY:	THURSDAY
N-S APPROACH:	APPLEGATE ROAD	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	MALL DRIVEWAY (from APPLEGATE)	CITY:	MERCED	FILE:	3005030-YAM

PEAK HOUR: 07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	0	67	0	0	71	3	3	0	3	0	0	0	*147*
7:15 AM	7:30 AM	1	165	0	0	166	7	5	0	5	0	0	0	*349*
7:30 AM	7:45 AM	4	264	0	0	253	13	7	0	7	0	0	0	*548*
7:45 AM	8:00 AM	6	350	0	0	342	17	7	0	12	0	0	0	*734*
8:00 AM	8:15 AM	8	430	0	0	409	22	9	0	16	0	0	0	*894*
8:15 AM	8:30 AM	9	497	0	0	480	25	12	0	18	0	0	0	*1,041*
8:30 AM	8:45 AM	12	576	0	0	540	27	13	0	22	0	0	0	*1,190*
8:45 AM	9:00 AM	13	638	0	0	593	28	14	0	25	0	0	0	*1,311*
TOTAL BY PERIOD														
7:00 AM	7:15 AM	0	67	0	0	71	3	3	0	3	0	0	0	*147*
7:15 AM	7:30 AM	1	98	0	0	95	4	2	0	2	0	0	0	*202*
7:30 AM	7:45 AM	3	99	0	0	87	6	2	0	2	0	0	0	*199*
7:45 AM	8:00 AM	2	86	0	0	89	4	0	0	5	0	0	0	*186*
8:00 AM	8:15 AM	2	80	0	0	67	5	2	0	4	0	0	0	*160*
8:15 AM	8:30 AM	1	67	0	0	71	3	3	0	2	0	0	0	*147*
8:30 AM	8:45 AM	3	79	0	0	60	2	1	0	4	0	0	0	*149*
8:45 AM	9:00 AM	1	62	0	0	53	1	1	0	3	0	0	0	*121*
HOURLY TOTALS														
7:00 AM	8:00 AM	6	350	0	0	342	17	7	0	12	0	0	0	*734*
7:15 AM	8:15 AM	8	363	0	0	338	19	6	0	13	0	0	0	*747*
7:30 AM	8:30 AM	8	332	0	0	314	18	7	0	13	0	0	0	*692*
7:45 AM	8:45 AM	8	312	0	0	287	14	6	0	15	0	0	0	*642*
8:00 AM	9:00 AM	7	288	0	0	251	11	7	0	13	0	0	0	*577*

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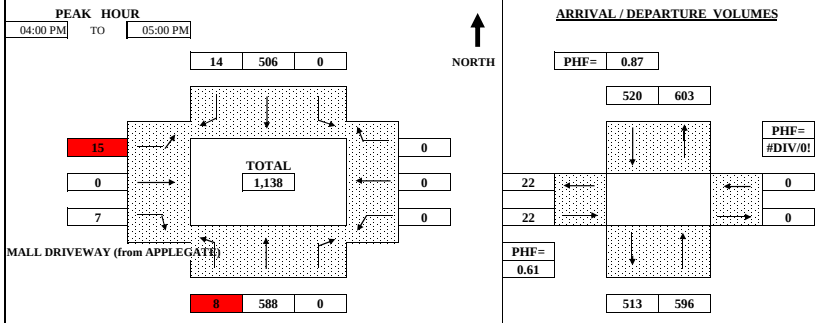
B.A.Y.M.E.T.R.I.C.S.

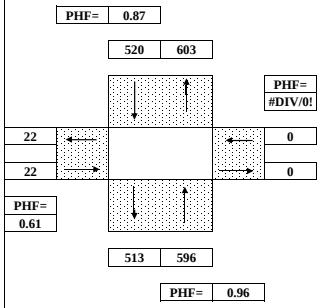
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	6/3/2010	DAY:	THURSDAY
N-S APPROACH:	APPLEGATE ROAD	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	MALL DRIVEWAY (from APPLEGATE)	CITY:	MERCED	FILE:	3005030-YPM

PEAK HOUR: 04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	2	145	0	0	115	4	3	0	3	0	0	0	*272*
4:15 PM	4:30 PM	5	284	0	0	246	9	6	0	5	0	0	0	*555*
4:30 PM	4:45 PM	7	433	0	0	359	11	8	0	5	0	0	0	*823*
4:45 PM	5:00 PM	8	588	0	0	506	14	15	0	7	0	0	0	*1,138*
5:00 PM	5:15 PM	12	725	0	0	627	16	19	0	8	0	0	0	*1,407*
5:15 PM	5:30 PM	14	864	0	0	758	20	22	0	12	0	0	0	*1,690*
5:30 PM	5:45 PM	15	993	0	0	880	23	23	0	15	0	0	0	*1,949*
5:45 PM	6:00 PM	16	1,104	0	0	1,026	24	26	0	16	0	0	0	*2,212*
TOTAL BY PERIOD														
4:00 PM	4:15 PM	2	145	0	0	115	4	3	0	3	0	0	0	*272*
4:15 PM	4:30 PM	3	139	0	0	131	5	3	0	2	0	0	0	*283*
4:30 PM	4:45 PM	2	149	0	0	113	2	2	0	0	0	0	0	*268*
4:45 PM	5:00 PM	1	155	0	0	147	3	7	0	2	0	0	0	*315*
5:00 PM	5:15 PM	4	137	0	0	121	2	4	0	1	0	0	0	*269*
5:15 PM	5:30 PM	2	139	0	0	131	4	3	0	4	0	0	0	*283*
5:30 PM	5:45 PM	1	129	0	0	122	3	1	0	3	0	0	0	*259*
5:45 PM	6:00 PM	1	111	0	0	146	1	3	0	1	0	0	0	*263*
HOURLY TOTALS														
4:00 PM	5:00 PM	8	588	0	0	506	14	15	0	7	0	0	0	*1,138*
4:15 PM	5:15 PM	10	580	0	0	512	12	16	0	5	0	0	0	*1,135*
4:30 PM	5:30 PM	9	580	0	0	512	11	16	0	7	0	0	0	*1,135*
4:45 PM	5:45 PM	8	560	0	0	521	12	15	0	10	0	0	0	*1,126*
5:00 PM	6:00 PM	8	516	0	0	520	10	11	0	9	0	0	0	*1,074*

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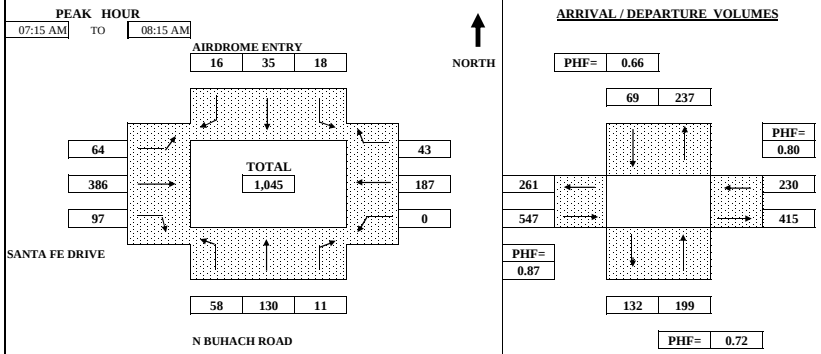
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	N BUHACH ROAD	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SANTA FE DRIVE	CITY:	MERCED	FILE:	3005030-11AM

PEAK HOUR: 07:15 AM TO 08:15 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	16	13	3	1	2	1	9	63	21	0	61	4	***194***
7:15 AM ---	7:30 AM	30	37	5	6	8	5	18	142	60	0	126	11	***448***
7:30 AM ---	7:45 AM	55	60	12	9	13	7	34	227	88	0	175	18	***698***
7:45 AM ---	8:00 AM	72	111	13	11	29	13	59	342	106	0	211	37	***1,004***
8:00 AM ---	8:15 AM	74	143	14	19	37	17	73	449	118	0	248	47	***1,239***
8:15 AM ---	8:30 AM	82	172	14	22	52	25	84	542	134	0	283	57	***1,467***
8:30 AM ---	8:45 AM	93	194	15	26	65	26	90	619	141	0	314	67	***1,650***
8:45 AM ---	9:00 AM	101	226	15	27	76	31	106	676	148	1	343	79	***1,829***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	16	13	3	1	2	1	9	63	21	0	61	4	***194***
7:15 AM ---	7:30 AM	14	24	2	5	6	4	9	79	39	0	65	7	***254***
7:30 AM ---	7:45 AM	25	23	7	3	5	2	16	85	28	0	49	7	***250***
7:45 AM ---	8:00 AM	17	51	1	2	16	6	25	115	18	0	36	19	***306***
8:00 AM ---	8:15 AM	2	32	1	8	8	4	14	107	12	0	37	10	***235***
8:15 AM ---	8:30 AM	8	29	0	3	15	8	11	93	16	0	35	10	***228***
8:30 AM ---	8:45 AM	11	22	1	4	13	1	6	77	7	0	31	10	***183***
8:45 AM ---	9:00 AM	8	32	0	1	11	5	16	57	7	1	29	12	***179***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	72	111	13	11	29	13	59	342	106	0	211	37	***1,004***
7:15 AM ---	8:15 AM	58	130	11	18	35	16	64	386	97	0	187	43	***1,045***
7:30 AM ---	8:30 AM	52	135	9	16	44	20	66	400	74	0	157	46	***1,019***
7:45 AM ---	8:45 AM	38	134	3	17	52	19	56	392	53	0	139	49	***952***
8:00 AM ---	9:00 AM	29	115	2	16	47	18	47	334	42	1	132	42	***825***

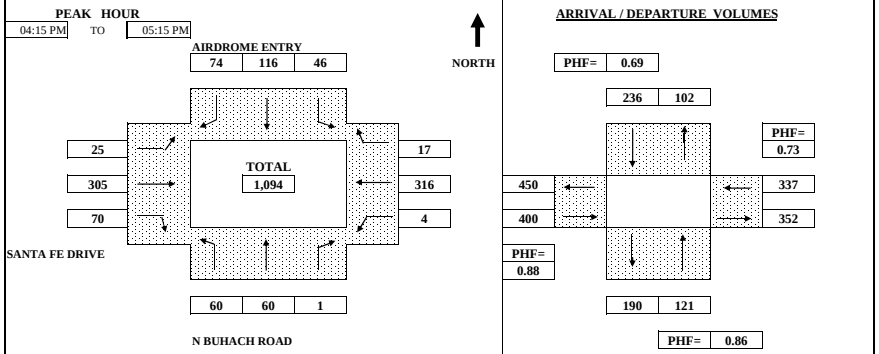
Telephone: (510)232-1271 Fax: (510)232-1272

B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	N BUHACH ROAD	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SANTA FE DRIVE	CITY:	MERCED	FILE:	3005030-11PM

PEAK HOUR: 04:15 PM TO 05:15 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	15	12	0	10	36	26	5	79	15	3	85	6	***292***
4:15 PM ---	4:30 PM	23	24	0	18	67	54	16	162	35	4	172	10	***585***
4:30 PM ---	4:45 PM	43	38	1	27	89	63	21	219	49	4	225	15	***794***
4:45 PM ---	5:00 PM	58	55	1	37	104	81	25	290	73	5	292	19	***1,040***
5:00 PM ---	5:15 PM	75	72	1	56	152	100	30	384	85	7	401	23	***1,386***
5:15 PM ---	5:30 PM	91	82	1	69	172	113	36	453	94	10	470	28	***1,619***
5:30 PM ---	5:45 PM	104	88	3	78	204	121	36	506	105	11	529	32	***1,817***
5:45 PM ---	6:00 PM	115	93	4	82	215	130	38	570	116	11	601	33	***2,008***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	15	12	0	10	36	26	5	79	15	3	85	6	***292***
4:15 PM ---	4:30 PM	8	12	0	8	31	28	11	83	20	1	87	4	***293***
4:30 PM ---	4:45 PM	20	14	1	9	22	9	5	57	14	0	53	5	***209***
4:45 PM ---	5:00 PM	15	17	0	10	15	18	4	71	24	1	67	4	***246***
5:00 PM ---	5:15 PM	17	17	0	19	48	19	5	94	12	2	109	4	***346***
5:15 PM ---	5:30 PM	16	10	0	13	20	13	6	69	9	3	69	5	***233***
5:30 PM ---	5:45 PM	13	6	2	9	32	8	0	53	11	1	59	4	***198***
5:45 PM ---	6:00 PM	11	5	1	4	11	9	2	64	11	0	72	1	***191***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	58	55	1	37	104	81	25	290	73	5	292	19	***1,040***
4:15 PM ---	5:15 PM	60	60	1	46	116	74	25	305	70	4	316	17	***1,094***
4:30 PM ---	5:30 PM	68	58	1	51	105	59	20	291	59	6	298	18	***1,034***
4:45 PM ---	5:45 PM	61	50	2	51	115	58	15	287	56	7	304	17	***1,023***
5:00 PM ---	6:00 PM	57	38	3	45	111	49	13	280	43	6	309	14	***968***

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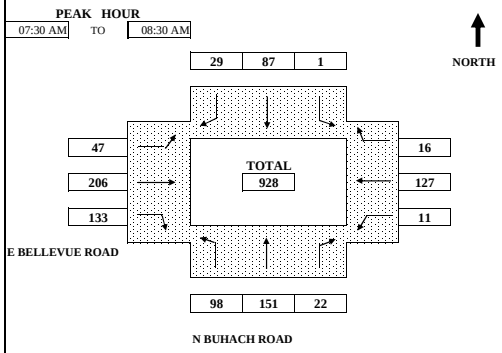
B.A.Y.M.E.T.R.I.C.S.

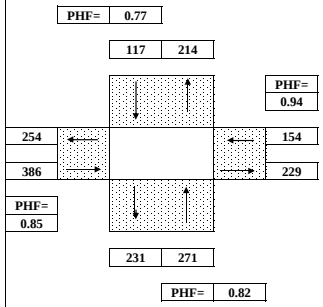
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	N BUHACH ROAD	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	E BELLEVUE ROAD	CITY:	MERCED	FILE:	3005030-12AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	22	17	7	0	23	8	12	29	33	8	17	3	*179*
7:15 AM ---	7:30 AM	34	40	10	3	51	15	23	70	68	11	35	7	*367*
7:30 AM ---	7:45 AM	72	76	19	3	81	16	33	124	104	14	56	18	*616*
7:45 AM ---	8:00 AM	88	128	19	3	106	27	49	191	135	16	93	19	*874*
8:00 AM ---	8:15 AM	112	155	31	3	117	35	55	234	170	17	131	21	*1,081*
8:15 AM ---	8:30 AM	132	191	32	4	138	44	70	276	201	22	162	23	*1,295*
8:30 AM ---	8:45 AM	148	201	34	4	146	56	77	322	224	28	188	23	*1,451*
8:45 AM ---	9:00 AM	163	226	38	4	158	62	89	377	253	37	217	26	*1,650*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	22	17	7	0	23	8	12	29	33	8	17	3	*179*
7:15 AM ---	7:30 AM	12	23	3	3	28	7	11	41	35	3	18	4	*188*
7:30 AM ---	7:45 AM	38	36	9	0	30	1	10	54	36	3	21	11	*249*
7:45 AM ---	8:00 AM	16	52	0	0	25	11	16	67	31	2	37	1	*258*
8:00 AM ---	8:15 AM	24	27	12	0	11	8	6	43	35	1	38	2	*207*
8:15 AM ---	8:30 AM	20	36	1	1	21	9	15	42	31	5	31	2	*214*
8:30 AM ---	8:45 AM	16	10	2	0	8	12	7	46	23	6	26	0	*156*
8:45 AM ---	9:00 AM	15	25	4	0	12	6	12	55	29	9	29	3	*199*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	88	128	19	3	106	27	49	191	135	16	93	19	*874*
7:15 AM ---	8:15 AM	90	138	24	3	94	27	43	205	137	9	114	18	*902*
7:30 AM ---	8:30 AM	98	151	22	1	87	29	47	206	133	11	127	16	*928*
7:45 AM ---	8:45 AM	76	125	15	1	65	40	44	198	120	14	132	5	*835*
8:00 AM ---	9:00 AM	75	98	19	1	52	35	40	186	118	21	124	7	*776*

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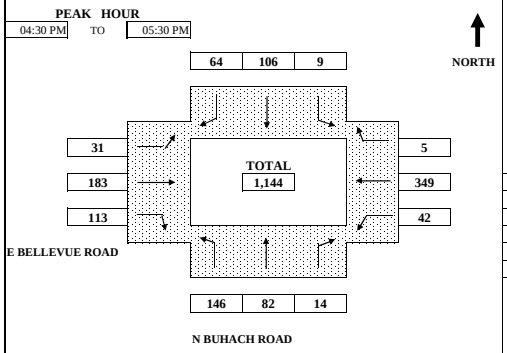
B.A.Y.M.E.T.R.I.C.S.

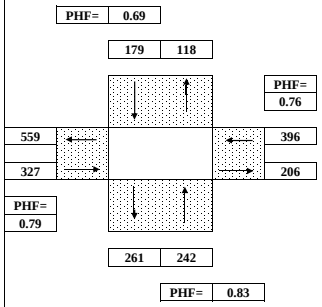
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	N BUHACH ROAD	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	E BELLEVUE ROAD	CITY:	MERCED	FILE:	3005030-12PM

PEAK HOUR: 04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	40	16	6	5	32	20	12	51	33	18	83	1	*317*
4:15 PM ---	4:30 PM	75	32	11	7	57	40	24	101	62	22	150	1	*582*
4:30 PM ---	4:45 PM	94	50	13	11	78	54	31	175	84	30	232	3	*855*
4:45 PM ---	5:00 PM	130	76	15	12	98	71	42	224	114	36	296	5	*1,119*
5:00 PM ---	5:15 PM	177	97	20	15	142	89	49	251	146	53	408	6	*1,453*
5:15 PM ---	5:30 PM	221	114	25	16	163	104	55	284	175	64	499	6	*1,726*
5:30 PM ---	5:45 PM	251	126	31	16	183	116	60	311	207	74	562	8	*1,945*
5:45 PM ---	6:00 PM	284	138	35	17	199	120	66	342	235	87	621	9	*2,153*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	40	16	6	5	32	20	12	51	33	18	83	1	*317*
4:15 PM ---	4:30 PM	35	16	5	2	25	20	12	50	29	4	67	0	*265*
4:30 PM ---	4:45 PM	19	18	2	4	21	14	7	74	22	8	82	2	*273*
4:45 PM ---	5:00 PM	36	26	2	1	20	17	11	49	30	6	64	2	*264*
5:00 PM ---	5:15 PM	47	21	5	3	44	18	7	27	32	17	112	1	*334*
5:15 PM ---	5:30 PM	44	17	5	1	21	15	6	33	29	11	91	0	*273*
5:30 PM ---	5:45 PM	30	12	6	0	20	12	5	27	32	10	63	2	*219*
5:45 PM ---	6:00 PM	33	12	4	1	16	4	6	31	28	13	59	1	*208*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	130	76	15	12	98	71	42	224	114	36	296	5	*1,119*
4:15 PM ---	5:15 PM	137	81	14	10	110	69	37	200	113	35	325	5	*1,136*
4:30 PM ---	5:30 PM	146	82	14	9	106	64	31	183	113	42	349	5	*1,144*
4:45 PM ---	5:45 PM	157	76	18	5	105	62	29	136	123	44	330	5	*1,090*
5:00 PM ---	6:00 PM	154	62	20	5	101	49	24	118	121	51	325	4	*1,034*

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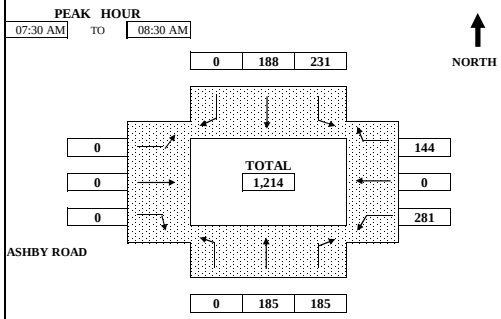
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

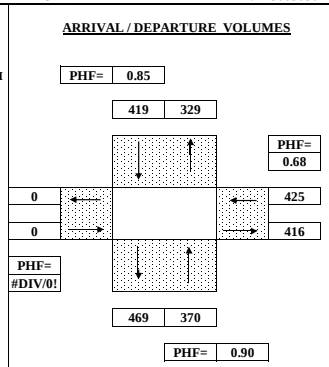
PROJECT:	HSR - MERCED	SURVEY DATE:	5/19/2010	DAY:	WEDNESDAY
N-S APPROACH:	N BUHACH ROAD	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	ASHBY ROAD	CITY: MERCED		FILE:	3005030-13AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	35	36	43	31	0	0	0	0	47	0	23	***215***
7:15 AM ---	7:30 AM	0	75	75	98	74	0	0	0	0	98	0	54	***474***
7:30 AM ---	7:45 AM	0	111	116	144	114	0	0	0	0	159	0	84	***728***
7:45 AM ---	8:00 AM	0	163	167	203	165	0	0	0	0	257	0	143	***1,098***
8:00 AM ---	8:15 AM	0	211	212	270	221	0	0	0	0	326	0	177	***1,417***
8:15 AM ---	8:30 AM	0	260	260	329	262	0	0	0	0	379	0	198	***1,688***
8:30 AM ---	8:45 AM	0	303	302	385	309	0	0	0	0	418	0	224	***1,941***
8:45 AM ---	9:00 AM	0	339	335	463	345	0	0	0	0	453	0	242	***2,177***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	35	36	43	31	0	0	0	0	47	0	23	***215***
7:15 AM ---	7:30 AM	0	40	39	55	43	0	0	0	0	51	0	31	***259***
7:30 AM ---	7:45 AM	0	36	41	46	40	0	0	0	0	61	0	30	***254***
7:45 AM ---	8:00 AM	0	52	51	59	51	0	0	0	0	98	0	59	***370***
8:00 AM ---	8:15 AM	0	48	45	67	56	0	0	0	0	69	0	34	***319***
8:15 AM ---	8:30 AM	0	49	48	59	41	0	0	0	0	53	0	21	***271***
8:30 AM ---	8:45 AM	0	43	42	56	47	0	0	0	0	39	0	26	***253***
8:45 AM ---	9:00 AM	0	36	33	78	36	0	0	0	0	35	0	18	***236***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	0	163	167	203	165	0	0	0	0	257	0	143	***1,098***
7:15 AM ---	8:15 AM	0	176	176	227	190	0	0	0	0	279	0	154	***1,202***
7:30 AM ---	8:30 AM	0	185	185	231	188	0	0	0	0	281	0	144	***1,214***
7:45 AM ---	8:45 AM	0	192	186	241	195	0	0	0	0	259	0	140	***1,213***
8:00 AM ---	9:00 AM	0	176	168	260	180	0	0	0	0	196	0	99	***1,079***

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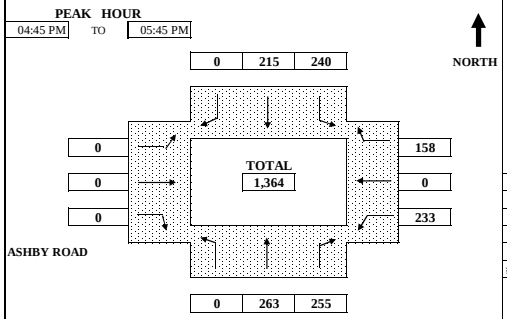
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

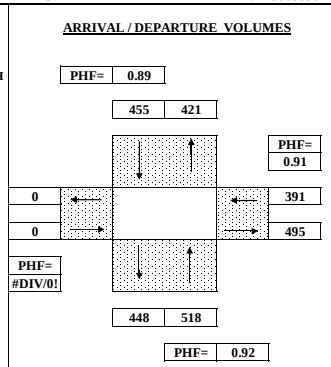
PROJECT:	HSR - MERCED	SURVEY DATE:	5/19/2010	DAY:	WEDNESDAY
N-S APPROACH:	N BUHACH ROAD	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	ASHBY ROAD	CITY: MERCED		FILE:	3005030-13PM

PEAK HOUR

04:45 PM TO 05:45 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	61	39	48	31	0	0	0	0	39	0	33	***251***
4:15 PM ---	4:30 PM	0	110	86	101	68	0	0	0	0	79	0	60	***504***
4:30 PM ---	4:45 PM	0	163	134	140	122	0	0	0	0	128	0	97	***784***
4:45 PM ---	5:00 PM	0	212	195	199	169	0	0	0	0	193	0	140	***1,108***
5:00 PM ---	5:15 PM	0	280	268	246	231	0	0	0	0	256	0	185	***1,466***
5:15 PM ---	5:30 PM	0	359	325	317	288	0	0	0	0	317	0	225	***1,831***
5:30 PM ---	5:45 PM	0	426	389	380	337	0	0	0	0	361	0	255	***2,148***
5:45 PM ---	6:00 PM	0	467	442	434	368	0	0	0	0	398	0	284	***2,393***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	61	39	48	31	0	0	0	0	39	0	33	***251***
4:15 PM ---	4:30 PM	0	49	47	53	37	0	0	0	0	40	0	27	***253***
4:30 PM ---	4:45 PM	0	53	48	39	54	0	0	0	0	49	0	37	***280***
4:45 PM ---	5:00 PM	0	49	61	59	47	0	0	0	0	65	0	43	***324***
5:00 PM ---	5:15 PM	0	68	73	47	62	0	0	0	0	63	0	45	***358***
5:15 PM ---	5:30 PM	0	79	57	71	57	0	0	0	0	61	0	40	***365***
5:30 PM ---	5:45 PM	0	67	64	63	49	0	0	0	0	44	0	30	***317***
5:45 PM ---	6:00 PM	0	41	53	54	31	0	0	0	0	37	0	29	***245***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	0	212	195	199	169	0	0	0	0	193	0	140	***1,108***
4:15 PM ---	5:15 PM	0	219	229	198	200	0	0	0	0	217	0	152	***1,215***
4:30 PM ---	5:30 PM	0	249	239	216	220	0	0	0	0	238	0	165	***1,327***
4:45 PM ---	5:45 PM	0	263	255	240	215	0	0	0	0	233	0	158	***1,364***
5:00 PM ---	6:00 PM	0	255	247	235	199	0	0	0	0	205	0	144	***1,285***

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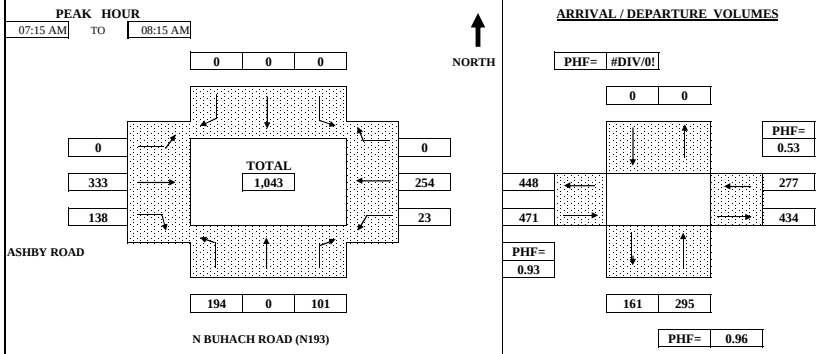
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	N BUHACH ROAD (N193)	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	ASHBY ROAD	CITY:	MERCED	FILE:	3005030-14AM

PEAK HOUR: 07:15 AM TO 08:15 AM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	40	0	19	0	0	0	0	56	28	7	30	0	*180*
7:15 AM	7:30 AM	88	0	43	0	0	0	0	139	52	9	59	0	*390*
7:30 AM	7:45 AM	137	0	71	0	0	0	0	222	96	15	101	0	*642*
7:45 AM	8:00 AM	190	0	93	0	0	0	0	295	134	22	225	0	*959*
8:00 AM	8:15 AM	234	0	120	0	0	0	0	389	166	30	284	0	*1,223*
8:15 AM	8:30 AM	265	0	133	0	0	0	0	488	178	33	317	0	*1,414*
8:30 AM	8:45 AM	279	0	153	0	0	0	0	576	195	34	352	0	*1,589*
8:45 AM	9:00 AM	299	0	168	0	0	0	0	639	211	37	385	0	*1,739*
TOTAL BY PERIOD														
7:00 AM	7:15 AM	40	0	19	0	0	0	0	56	28	7	30	0	*180*
7:15 AM	7:30 AM	48	0	24	0	0	0	0	83	24	2	29	0	*210*
7:30 AM	7:45 AM	49	0	28	0	0	0	0	83	44	6	42	0	*252*
7:45 AM	8:00 AM	53	0	22	0	0	0	0	73	38	7	124	0	*317*
8:00 AM	8:15 AM	44	0	27	0	0	0	0	94	32	8	59	0	*264*
8:15 AM	8:30 AM	31	0	13	0	0	0	0	99	12	3	33	0	*191*
8:30 AM	8:45 AM	14	0	20	0	0	0	0	88	17	1	35	0	*175*
8:45 AM	9:00 AM	20	0	15	0	0	0	0	63	16	3	33	0	*150*
HOURLY TOTALS														
7:00 AM	8:00 AM	190	0	93	0	0	0	0	295	134	22	225	0	*959*
7:15 AM	8:15 AM	194	0	101	0	0	0	0	333	138	23	254	0	*1,043*
7:30 AM	8:30 AM	177	0	90	0	0	0	0	349	126	24	258	0	*1,024*
7:45 AM	8:45 AM	142	0	82	0	0	0	0	354	99	19	251	0	*947*
8:00 AM	9:00 AM	109	0	75	0	0	0	0	344	77	15	160	0	*780*

Telephone: (510)232-1271 Fax: (510)232-1272

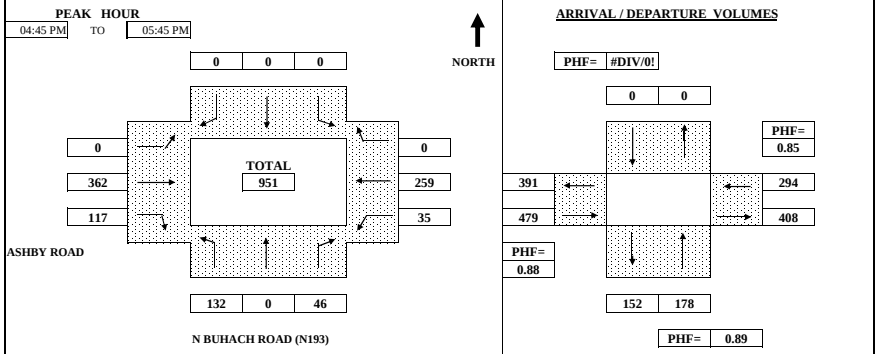
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	N BUHACH ROAD (N193)	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	ASHBY ROAD	CITY:	MERCED	FILE:	3005030-14PM

PEAK HOUR: 04:45 PM TO 05:45 PM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	29	0	12	0	0	0	0	65	39	10	36	0	*191*
4:15 PM	4:30 PM	54	0	27	0	0	0	0	157	78	24	78	0	*418*
4:30 PM	4:45 PM	86	0	38	0	0	0	0	222	104	32	128	0	*610*
4:45 PM	5:00 PM	119	0	50	0	0	0	0	309	145	43	203	0	*869*
5:00 PM	5:15 PM	159	0	60	0	0	0	0	421	169	49	271	0	*1,129*
5:15 PM	5:30 PM	195	0	71	0	0	0	0	509	198	56	336	0	*1,365*
5:30 PM	5:45 PM	218	0	84	0	0	0	0	584	221	67	387	0	*1,561*
5:45 PM	6:00 PM	230	0	94	0	0	0	0	666	246	75	437	0	*1,748*
TOTAL BY PERIOD														
4:00 PM	4:15 PM	29	0	12	0	0	0	0	65	39	10	36	0	*191*
4:15 PM	4:30 PM	25	0	15	0	0	0	0	92	39	14	42	0	*227*
4:30 PM	4:45 PM	32	0	11	0	0	0	0	65	26	8	50	0	*192*
4:45 PM	5:00 PM	33	0	12	0	0	0	0	87	41	11	75	0	*259*
5:00 PM	5:15 PM	40	0	10	0	0	0	0	112	24	6	68	0	*260*
5:15 PM	5:30 PM	36	0	11	0	0	0	0	88	29	7	65	0	*236*
5:30 PM	5:45 PM	23	0	13	0	0	0	0	75	23	11	51	0	*196*
5:45 PM	6:00 PM	12	0	10	0	0	0	0	82	25	8	50	0	*187*
HOURLY TOTALS														
4:00 PM	5:00 PM	119	0	50	0	0	0	0	309	145	43	203	0	*869*
4:15 PM	5:15 PM	130	0	48	0	0	0	0	356	130	39	235	0	*938*
4:30 PM	5:30 PM	141	0	44	0	0	0	0	352	120	32	258	0	*947*
4:45 PM	5:45 PM	132	0	46	0	0	0	0	362	117	35	259	0	*951*
5:00 PM	6:00 PM	111	0	44	0	0	0	0	357	101	32	234	0	*879*

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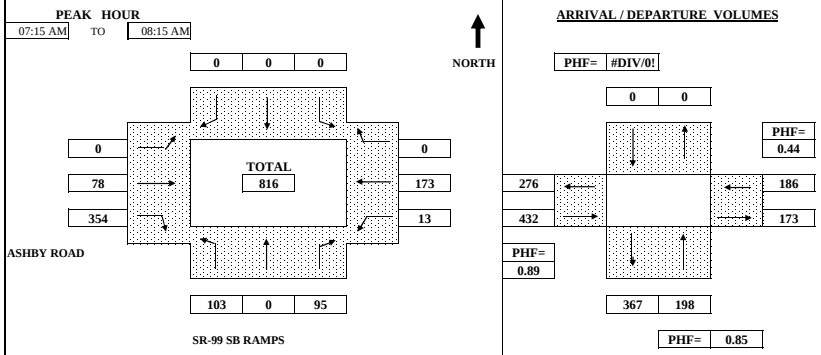
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	SR-99 SB RAMPS	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	ASHBY ROAD	CITY:	MERCED	FILE:	3005030-15AM

PEAK HOUR: 07:15 AM TO 08:15 AM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	21	0	8	0	0	0	0	10	65	2	16	0	*122*
7:15 AM ---	7:30 AM	44	0	32	0	0	0	0	23	159	4	24	0	*286*
7:30 AM ---	7:45 AM	68	0	66	0	0	0	0	44	248	5	48	0	*479*
7:45 AM ---	8:00 AM	97	0	88	0	0	0	0	59	327	10	149	0	*730*
8:00 AM ---	8:15 AM	124	0	103	0	0	0	0	88	419	15	189	0	*938*
8:15 AM ---	8:30 AM	139	0	114	0	0	0	0	116	503	18	209	0	*1,099*
8:30 AM ---	8:45 AM	162	0	125	0	0	0	0	148	579	21	222	0	*1,257*
8:45 AM ---	9:00 AM	178	0	137	0	0	0	0	161	644	26	246	0	*1,392*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	21	0	8	0	0	0	0	10	65	2	16	0	*122*
7:15 AM ---	7:30 AM	23	0	24	0	0	0	0	13	94	2	8	0	*164*
7:30 AM ---	7:45 AM	24	0	34	0	0	0	0	21	89	1	24	0	*193*
7:45 AM ---	8:00 AM	29	0	22	0	0	0	0	15	79	5	101	0	*251*
8:00 AM ---	8:15 AM	27	0	15	0	0	0	0	29	92	5	40	0	*208*
8:15 AM ---	8:30 AM	15	0	11	0	0	0	0	28	84	3	20	0	*161*
8:30 AM ---	8:45 AM	23	0	11	0	0	0	0	32	76	3	13	0	*158*
8:45 AM ---	9:00 AM	16	0	12	0	0	0	0	13	65	5	24	0	*135*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	97	0	88	0	0	0	0	59	327	10	149	0	*730*
7:15 AM ---	8:15 AM	103	0	95	0	0	0	0	78	354	13	173	0	*816*
7:30 AM ---	8:30 AM	95	0	82	0	0	0	0	93	344	14	185	0	*813*
7:45 AM ---	8:45 AM	94	0	59	0	0	0	0	104	331	16	174	0	*778*
8:00 AM ---	9:00 AM	81	0	49	0	0	0	0	102	317	16	97	0	*662*

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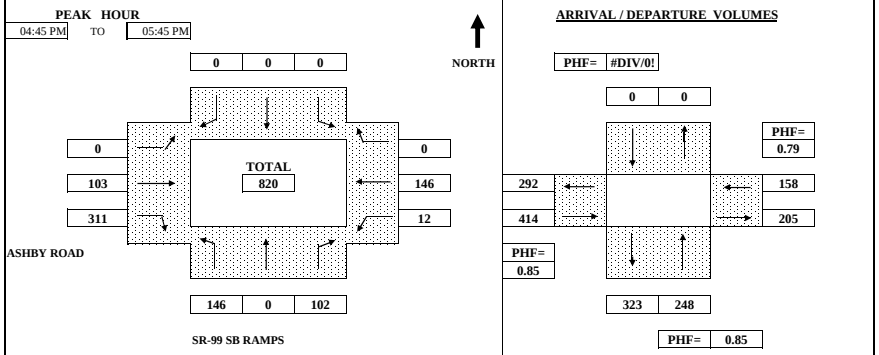
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	SR-99 SB RAMPS	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	ASHBY ROAD	CITY:	MERCED	FILE:	3005030-15PM

PEAK HOUR: 04:45 PM TO 05:45 PM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	18	0	22	0	0	0	0	16	61	6	26	0	*149*
4:15 PM ---	4:30 PM	42	0	54	0	0	0	0	54	132	14	58	0	*354*
4:30 PM ---	4:45 PM	57	0	74	0	0	0	0	76	187	17	100	0	*511*
4:45 PM ---	5:00 PM	96	0	100	0	0	0	0	99	266	20	147	0	*728*
5:00 PM ---	5:15 PM	129	0	121	0	0	0	0	138	349	21	188	0	*946*
5:15 PM ---	5:30 PM	171	0	152	0	0	0	0	162	423	24	218	0	*1,150*
5:30 PM ---	5:45 PM	203	0	176	0	0	0	0	179	498	29	246	0	*1,331*
5:45 PM ---	6:00 PM	239	0	198	0	0	0	0	198	571	35	268	0	*1,509*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	18	0	22	0	0	0	0	16	61	6	26	0	*149*
4:15 PM ---	4:30 PM	24	0	32	0	0	0	0	38	71	8	32	0	*205*
4:30 PM ---	4:45 PM	15	0	20	0	0	0	0	22	55	3	42	0	*157*
4:45 PM ---	5:00 PM	39	0	26	0	0	0	0	23	79	3	47	0	*217*
5:00 PM ---	5:15 PM	33	0	21	0	0	0	0	39	83	1	41	0	*218*
5:15 PM ---	5:30 PM	42	0	31	0	0	0	0	24	74	3	30	0	*204*
5:30 PM ---	5:45 PM	32	0	24	0	0	0	0	17	75	5	28	0	*181*
5:45 PM ---	6:00 PM	36	0	22	0	0	0	0	19	73	6	22	0	*178*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	96	0	100	0	0	0	0	99	266	20	147	0	*728*
4:15 PM ---	5:15 PM	111	0	99	0	0	0	0	122	288	15	162	0	*797*
4:30 PM ---	5:30 PM	129	0	98	0	0	0	0	108	291	10	160	0	*796*
4:45 PM ---	5:45 PM	146	0	102	0	0	0	0	103	311	12	146	0	*820*
5:00 PM ---	6:00 PM	143	0	98	0	0	0	0	99	305	15	121	0	*781*

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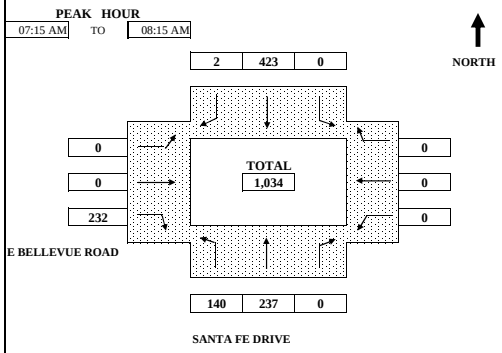
B.A.Y.M.E.T.R.I.C.S.

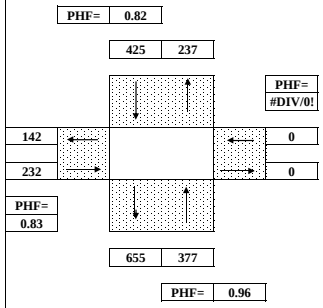
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	SANTA FE DRIVE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	E BELLEVUE ROAD	CITY:	MERCED	FILE:	3005030-16AM

PEAK HOUR: 07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	27	62	0	0	63	0	0	0	33	0	0	0	*185*
7:15 AM	7:30 AM	52	133	0	0	150	0	0	0	81	0	0	0	*416*
7:30 AM	7:45 AM	84	197	0	0	247	1	0	0	147	0	0	0	*676*
7:45 AM	8:00 AM	125	254	0	0	375	2	0	0	217	0	0	0	*973*
8:00 AM	8:15 AM	167	299	0	0	486	2	0	0	265	0	0	0	*1,219*
8:15 AM	8:30 AM	207	348	0	0	581	2	0	0	307	0	0	0	*1,445*
8:30 AM	8:45 AM	234	387	0	0	662	3	0	0	354	0	0	0	*1,640*
8:45 AM	9:00 AM	274	426	0	0	719	3	0	0	415	0	0	0	*1,837*
TOTAL BY PERIOD														
7:00 AM	7:15 AM	27	62	0	0	63	0	0	0	33	0	0	0	*185*
7:15 AM	7:30 AM	25	71	0	0	87	0	0	0	48	0	0	0	*231*
7:30 AM	7:45 AM	32	64	0	0	97	1	0	0	66	0	0	0	*260*
7:45 AM	8:00 AM	41	57	0	0	128	1	0	0	70	0	0	0	*297*
8:00 AM	8:15 AM	42	45	0	0	111	0	0	0	48	0	0	0	*246*
8:15 AM	8:30 AM	40	49	0	0	95	0	0	0	42	0	0	0	*226*
8:30 AM	8:45 AM	27	39	0	0	81	1	0	0	47	0	0	0	*195*
8:45 AM	9:00 AM	40	39	0	0	57	0	0	0	61	0	0	0	*197*
HOURLY TOTALS														
7:00 AM	8:00 AM	125	254	0	0	375	2	0	0	217	0	0	0	*973*
7:15 AM	8:15 AM	140	237	0	0	423	2	0	0	232	0	0	0	*1,034*
7:30 AM	8:30 AM	155	215	0	0	431	2	0	0	226	0	0	0	*1,029*
7:45 AM	8:45 AM	150	190	0	0	415	2	0	0	207	0	0	0	*964*
8:00 AM	9:00 AM	149	172	0	0	344	1	0	0	198	0	0	0	*864*

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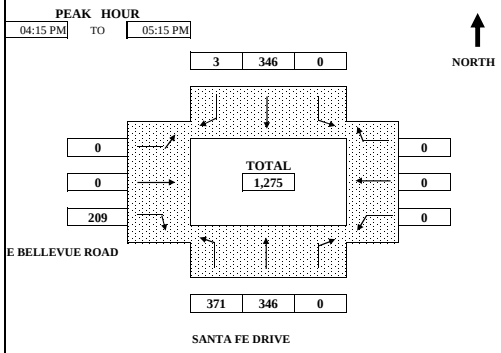
B.A.Y.M.E.T.R.I.C.S.

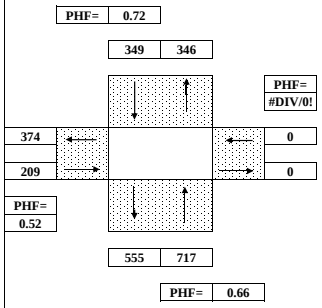
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	SANTA FE DRIVE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	E BELLEVUE ROAD	CITY:	MERCED	FILE:	3005030-16PM

PEAK HOUR: 04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	100	93	0	0	93	0	0	0	64	0	0	0	*350*
4:15 PM	4:30 PM	169	187	0	0	187	0	0	0	119	0	0	0	*662*
4:30 PM	4:45 PM	263	241	0	0	241	1	0	0	220	0	0	0	*966*
4:45 PM	5:00 PM	320	318	0	0	318	3	0	0	251	0	0	0	*1,210*
5:00 PM	5:15 PM	471	439	0	0	439	3	0	0	273	0	0	0	*1,625*
5:15 PM	5:30 PM	552	513	0	0	513	4	0	0	314	0	0	0	*1,896*
5:30 PM	5:45 PM	634	576	0	0	576	4	0	0	346	0	0	0	*2,136*
5:45 PM	6:00 PM	706	649	0	0	649	4	0	0	387	0	0	0	*2,395*
TOTAL BY PERIOD														
4:00 PM	4:15 PM	100	93	0	0	93	0	0	0	64	0	0	0	*350*
4:15 PM	4:30 PM	69	94	0	0	94	0	0	0	55	0	0	0	*312*
4:30 PM	4:45 PM	94	54	0	0	54	1	0	0	101	0	0	0	*304*
4:45 PM	5:00 PM	57	77	0	0	77	2	0	0	31	0	0	0	*244*
5:00 PM	5:15 PM	151	121	0	0	121	0	0	0	22	0	0	0	*415*
5:15 PM	5:30 PM	81	74	0	0	74	1	0	0	41	0	0	0	*271*
5:30 PM	5:45 PM	82	63	0	0	63	0	0	0	32	0	0	0	*240*
5:45 PM	6:00 PM	72	73	0	0	73	0	0	0	41	0	0	0	*259*
HOURLY TOTALS														
4:00 PM	5:00 PM	320	318	0	0	318	3	0	0	251	0	0	0	*1,210*
4:15 PM	5:15 PM	371	346	0	0	346	3	0	0	209	0	0	0	*1,275*
4:30 PM	5:30 PM	383	326	0	0	326	4	0	0	195	0	0	0	*1,234*
4:45 PM	5:45 PM	371	335	0	0	335	3	0	0	126	0	0	0	*1,170*
5:00 PM	6:00 PM	386	331	0	0	331	1	0	0	136	0	0	0	*1,185*

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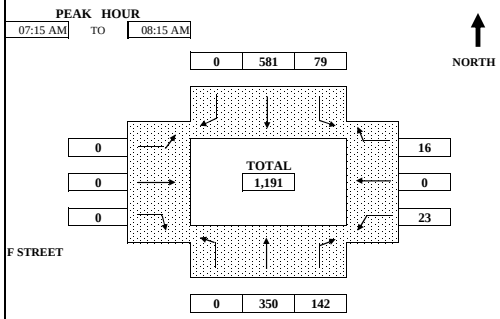
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

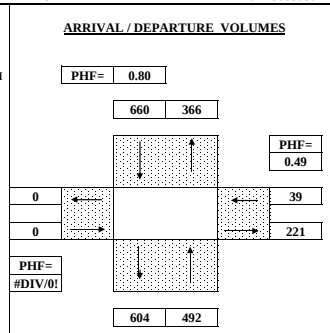
PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	SANTA FE DRIVE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	F STREET	CITY:	MERCED	FILE:	3005030-17AM

PEAK HOUR

07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
7:00 AM	---	7:15 AM	0	83	11	10	83	0	0	0	0	3	0	5	*195*
7:15 AM	---	7:30 AM	0	180	48	20	212	0	0	0	0	5	0	7	*472*
7:30 AM	---	7:45 AM	0	261	76	28	365	0	0	0	0	9	0	11	*750*
7:45 AM	---	8:00 AM	0	352	126	68	532	0	0	0	0	19	0	13	*1,110*
8:00 AM	---	8:15 AM	0	433	153	89	664	0	0	0	0	26	0	21	*1,386*
8:15 AM	---	8:30 AM	0	512	177	100	788	0	0	0	0	34	0	33	*1,644*
8:30 AM	---	8:45 AM	0	576	198	108	907	0	0	0	0	38	0	36	*1,863*
8:45 AM	---	9:00 AM	0	651	223	119	1,012	0	0	0	0	46	0	44	*2,095*
TOTAL BY PERIOD															
7:00 AM	---	7:15 AM	0	83	11	10	83	0	0	0	0	3	0	5	*195*
7:15 AM	---	7:30 AM	0	97	37	10	129	0	0	0	0	2	0	2	*277*
7:30 AM	---	7:45 AM	0	81	28	8	153	0	0	0	0	4	0	4	*278*
7:45 AM	---	8:00 AM	0	91	50	40	167	0	0	0	0	10	0	2	*360*
8:00 AM	---	8:15 AM	0	81	27	21	132	0	0	0	0	7	0	8	*276*
8:15 AM	---	8:30 AM	0	79	24	11	124	0	0	0	0	8	0	12	*258*
8:30 AM	---	8:45 AM	0	64	21	8	119	0	0	0	0	4	0	3	*219*
8:45 AM	---	9:00 AM	0	75	25	11	105	0	0	0	0	8	0	8	*232*
HOURLY TOTALS															
7:00 AM	---	8:00 AM	0	352	126	68	532	0	0	0	0	19	0	13	*1,110*
7:15 AM	---	8:15 AM	0	350	142	79	581	0	0	0	0	23	0	16	*1,191*
7:30 AM	---	8:30 AM	0	332	129	80	576	0	0	0	0	29	0	26	*1,172*
7:45 AM	---	8:45 AM	0	315	122	80	542	0	0	0	0	29	0	25	*1,113*
8:00 AM	---	9:00 AM	0	299	97	51	480	0	0	0	0	27	0	31	*985*

Telephone: (510)232-1271 Fax: (510)232-1272

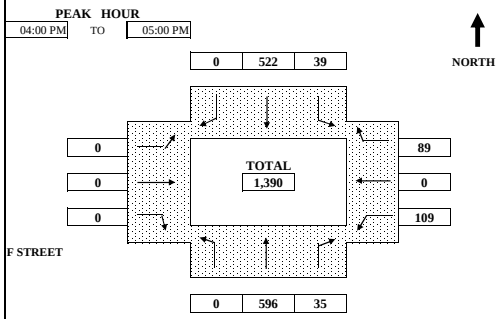
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

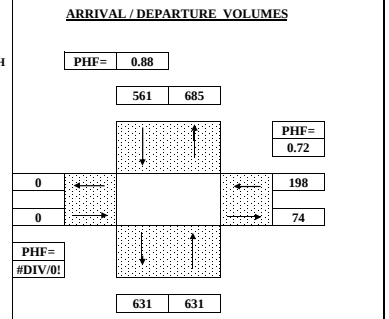
PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	SANTA FE DRIVE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	F STREET	CITY:	MERCED	FILE:	3005030-17PM

PEAK HOUR

04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	0	157	6	13	137	0	0	0	0	33	0	31	*377*
4:15 PM	---	4:30 PM	0	296	16	19	286	0	0	0	0	48	0	39	*704*
4:30 PM	---	4:45 PM	0	445	30	36	421	0	0	0	0	87	0	69	*1,088*
4:45 PM	---	5:00 PM	0	596	35	39	522	0	0	0	0	109	0	89	*1,390*
5:00 PM	---	5:15 PM	0	773	37	42	679	0	0	0	0	127	0	102	*1,760*
5:15 PM	---	5:30 PM	0	944	40	49	783	0	0	0	0	148	0	111	*2,075*
5:30 PM	---	5:45 PM	0	1,070	47	55	872	0	0	0	0	167	0	124	*2,335*
5:45 PM	---	6:00 PM	0	1,208	48	58	981	0	0	0	0	172	0	131	*2,598*
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	0	157	6	13	137	0	0	0	0	33	0	31	*377*
4:15 PM	---	4:30 PM	0	139	10	6	149	0	0	0	0	15	0	8	*327*
4:30 PM	---	4:45 PM	0	149	14	17	135	0	0	0	0	39	0	30	*384*
4:45 PM	---	5:00 PM	0	151	5	3	101	0	0	0	0	22	0	20	*302*
5:00 PM	---	5:15 PM	0	177	2	3	157	0	0	0	0	18	0	13	*370*
5:15 PM	---	5:30 PM	0	171	3	7	104	0	0	0	0	21	0	9	*315*
5:30 PM	---	5:45 PM	0	126	7	6	89	0	0	0	0	19	0	13	*260*
5:45 PM	---	6:00 PM	0	138	1	3	109	0	0	0	0	5	0	7	*263*
HOURLY TOTALS															
4:00 PM	---	5:00 PM	0	596	35	39	522	0	0	0	0	109	0	89	*1,390*
4:15 PM	---	5:15 PM	0	616	31	29	542	0	0	0	0	94	0	71	*1,383*
4:30 PM	---	5:30 PM	0	648	24	30	497	0	0	0	0	100	0	72	*1,371*
4:45 PM	---	5:45 PM	0	625	17	19	451	0	0	0	0	80	0	55	*1,247*
5:00 PM	---	6:00 PM	0	612	13	19	459	0	0	0	0	63	0	42	*1,208*

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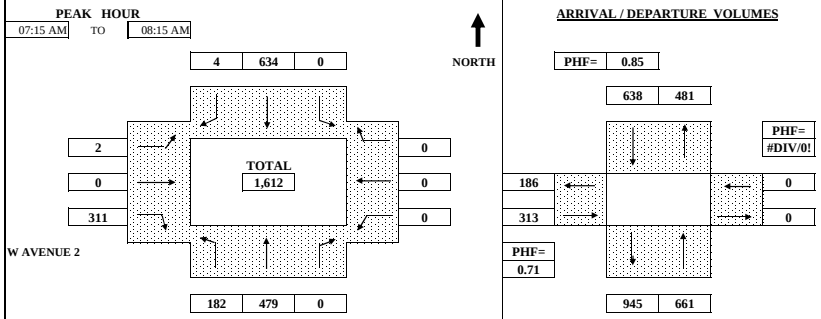
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	SANTA FE DRIVE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	W AVENUE 2	CITY:	MERCED	FILE:	3005030-18AM

PEAK HOUR: 07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	30	92	0	0	70	1	1	0	39	0	0	0	*233*
7:15 AM ---	7:30 AM	114	222	0	0	196	1	1	0	110	0	0	0	*644*
7:30 AM ---	7:45 AM	155	330	0	0	382	2	1	0	220	0	0	0	*1,090*
7:45 AM ---	8:00 AM	183	467	0	0	563	5	3	0	298	0	0	0	*1,519*
8:00 AM ---	8:15 AM	212	571	0	0	704	5	3	0	350	0	0	0	*1,845*
8:15 AM ---	8:30 AM	233	673	0	0	828	9	3	0	401	0	0	0	*2,147*
8:30 AM ---	8:45 AM	253	748	0	0	952	11	6	0	465	0	0	0	*2,435*
8:45 AM ---	9:00 AM	274	846	0	0	1,061	13	11	0	506	0	0	0	*2,711*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	30	92	0	0	70	1	1	0	39	0	0	0	*233*
7:15 AM ---	7:30 AM	84	130	0	0	126	0	0	0	71	0	0	0	*411*
7:30 AM ---	7:45 AM	41	108	0	0	186	1	0	0	110	0	0	0	*446*
7:45 AM ---	8:00 AM	28	137	0	0	181	3	2	0	78	0	0	0	*429*
8:00 AM ---	8:15 AM	29	104	0	0	141	0	0	0	52	0	0	0	*326*
8:15 AM ---	8:30 AM	21	102	0	0	124	4	0	0	51	0	0	0	*302*
8:30 AM ---	8:45 AM	20	75	0	0	124	2	3	0	64	0	0	0	*288*
8:45 AM ---	9:00 AM	21	98	0	0	109	2	5	0	41	0	0	0	*276*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	183	467	0	0	563	5	3	0	298	0	0	0	*1,519*
7:15 AM ---	8:15 AM	182	479	0	0	634	4	2	0	311	0	0	0	*1,612*
7:30 AM ---	8:30 AM	119	451	0	0	632	8	2	0	291	0	0	0	*1,503*
7:45 AM ---	8:45 AM	98	418	0	0	570	9	5	0	245	0	0	0	*1,345*
8:00 AM ---	9:00 AM	91	379	0	0	498	8	8	0	208	0	0	0	*1,192*

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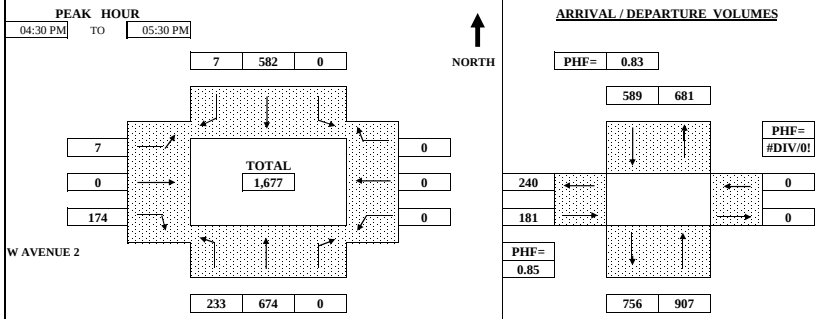
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/13/2010	DAY:	THURSDAY
N-S APPROACH:	SANTA FE DRIVE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	W AVENUE 2	CITY:	MERCED	FILE:	3005030-18PM

PEAK HOUR: 04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	75	168	0	0	172	1	2	0	49	0	0	0	*467*
4:15 PM ---	4:30 PM	124	314	0	0	337	2	4	0	80	0	0	0	*861*
4:30 PM ---	4:45 PM	175	479	0	0	512	4	5	0	129	0	0	0	*1,304*
4:45 PM ---	5:00 PM	230	629	0	0	625	5	7	0	155	0	0	0	*1,651*
5:00 PM ---	5:15 PM	287	819	0	0	801	7	8	0	207	0	0	0	*2,129*
5:15 PM ---	5:30 PM	357	988	0	0	919	9	11	0	254	0	0	0	*2,538*
5:30 PM ---	5:45 PM	396	1,120	0	0	1,015	9	11	0	288	0	0	0	*2,839*
5:45 PM ---	6:00 PM	443	1,260	0	0	1,132	9	11	0	322	0	0	0	*3,177*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	75	168	0	0	172	1	2	0	49	0	0	0	*467*
4:15 PM ---	4:30 PM	49	146	0	0	165	1	2	0	31	0	0	0	*394*
4:30 PM ---	4:45 PM	51	165	0	0	175	2	1	0	49	0	0	0	*443*
4:45 PM ---	5:00 PM	55	150	0	0	113	1	2	0	26	0	0	0	*347*
5:00 PM ---	5:15 PM	57	190	0	0	176	2	1	0	52	0	0	0	*478*
5:15 PM ---	5:30 PM	70	169	0	0	118	2	3	0	47	0	0	0	*409*
5:30 PM ---	5:45 PM	39	132	0	0	96	0	0	0	34	0	0	0	*301*
5:45 PM ---	6:00 PM	47	140	0	0	117	0	0	0	34	0	0	0	*338*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	230	629	0	0	625	5	7	0	155	0	0	0	*1,651*
4:15 PM ---	5:15 PM	212	651	0	0	629	6	6	0	158	0	0	0	*1,662*
4:30 PM ---	5:30 PM	233	674	0	0	582	7	7	0	174	0	0	0	*1,677*
4:45 PM ---	5:45 PM	221	641	0	0	503	5	6	0	159	0	0	0	*1,535*
5:00 PM ---	6:00 PM	213	631	0	0	507	4	4	0	167	0	0	0	*1,526*

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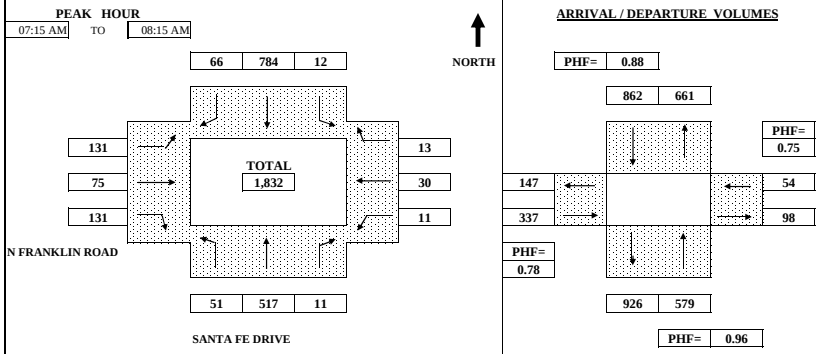
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	SANTA FE DRIVE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	N FRANKLIN ROAD	CITY:	MERCED	FILE:	3005030-19AM

PEAK HOUR: 07:15 AM TO 08:15 AM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	13	101	1	0	77	8	21	6	11	6	5	3	*252*
7:15 AM	7:30 AM	23	232	3	3	210	24	54	32	28	8	12	4	*633*
7:30 AM	7:45 AM	36	365	8	6	436	41	76	57	74	11	21	7	*1,138*
7:45 AM	8:00 AM	46	493	9	9	654	52	125	75	115	15	28	11	*1,632*
8:00 AM	8:15 AM	64	618	12	12	861	74	152	81	142	17	35	16	*2,084*
8:15 AM	8:30 AM	81	713	14	15	1,005	88	183	96	169	24	43	19	*2,450*
8:30 AM	8:45 AM	104	793	14	18	1,196	99	190	106	217	27	48	20	*2,832*
8:45 AM	9:00 AM	126	910	16	19	1,350	106	209	113	240	30	56	20	*3,195*
TOTAL BY PERIOD														
7:00 AM	7:15 AM	13	101	1	0	77	8	21	6	11	6	5	3	*252*
7:15 AM	7:30 AM	10	131	2	3	133	16	33	26	17	2	7	1	*381*
7:30 AM	7:45 AM	13	133	5	3	226	17	22	25	46	3	9	3	*505*
7:45 AM	8:00 AM	10	128	1	3	218	11	49	18	41	4	7	4	*494*
8:00 AM	8:15 AM	18	125	3	3	207	22	27	6	27	2	7	5	*452*
8:15 AM	8:30 AM	17	95	2	3	144	14	31	15	27	7	8	3	*366*
8:30 AM	8:45 AM	23	80	0	3	191	11	7	10	48	3	5	1	*382*
8:45 AM	9:00 AM	22	117	2	1	154	7	19	7	23	3	8	0	*363*
HOURLY TOTALS														
7:00 AM	8:00 AM	46	493	9	9	654	52	125	75	115	15	28	11	*1,632*
7:15 AM	8:15 AM	51	517	11	12	784	66	131	75	131	11	30	13	*1,832*
7:30 AM	8:30 AM	58	481	11	12	795	64	129	64	141	16	31	15	*1,817*
7:45 AM	8:45 AM	68	428	6	12	760	58	114	49	143	16	27	13	*1,694*
8:00 AM	9:00 AM	80	417	7	10	696	54	84	38	125	15	28	9	*1,563*

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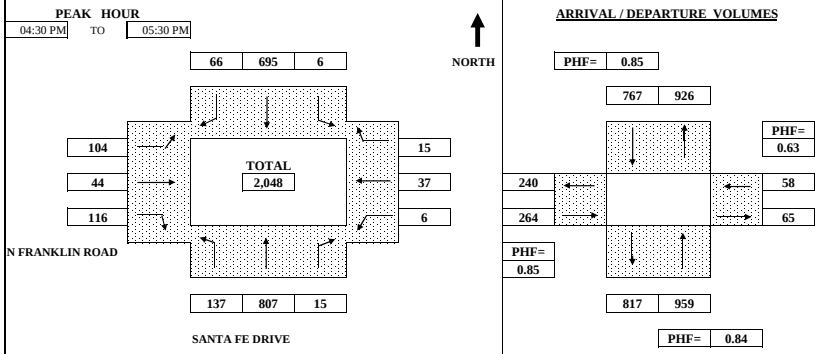
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	SANTA FE DRIVE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	N FRANKLIN ROAD	CITY:	MERCED	FILE:	3005030-19PM

PEAK HOUR: 04:30 PM TO 05:30 PM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	30	214	2	4	187	21	32	7	29	4	11	4	*545*
4:15 PM	4:30 PM	54	410	4	6	346	36	51	14	56	10	22	10	*1,019*
4:30 PM	4:45 PM	82	581	7	7	515	57	70	23	78	14	34	15	*1,483*
4:45 PM	5:00 PM	110	781	11	8	666	66	91	32	107	15	40	15	*1,942*
5:00 PM	5:15 PM	157	1,017	12	10	870	85	128	44	136	15	44	18	*2,536*
5:15 PM	5:30 PM	191	1,217	19	12	1,041	102	155	58	172	16	59	25	*3,067*
5:30 PM	5:45 PM	218	1,384	20	12	1,205	114	172	63	202	20	68	28	*3,506*
5:45 PM	6:00 PM	244	1,588	23	14	1,346	132	186	70	231	24	76	30	*3,964*
TOTAL BY PERIOD														
4:00 PM	4:15 PM	30	214	2	4	187	21	32	7	29	4	11	4	*545*
4:15 PM	4:30 PM	24	196	2	2	159	15	19	7	27	6	11	6	*474*
4:30 PM	4:45 PM	28	171	3	1	169	21	19	9	22	4	12	5	*464*
4:45 PM	5:00 PM	28	200	4	1	151	9	21	9	29	1	6	0	*459*
5:00 PM	5:15 PM	47	236	1	2	204	19	37	12	29	0	4	3	*594*
5:15 PM	5:30 PM	34	200	7	2	171	17	27	14	36	1	15	7	*531*
5:30 PM	5:45 PM	27	167	1	0	164	12	17	5	30	4	9	3	*439*
5:45 PM	6:00 PM	26	204	3	2	141	18	14	7	29	4	8	2	*458*
HOURLY TOTALS														
4:00 PM	5:00 PM	110	781	11	8	666	66	91	32	107	15	40	15	*1,942*
4:15 PM	5:15 PM	127	803	10	6	683	64	96	37	107	11	33	14	*1,991*
4:30 PM	5:30 PM	137	807	15	6	695	66	104	44	116	6	37	15	*2,048*
4:45 PM	5:45 PM	136	803	13	5	690	57	102	40	124	6	34	13	*2,023*
5:00 PM	6:00 PM	134	807	12	6	680	66	95	38	124	9	36	15	*2,022*

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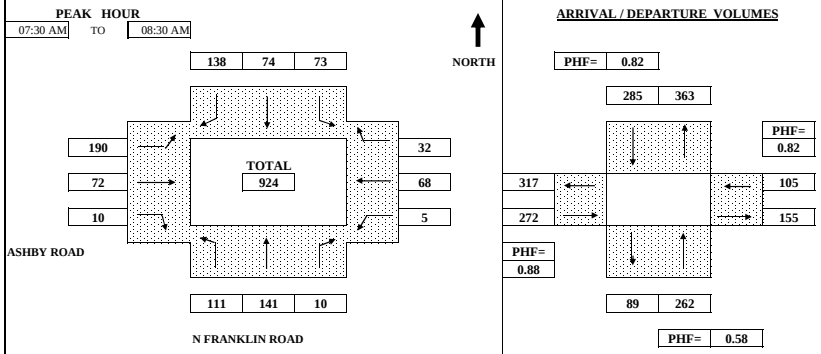
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	N FRANKLIN ROAD	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	ASHBY ROAD	CITY:	MERCED	FILE:	3005030-20AM

PEAK HOUR: 07:30 AM TO 08:30 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	5	25	3	8	21	23	18	9	3	3	14	4	*136*
7:15 AM	7:30 AM	12	51	3	21	45	52	55	20	7	8	22	7	*303*
7:30 AM	7:45 AM	44	76	5	41	59	93	109	37	9	9	35	11	*528*
7:45 AM	8:00 AM	100	131	7	57	72	151	160	56	11	11	59	17	*832*
8:00 AM	8:15 AM	114	166	9	71	95	173	205	84	15	12	72	29	*1,045*
8:15 AM	8:30 AM	123	192	13	94	119	190	245	92	17	13	90	39	*1,227*
8:30 AM	8:45 AM	126	214	16	107	141	215	276	112	19	13	98	44	*1,381*
8:45 AM	9:00 AM	133	242	17	120	155	233	306	131	20	15	110	47	*1,529*
TOTAL BY PERIOD														
7:00 AM	7:15 AM	5	25	3	8	21	23	18	9	3	3	14	4	*136*
7:15 AM	7:30 AM	7	26	0	13	24	29	37	11	4	5	8	3	*167*
7:30 AM	7:45 AM	32	25	2	20	14	41	54	17	2	1	13	4	*225*
7:45 AM	8:00 AM	56	55	2	16	13	58	51	19	2	2	24	6	*304*
8:00 AM	8:15 AM	14	35	2	14	23	22	45	28	4	1	13	12	*213*
8:15 AM	8:30 AM	9	26	4	23	24	17	40	8	2	1	18	10	*182*
8:30 AM	8:45 AM	3	22	3	13	22	25	31	20	2	0	8	5	*154*
8:45 AM	9:00 AM	7	28	1	13	14	18	30	19	1	2	12	3	*148*
HOURLY TOTALS														
7:00 AM	8:00 AM	100	131	7	57	72	151	160	56	11	11	59	17	*832*
7:15 AM	8:15 AM	109	141	6	63	74	150	187	75	12	9	58	25	*909*
7:30 AM	8:30 AM	111	141	10	73	74	138	190	72	10	5	68	32	*924*
7:45 AM	8:45 AM	82	138	11	66	82	122	167	75	10	4	63	33	*853*
8:00 AM	9:00 AM	33	111	10	63	83	82	146	75	9	4	51	30	*697*

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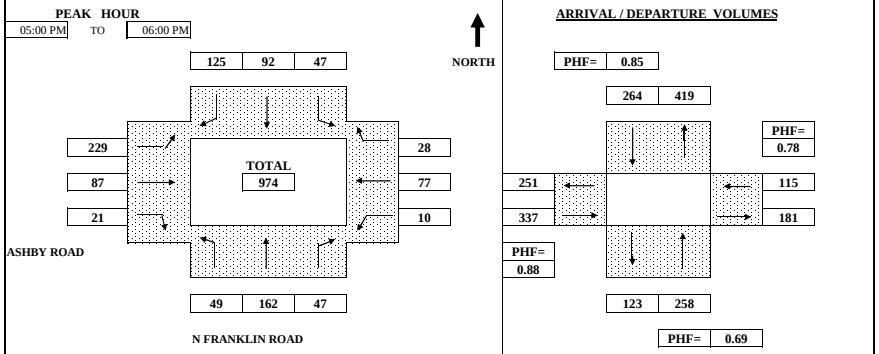
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	N FRANKLIN ROAD	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	ASHBY ROAD	CITY:	MERCED	FILE:	3005030-20PM

PEAK HOUR: 05:00 PM TO 06:00 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	9	41	5	15	28	34	50	20	1	5	13	7	*228*
4:15 PM	4:30 PM	23	65	10	20	45	72	95	47	3	9	28	14	*431*
4:30 PM	4:45 PM	45	100	10	35	72	108	141	79	9	15	49	23	*686*
4:45 PM	5:00 PM	64	128	13	44	97	136	196	92	10	17	69	30	*896*
5:00 PM	5:15 PM	79	181	19	56	117	167	254	120	20	19	93	34	*1,159*
5:15 PM	5:30 PM	90	209	28	66	143	201	323	134	26	23	120	40	*1,403*
5:30 PM	5:45 PM	94	242	34	78	169	229	378	155	28	24	129	49	*1,609*
5:45 PM	6:00 PM	113	290	60	91	189	261	425	179	31	27	146	58	*1,870*
TOTAL BY PERIOD														
4:00 PM	4:15 PM	9	41	5	15	28	34	50	20	1	5	13	7	*228*
4:15 PM	4:30 PM	14	24	5	5	17	38	45	27	2	4	15	7	*203*
4:30 PM	4:45 PM	22	35	0	15	27	36	46	32	6	6	21	9	*255*
4:45 PM	5:00 PM	19	28	3	9	25	28	55	13	1	2	20	7	*210*
5:00 PM	5:15 PM	15	53	6	12	20	31	58	28	10	2	24	4	*263*
5:15 PM	5:30 PM	11	28	9	10	26	34	69	14	6	4	27	6	*244*
5:30 PM	5:45 PM	4	33	6	12	26	28	55	21	2	1	9	9	*206*
5:45 PM	6:00 PM	19	48	26	13	20	32	47	24	3	3	17	9	*261*
HOURLY TOTALS														
4:00 PM	5:00 PM	64	128	13	44	97	136	196	92	10	17	69	30	*896*
4:15 PM	5:15 PM	70	140	14	41	89	133	204	100	19	14	80	27	*931*
4:30 PM	5:30 PM	67	144	18	46	98	129	228	87	23	14	92	26	*972*
4:45 PM	5:45 PM	49	142	24	43	97	121	237	76	19	9	80	26	*923*
5:00 PM	6:00 PM	49	162	47	47	92	125	229	87	21	10	77	28	*974*

Telephone: (510)232-1271 Fax: (510)232-1272

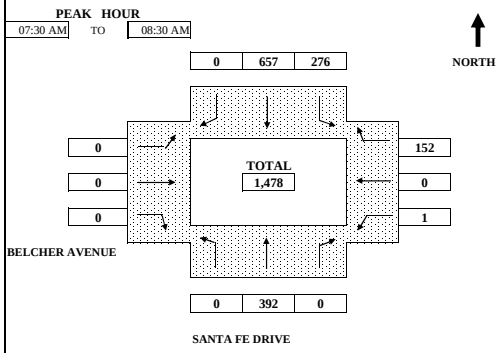
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

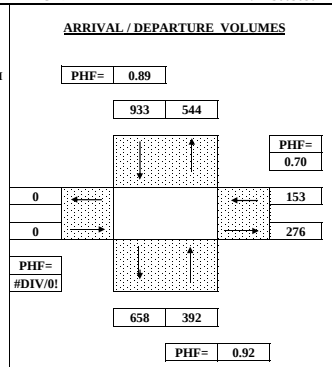
PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	SANTA FE DRIVE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	BELCHER AVENUE	CITY: MERCED		FILE:	3005030-21AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	79	2	26	71	0	0	0	0	0	0	45	*223*
7:15 AM ---	7:30 AM	0	166	2	63	192	0	0	0	0	0	0	100	*523*
7:30 AM ---	7:45 AM	0	264	2	153	365	0	0	0	0	1	0	152	*937*
7:45 AM ---	8:00 AM	0	363	2	233	544	0	0	0	0	1	0	188	*1,331*
8:00 AM ---	8:15 AM	0	469	2	295	712	0	0	0	0	1	0	219	*1,698*
8:15 AM ---	8:30 AM	0	558	2	339	849	0	0	0	0	1	0	252	*2,001*
8:30 AM ---	8:45 AM	0	629	2	405	1,026	0	0	0	0	6	0	289	*2,357*
8:45 AM ---	9:00 AM	0	721	3	475	1,133	0	0	0	0	6	0	337	*2,675*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	79	2	26	71	0	0	0	0	0	0	45	*223*
7:15 AM ---	7:30 AM	0	87	0	37	121	0	0	0	0	0	0	55	*300*
7:30 AM ---	7:45 AM	0	98	0	90	173	0	0	0	0	1	0	52	*414*
7:45 AM ---	8:00 AM	0	99	0	80	179	0	0	0	0	0	0	36	*394*
8:00 AM ---	8:15 AM	0	106	0	62	168	0	0	0	0	0	0	31	*367*
8:15 AM ---	8:30 AM	0	89	0	44	137	0	0	0	0	0	0	33	*303*
8:30 AM ---	8:45 AM	0	71	0	66	177	0	0	0	0	5	0	37	*356*
8:45 AM ---	9:00 AM	0	92	1	70	107	0	0	0	0	0	0	48	*318*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	0	363	2	233	544	0	0	0	0	1	0	188	*1,331*
7:15 AM ---	8:15 AM	0	390	0	269	641	0	0	0	0	1	0	174	*1,475*
7:30 AM ---	8:30 AM	0	392	0	276	657	0	0	0	0	1	0	152	*1,478*
7:45 AM ---	8:45 AM	0	365	0	252	661	0	0	0	0	5	0	137	*1,420*
8:00 AM ---	9:00 AM	0	358	1	242	589	0	0	0	0	5	0	149	*1,344*

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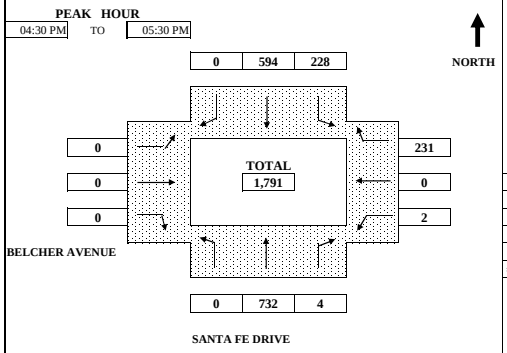
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

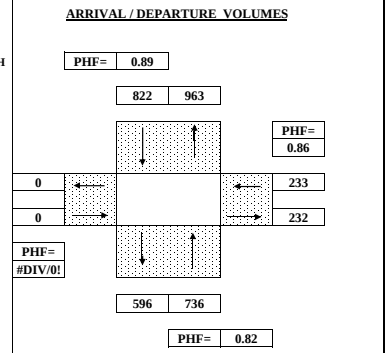
PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	SANTA FE DRIVE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	BELCHER AVENUE	CITY: MERCED		FILE:	3005030-21PM

PEAK HOUR

04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	203	3	57	159	0	0	0	0	1	0	40	*463*
4:15 PM ---	4:30 PM	0	372	3	97	312	0	0	0	0	2	0	86	*872*
4:30 PM ---	4:45 PM	0	524	3	134	473	0	0	0	0	2	0	139	*1,275*
4:45 PM ---	5:00 PM	0	700	4	181	610	0	0	0	0	4	0	193	*1,692*
5:00 PM ---	5:15 PM	0	923	6	253	769	0	0	0	0	4	0	249	*2,204*
5:15 PM ---	5:30 PM	0	1,104	7	325	906	0	0	0	0	4	0	317	*2,663*
5:30 PM ---	5:45 PM	0	1,265	7	373	1,055	0	0	0	0	5	0	355	*3,060*
5:45 PM ---	6:00 PM	0	1,438	8	412	1,196	0	0	0	0	6	0	403	*3,463*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	203	3	57	159	0	0	0	0	1	0	40	*463*
4:15 PM ---	4:30 PM	0	169	0	40	153	0	0	0	0	1	0	46	*409*
4:30 PM ---	4:45 PM	0	152	0	37	161	0	0	0	0	0	0	53	*403*
4:45 PM ---	5:00 PM	0	176	1	47	137	0	0	0	0	2	0	54	*417*
5:00 PM ---	5:15 PM	0	223	2	72	159	0	0	0	0	0	0	56	*512*
5:15 PM ---	5:30 PM	0	181	1	72	137	0	0	0	0	0	0	68	*459*
5:30 PM ---	5:45 PM	0	161	0	48	149	0	0	0	0	1	0	38	*397*
5:45 PM ---	6:00 PM	0	173	1	39	141	0	0	0	0	1	0	48	*403*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	0	700	4	181	610	0	0	0	0	4	0	193	*1,692*
4:15 PM ---	5:15 PM	0	720	3	196	610	0	0	0	0	3	0	209	*1,741*
4:30 PM ---	5:30 PM	0	732	4	228	594	0	0	0	0	2	0	231	*1,791*
4:45 PM ---	5:45 PM	0	741	4	239	582	0	0	0	0	3	0	216	*1,785*
5:00 PM ---	6:00 PM	0	738	4	231	586	0	0	0	0	2	0	210	*1,771*

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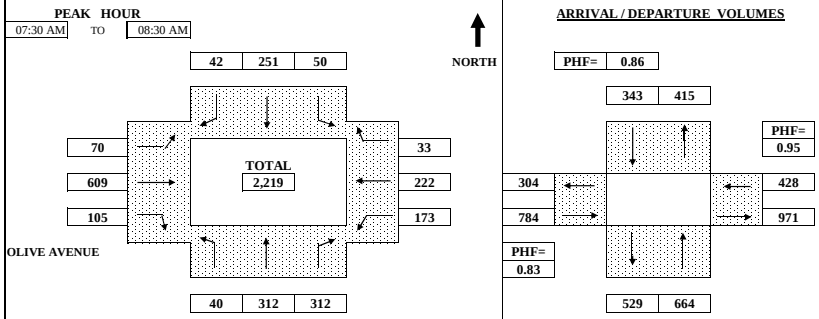
B.A.Y.M.E.T.R.I.C.S.

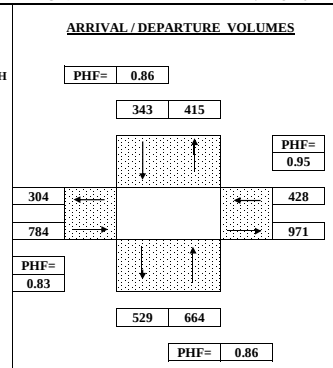
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	SR-59	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	OLIVE AVENUE	CITY: MERCED		FILE:	2911071-1AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	9	47	39	9	82	9	9	121	13	43	54	4	439
7:15 AM	7:30 AM	17	100	81	10	169	17	20	239	29	88	109	6	885
7:30 AM	7:45 AM	24	175	148	18	250	23	34	392	60	127	170	12	1,433
7:45 AM	8:00 AM	30	271	238	30	322	31	50	574	98	169	226	20	2,059
8:00 AM	8:15 AM	41	350	321	44	379	44	68	727	123	212	275	31	2,615
8:15 AM	8:30 AM	57	412	393	60	420	59	90	848	134	261	331	39	3,104
8:30 AM	8:45 AM	72	485	462	74	466	70	111	981	144	303	381	46	3,595
8:45 AM	9:00 AM	83	563	531	86	517	79	128	1,118	153	342	435	53	4,088
TOTAL BY PERIOD														
7:00 AM	7:15 AM	9	47	39	9	82	9	9	121	13	43	54	4	439
7:15 AM	7:30 AM	8	53	42	1	87	8	11	118	16	45	55	2	446
7:30 AM	7:45 AM	7	75	67	8	81	6	14	153	31	39	61	6	548
7:45 AM	8:00 AM	6	96	90	12	72	8	16	182	38	42	56	8	626
8:00 AM	8:15 AM	11	79	83	14	57	13	18	153	25	43	49	11	556
8:15 AM	8:30 AM	16	62	72	16	41	15	22	121	11	49	56	8	489
8:30 AM	8:45 AM	15	73	69	14	46	11	21	133	10	42	50	7	491
8:45 AM	9:00 AM	11	78	69	12	51	9	17	137	9	39	54	7	493
HOURLY TOTALS														
7:00 AM	8:00 AM	30	271	238	30	322	31	50	574	98	169	226	20	2,059
7:15 AM	8:15 AM	32	303	282	35	297	35	59	606	110	169	221	27	2,176
7:30 AM	8:30 AM	40	312	312	50	251	42	70	609	105	173	222	33	2,219
7:45 AM	8:45 AM	48	310	314	56	216	47	77	589	84	176	211	34	2,162
8:00 AM	9:00 AM	53	292	293	56	195	48	78	544	55	173	209	33	2,029

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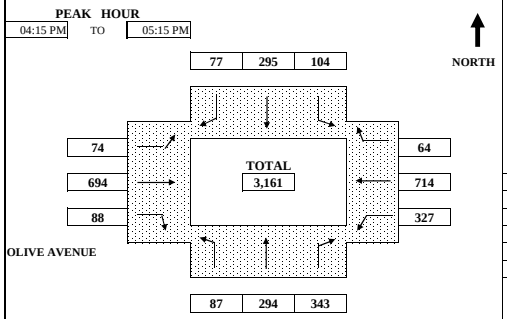
B.A.Y.M.E.T.R.I.C.S.

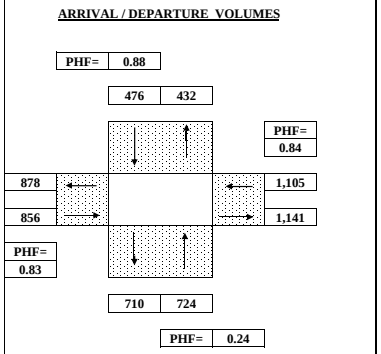
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	MERCED - FRESNO TRAFFIC COUNTS	SURVEY DATE:	11/19/2009	DAY:	THURSDAY
N-S APPROACH:	SR-59	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	OLIVE AVENUE	CITY: MERCED		FILE:	2911071-1PM

PEAK HOUR: 04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	18	67	95	25	69	21	16	148	25	86	182	30	782
4:15 PM	4:30 PM	39	140	179	52	153	36	38	303	49	167	345	52	1,553
4:30 PM	4:45 PM	52	805	266	74	210	58	49	449	66	238	526	66	2,859
4:45 PM	5:00 PM	80	277	359	96	277	83	72	658	92	308	687	80	3,069
5:00 PM	5:15 PM	105	361	438	129	364	98	90	842	113	413	896	94	3,943
5:15 PM	5:30 PM	125	443	530	144	426	113	110	1,029	126	480	1,042	99	4,667
5:30 PM	5:45 PM	145	517	613	164	485	135	124	1,193	158	548	1,177	105	5,364
5:45 PM	6:00 PM	173	583	714	185	540	154	132	1,331	183	613	1,314	118	6,040
TOTAL BY PERIOD														
4:00 PM	4:15 PM	18	67	95	25	69	21	16	148	25	86	182	30	782
4:15 PM	4:30 PM	21	73	84	27	84	15	22	155	24	81	163	22	771
4:30 PM	4:45 PM	13	665	87	22	57	22	11	146	17	71	181	14	1,306
4:45 PM	5:00 PM	28	-528	93	22	67	25	23	209	26	70	161	14	210
5:00 PM	5:15 PM	25	84	79	33	87	15	18	184	21	105	209	14	874
5:15 PM	5:30 PM	20	82	92	15	62	15	20	187	13	67	146	5	724
5:30 PM	5:45 PM	20	74	83	20	59	22	14	164	32	68	135	6	697
5:45 PM	6:00 PM	28	66	101	21	55	19	8	138	25	65	137	13	676
HOURLY TOTALS														
4:00 PM	5:00 PM	80	277	359	96	277	83	72	658	92	308	687	80	3,069
4:15 PM	5:15 PM	87	294	343	104	295	77	74	694	88	327	714	64	3,161
4:30 PM	5:30 PM	86	303	351	92	273	77	72	726	77	313	697	47	3,114
4:45 PM	5:45 PM	93	-288	347	90	275	77	75	744	92	310	651	39	2,505
5:00 PM	6:00 PM	93	306	355	89	263	71	60	673	91	305	627	38	2,971

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HMF HARRIS DEJAGER INTERSECTION COUNTS

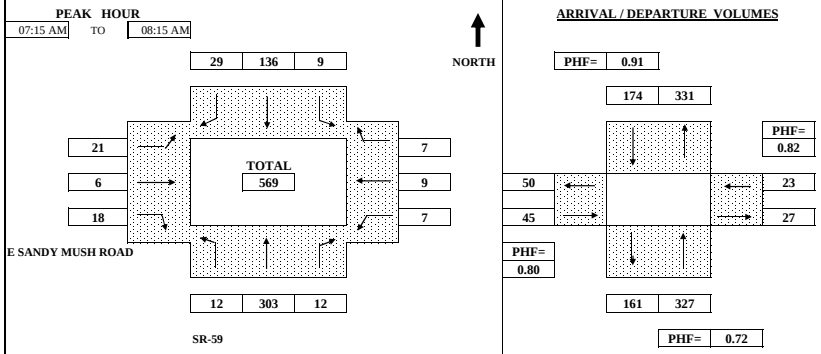
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	SR-59	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	E SANDY MUSH ROAD	CITY:	MERCED	FILE:	3005030-33AM

PEAK HOUR: 07:15 AM TO 08:15 AM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	3	56	3	2	28	4	4	0	5	1	1	0	*107*
7:15 AM ---	7:30 AM	5	128	5	7	60	12	10	2	11	2	3	1	*246*
7:30 AM ---	7:45 AM	10	233	8	9	99	15	16	2	16	4	4	3	*419*
7:45 AM ---	8:00 AM	14	302	12	10	126	24	23	4	19	7	6	5	*552*
8:00 AM ---	8:15 AM	15	359	15	11	164	33	25	6	23	8	10	7	*676*
8:15 AM ---	8:30 AM	21	407	35	11	194	39	27	7	27	12	12	8	*800*
8:30 AM ---	8:45 AM	26	449	38	14	221	46	32	10	32	13	13	9	*903*
8:45 AM ---	9:00 AM	29	489	39	15	246	54	35	11	35	15	15	12	*995*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	3	56	3	2	28	4	4	0	5	1	1	0	*107*
7:15 AM ---	7:30 AM	2	72	2	5	32	8	6	2	6	1	2	1	*139*
7:30 AM ---	7:45 AM	5	105	3	2	39	3	6	0	5	2	1	2	*173*
7:45 AM ---	8:00 AM	4	69	4	1	27	9	7	2	3	3	2	2	*133*
8:00 AM ---	8:15 AM	1	57	3	1	38	9	2	2	4	1	4	2	*124*
8:15 AM ---	8:30 AM	6	48	20	0	30	6	2	1	4	4	2	1	*124*
8:30 AM ---	8:45 AM	5	42	3	3	27	7	5	3	5	1	1	1	*103*
8:45 AM ---	9:00 AM	3	40	1	1	25	8	3	1	3	2	2	3	*92*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	14	302	12	10	126	24	23	4	19	7	6	5	*552*
7:15 AM ---	8:15 AM	12	303	12	9	136	29	21	6	18	7	9	7	*569*
7:30 AM ---	8:30 AM	16	279	30	4	134	27	17	5	16	10	9	7	*554*
7:45 AM ---	8:45 AM	16	216	30	5	122	31	16	8	16	9	9	6	*484*
8:00 AM ---	9:00 AM	15	187	27	5	120	30	12	7	16	8	9	7	*443*

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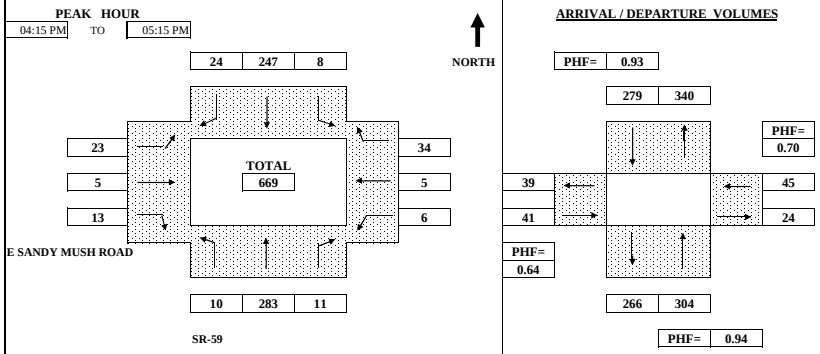
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	SR-59	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	E SANDY MUSH ROAD	CITY:	MERCED	FILE:	3005030-33PM

PEAK HOUR: 04:15 PM TO 05:15 PM

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	2	60	1	0	53	4	6	4	2	1	0	6	*139*
4:15 PM ---	4:30 PM	3	128	5	2	118	11	10	5	5	3	2	16	*308*
4:30 PM ---	4:45 PM	6	199	8	3	178	16	13	7	9	6	3	28	*476*
4:45 PM ---	5:00 PM	10	274	10	6	244	22	24	7	14	6	4	36	*657*
5:00 PM ---	5:15 PM	12	343	12	8	300	28	29	9	15	7	5	40	*808*
5:15 PM ---	5:30 PM	13	407	13	13	355	34	34	12	15	10	5	46	*957*
5:30 PM ---	5:45 PM	16	472	13	17	413	38	37	16	17	14	5	51	*1,109*
5:45 PM ---	6:00 PM	17	539	16	18	463	41	41	18	18	15	6	58	*1,250*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	2	60	1	0	53	4	6	4	2	1	0	6	*139*
4:15 PM ---	4:30 PM	1	68	4	2	65	7	4	1	3	2	2	10	*169*
4:30 PM ---	4:45 PM	3	71	3	1	60	5	3	2	4	3	1	12	*168*
4:45 PM ---	5:00 PM	4	75	2	3	66	6	11	0	5	0	1	8	*181*
5:00 PM ---	5:15 PM	2	69	2	2	56	6	5	2	1	1	1	4	*151*
5:15 PM ---	5:30 PM	1	64	1	5	55	6	5	3	0	3	0	6	*149*
5:30 PM ---	5:45 PM	3	65	0	4	58	4	3	4	2	4	0	5	*152*
5:45 PM ---	6:00 PM	1	67	3	1	50	3	4	2	1	1	1	7	*141*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	10	274	10	6	244	22	24	7	14	6	4	36	*657*
4:15 PM ---	5:15 PM	10	283	11	8	247	24	23	5	13	6	5	34	*669*
4:30 PM ---	5:30 PM	10	279	8	11	237	23	24	7	10	7	3	30	*649*
4:45 PM ---	5:45 PM	10	273	5	14	235	22	24	9	8	8	2	23	*633*
5:00 PM ---	6:00 PM	7	265	6	12	219	19	17	11	4	9	2	22	*593*

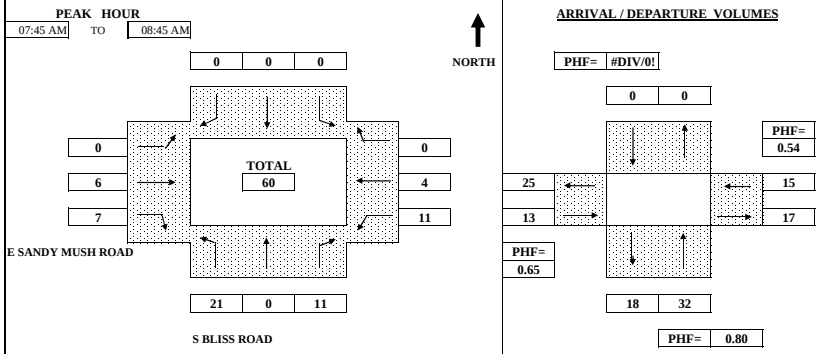
Telephone: (510)232-1271 Fax: (510)232-1272

B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	S BLISS ROAD	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	E SANDY MUSH ROAD	CITY:	MERCED	FILE:	3005030-34AM

PEAK HOUR: 07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	1	0	3	0	0	0	0	0	1	3	0	0	*8*
7:15 AM ---	7:30 AM	4	0	5	0	0	0	0	3	1	5	2	0	*20*
7:30 AM ---	7:45 AM	6	0	6	0	0	0	0	3	3	9	4	0	*31*
7:45 AM ---	8:00 AM	11	0	11	0	0	0	0	5	4	12	5	0	*48*
8:00 AM ---	8:15 AM	17	0	13	0	0	0	0	7	7	14	6	0	*64*
8:15 AM ---	8:30 AM	21	0	15	0	0	0	0	8	8	15	6	0	*73*
8:30 AM ---	8:45 AM	27	0	17	0	0	0	0	9	10	20	8	0	*91*
8:45 AM ---	9:00 AM	30	0	20	0	0	0	0	11	12	23	10	0	*106*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	1	0	3	0	0	0	0	0	1	3	0	0	*8*
7:15 AM ---	7:30 AM	3	0	2	0	0	0	0	3	0	2	2	0	*12*
7:30 AM ---	7:45 AM	2	0	1	0	0	0	0	0	2	4	2	0	*11*
7:45 AM ---	8:00 AM	5	0	5	0	0	0	0	2	1	3	1	0	*17*
8:00 AM ---	8:15 AM	6	0	2	0	0	0	0	2	3	2	1	0	*16*
8:15 AM ---	8:30 AM	4	0	2	0	0	0	0	1	1	1	0	0	*9*
8:30 AM ---	8:45 AM	6	0	2	0	0	0	0	1	2	5	2	0	*18*
8:45 AM ---	9:00 AM	3	0	3	0	0	0	0	2	2	3	2	0	*15*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	11	0	11	0	0	0	0	5	4	12	5	0	*48*
7:15 AM ---	8:15 AM	16	0	10	0	0	0	0	7	6	11	6	0	*56*
7:30 AM ---	8:30 AM	17	0	10	0	0	0	0	5	7	10	4	0	*53*
7:45 AM ---	8:45 AM	21	0	11	0	0	0	0	6	7	11	4	0	*60*
8:00 AM ---	9:00 AM	19	0	9	0	0	0	0	6	8	11	5	0	*58*

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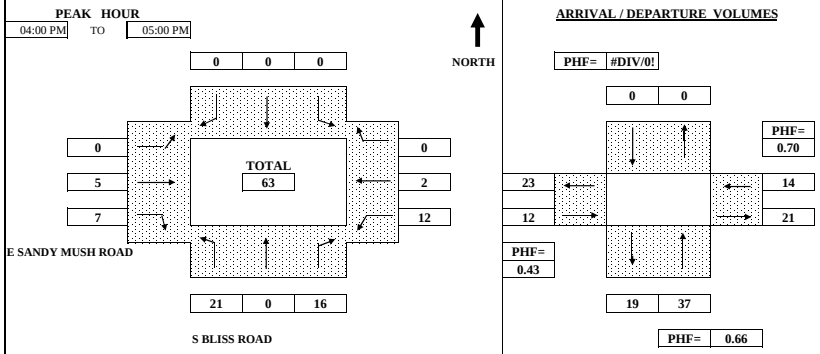
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	S BLISS ROAD	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	E SANDY MUSH ROAD	CITY:	MERCED	FILE:	3005030-34PM

PEAK HOUR: 04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	5	0	3	0	0	0	0	2	1	4	1	0	*16*
4:15 PM ---	4:30 PM	8	0	5	0	0	0	0	2	3	9	1	0	*28*
4:30 PM ---	4:45 PM	14	0	9	0	0	0	0	3	6	11	2	0	*45*
4:45 PM ---	5:00 PM	21	0	16	0	0	0	0	5	7	12	2	0	*63*
5:00 PM ---	5:15 PM	24	0	18	0	0	0	0	8	11	13	3	0	*77*
5:15 PM ---	5:30 PM	26	0	24	0	0	0	0	9	13	15	3	0	*90*
5:30 PM ---	5:45 PM	30	0	28	0	0	0	0	11	15	16	4	0	*104*
5:45 PM ---	6:00 PM	34	0	31	0	0	0	0	13	18	18	5	0	*119*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	5	0	3	0	0	0	0	2	1	4	1	0	*16*
4:15 PM ---	4:30 PM	3	0	2	0	0	0	0	0	2	5	0	0	*12*
4:30 PM ---	4:45 PM	6	0	4	0	0	0	0	1	3	2	1	0	*17*
4:45 PM ---	5:00 PM	7	0	7	0	0	0	0	2	1	1	0	0	*18*
5:00 PM ---	5:15 PM	3	0	2	0	0	0	0	3	4	1	1	0	*14*
5:15 PM ---	5:30 PM	2	0	6	0	0	0	0	1	2	2	0	0	*13*
5:30 PM ---	5:45 PM	4	0	4	0	0	0	0	2	2	1	1	0	*14*
5:45 PM ---	6:00 PM	4	0	3	0	0	0	0	2	3	2	1	0	*15*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	21	0	16	0	0	0	0	5	7	12	2	0	*63*
4:15 PM ---	5:15 PM	19	0	15	0	0	0	0	6	10	9	2	0	*61*
4:30 PM ---	5:30 PM	18	0	19	0	0	0	0	7	10	6	2	0	*62*
4:45 PM ---	5:45 PM	16	0	19	0	0	0	0	8	9	5	2	0	*59*
5:00 PM ---	6:00 PM	13	0	15	0	0	0	0	8	11	6	3	0	*56*

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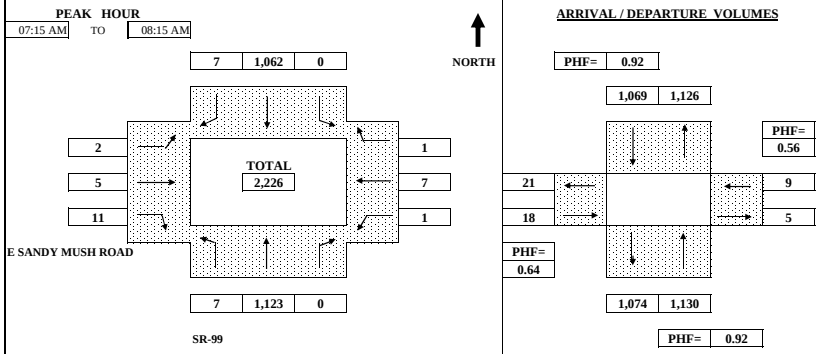
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	SR-99	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	E SANDY MUSH ROAD	CITY:	MERCED	FILE:	3005030-35AM

PEAK HOUR: 07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	220	0	0	281	0	1	0	0	0	0	0	*502*
7:15 AM ---	7:30 AM	2	507	0	0	557	2	1	0	5	1	2	0	*1,077*
7:30 AM ---	7:45 AM	3	812	0	0	847	3	1	1	6	1	6	0	*1,680*
7:45 AM ---	8:00 AM	4	1,081	0	0	1,095	6	2	4	9	1	7	1	*2,210*
8:00 AM ---	8:15 AM	7	1,343	0	0	1,343	7	3	5	11	1	7	1	*2,728*
8:15 AM ---	8:30 AM	9	1,578	0	0	1,574	7	4	6	12	1	7	1	*3,199*
8:30 AM ---	8:45 AM	12	1,824	0	1	1,849	8	5	7	14	1	9	1	*3,731*
8:45 AM ---	9:00 AM	14	2,107	0	2	2,092	8	5	8	15	1	9	1	*4,262*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	220	0	0	281	0	1	0	0	0	0	0	*502*
7:15 AM ---	7:30 AM	2	287	0	0	276	2	0	0	5	1	2	0	*575*
7:30 AM ---	7:45 AM	1	305	0	0	290	1	0	1	1	0	4	0	*603*
7:45 AM ---	8:00 AM	1	269	0	0	248	3	1	3	3	0	1	1	*530*
8:00 AM ---	8:15 AM	3	262	0	0	248	1	1	1	2	0	0	0	*518*
8:15 AM ---	8:30 AM	2	235	0	0	231	0	1	1	1	0	0	0	*471*
8:30 AM ---	8:45 AM	3	246	0	1	275	1	1	1	2	0	2	0	*532*
8:45 AM ---	9:00 AM	2	283	0	1	243	0	0	1	1	0	0	0	*531*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	4	1,081	0	0	1,095	6	2	4	9	1	7	1	*2,210*
7:15 AM ---	8:15 AM	7	1,123	0	0	1,062	7	2	5	11	1	7	1	*2,226*
7:30 AM ---	8:30 AM	7	1,071	0	0	1,017	5	3	6	7	0	5	1	*2,122*
7:45 AM ---	8:45 AM	9	1,012	0	1	1,002	5	4	6	8	0	3	1	*2,051*
8:00 AM ---	9:00 AM	10	1,026	0	2	997	2	3	4	6	0	2	0	*2,052*

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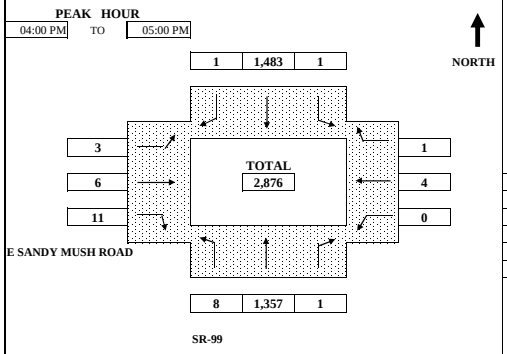
B.A.Y.M.E.T.R.I.C.S.

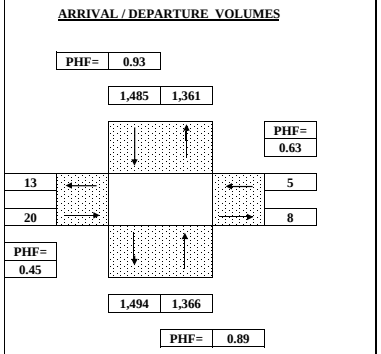
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/12/2010	DAY:	WEDNESDAY
N-S APPROACH:	SR-99	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	E SANDY MUSH ROAD	CITY:	MERCED	FILE:	3005030-35PM

PEAK HOUR: 04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	3	360	1	0	360	0	1	2	2	0	2	0	*731*
4:15 PM ---	4:30 PM	7	706	1	1	714	0	1	3	3	0	3	1	*1,440*
4:30 PM ---	4:45 PM	8	1,038	1	1	1,111	1	1	4	4	0	4	1	*2,174*
4:45 PM ---	5:00 PM	8	1,357	1	1	1,483	1	3	6	11	0	4	1	*2,876*
5:00 PM ---	5:15 PM	9	1,671	1	2	1,830	1	3	11	11	0	5	1	*3,545*
5:15 PM ---	5:30 PM	10	2,052	1	2	2,184	2	3	15	15	0	5	1	*4,290*
5:30 PM ---	5:45 PM	11	2,360	1	2	2,568	2	3	16	18	0	5	1	*4,987*
5:45 PM ---	6:00 PM	13	2,613	1	2	2,898	2	4	20	21	0	6	1	*5,581*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	3	360	1	0	360	0	1	2	2	0	2	0	*731*
4:15 PM ---	4:30 PM	4	346	0	1	354	0	0	1	1	0	1	1	*709*
4:30 PM ---	4:45 PM	1	332	0	0	397	1	0	1	1	0	1	0	*734*
4:45 PM ---	5:00 PM	0	319	0	0	372	0	2	2	7	0	0	0	*702*
5:00 PM ---	5:15 PM	1	314	0	1	347	0	0	5	0	0	1	0	*669*
5:15 PM ---	5:30 PM	1	381	0	0	354	1	0	4	4	0	0	0	*745*
5:30 PM ---	5:45 PM	1	308	0	0	384	0	0	1	3	0	0	0	*697*
5:45 PM ---	6:00 PM	2	253	0	0	330	0	1	4	3	0	1	0	*594*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	8	1,357	1	1	1,483	1	3	6	11	0	4	1	*2,876*
4:15 PM ---	5:15 PM	6	1,311	0	2	1,470	1	2	9	9	0	3	1	*2,814*
4:30 PM ---	5:30 PM	3	1,346	0	1	1,470	2	2	12	12	0	2	0	*2,850*
4:45 PM ---	5:45 PM	3	1,322	0	1	1,457	1	2	12	14	0	1	0	*2,813*
5:00 PM ---	6:00 PM	5	1,256	0	1	1,415	1	1	14	10	0	2	0	*2,705*

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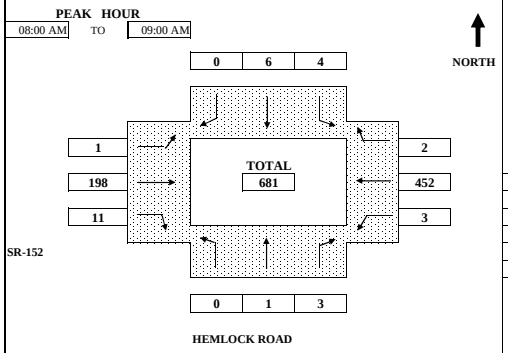
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

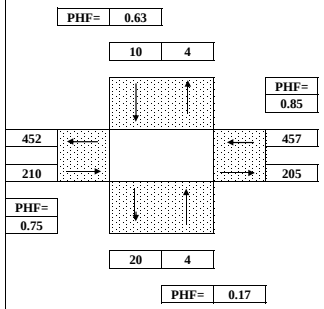
PROJECT:	HSR - MERCED	SURVEY DATE:	5/19/2010	DAY:	WEDNESDAY
N-S APPROACH:	HEMLOCK ROAD	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SR-152	CITY:	MERCED	FILE:	3005030-37AM

PEAK HOUR

08:00 AM TO 09:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	2	0	1	0	0	0	0	51	1	1	67	0	***123***
7:15 AM ---	7:30 AM	2	0	1	0	0	0	0	98	1	1	133	0	***236***
7:30 AM ---	7:45 AM	6	0	3	0	2	0	0	154	3	1	211	0	***380***
7:45 AM ---	8:00 AM	7	1	3	1	2	1	1	200	3	1	292	1	***513***
8:00 AM ---	8:15 AM	7	1	3	1	2	1	1	243	5	2	395	1	***662***
8:15 AM ---	8:30 AM	7	2	3	2	5	1	1	294	7	2	507	1	***832***
8:30 AM ---	8:45 AM	7	2	5	4	7	1	1	358	13	4	637	3	***1,042***
8:45 AM ---	9:00 AM	7	2	6	5	8	1	2	398	14	4	744	3	***1,194***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	2	0	1	0	0	0	0	51	1	1	67	0	***123***
7:15 AM ---	7:30 AM	0	0	0	0	0	0	0	47	0	0	66	0	***113***
7:30 AM ---	7:45 AM	4	0	2	0	2	0	0	56	2	0	78	0	***144***
7:45 AM ---	8:00 AM	1	1	0	1	0	1	1	46	0	0	81	1	***133***
8:00 AM ---	8:15 AM	0	0	0	0	0	0	0	43	2	1	103	0	***149***
8:15 AM ---	8:30 AM	0	1	0	1	3	0	0	51	2	0	112	0	***170***
8:30 AM ---	8:45 AM	0	0	2	2	2	0	0	64	6	2	130	2	***210***
8:45 AM ---	9:00 AM	0	0	1	1	1	0	1	40	1	0	107	0	***152***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	7	1	3	1	2	1	1	200	3	1	292	1	***513***
7:15 AM ---	8:15 AM	5	1	2	1	2	1	1	192	4	1	328	1	***539***
7:30 AM ---	8:30 AM	5	2	2	2	5	1	1	196	6	1	374	1	***596***
7:45 AM ---	8:45 AM	1	2	2	4	5	1	1	204	10	3	426	3	***662***
8:00 AM ---	9:00 AM	0	1	3	4	6	0	1	198	11	3	452	2	***681***

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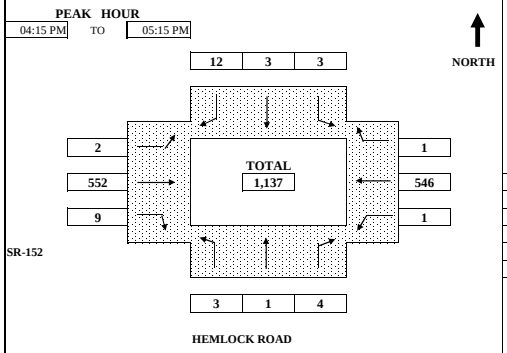
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

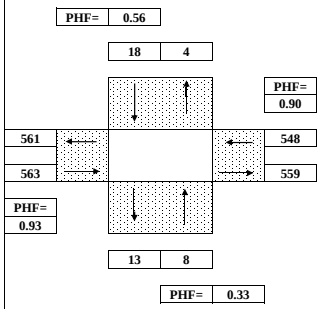
PROJECT:	HSR - MERCED	SURVEY DATE:	5/19/2010	DAY:	WEDNESDAY
N-S APPROACH:	HEMLOCK ROAD	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SR-152	CITY:	MERCED	FILE:	3005030-37PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	1	1	0	0	2	1	123	0	0	123	0	***251***
4:15 PM ---	4:30 PM	0	1	1	1	1	5	1	260	2	0	254	0	***526***
4:30 PM ---	4:45 PM	2	2	4	1	1	10	1	406	8	1	392	0	***828***
4:45 PM ---	5:00 PM	2	2	5	1	1	10	3	547	8	1	533	1	***1,114***
5:00 PM ---	5:15 PM	3	2	5	3	3	14	3	675	9	1	669	1	***1,388***
5:15 PM ---	5:30 PM	3	4	7	3	3	14	3	810	9	3	801	1	***1,661***
5:30 PM ---	5:45 PM	4	6	8	4	4	14	5	949	10	7	948	2	***1,961***
5:45 PM ---	6:00 PM	6	6	8	4	5	15	5	1,068	13	7	1,075	2	***2,214***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	1	1	0	0	2	1	123	0	0	123	0	***251***
4:15 PM ---	4:30 PM	0	0	0	1	1	3	0	137	2	0	131	0	***275***
4:30 PM ---	4:45 PM	2	1	3	0	0	5	0	146	6	1	138	0	***302***
4:45 PM ---	5:00 PM	0	0	1	0	0	0	2	141	0	0	141	1	***286***
5:00 PM ---	5:15 PM	1	0	0	2	2	4	0	128	1	0	136	0	***274***
5:15 PM ---	5:30 PM	0	2	2	0	0	0	0	135	0	2	132	0	***273***
5:30 PM ---	5:45 PM	1	2	1	1	1	0	2	139	1	4	147	1	***300***
5:45 PM ---	6:00 PM	2	0	0	0	1	1	0	119	3	0	127	0	***253***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	2	2	5	1	1	10	3	547	8	1	533	1	***1,114***
4:15 PM ---	5:15 PM	3	1	4	3	3	12	2	552	9	1	546	1	***1,137***
4:30 PM ---	5:30 PM	3	3	6	2	2	9	2	550	7	3	547	1	***1,135***
4:45 PM ---	5:45 PM	2	4	4	3	3	4	4	543	2	6	556	2	***1,133***
5:00 PM ---	6:00 PM	4	4	3	3	4	5	2	521	5	6	542	1	***1,100***

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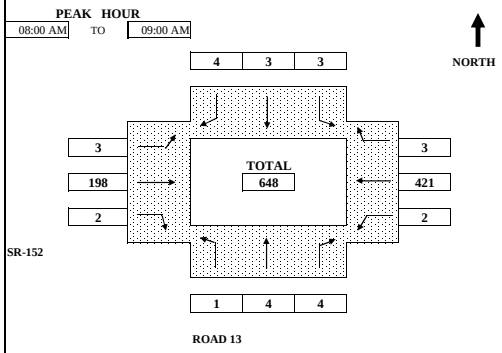
B.A.Y.M.E.T.R.I.C.S.

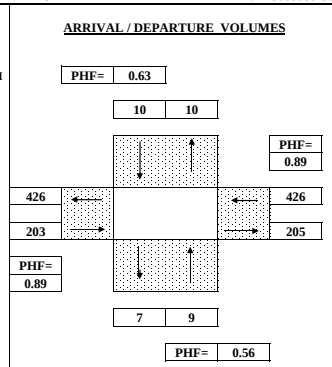
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/19/2010	DAY:	WEDNESDAY
N-S APPROACH:	ROAD 13	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SR-152	CITY:	MERCED	FILE:	3005030-36AM

PEAK HOUR: 08:00 AM TO 09:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	0	0	0	0	0	1	44	1	0	62	1	*109*
7:15 AM ---	7:30 AM	0	0	2	4	0	0	3	94	1	0	134	3	*241*
7:30 AM ---	7:45 AM	0	1	2	4	0	0	3	142	1	0	204	3	*360*
7:45 AM ---	8:00 AM	2	1	2	5	0	1	4	187	1	2	292	3	*500*
8:00 AM ---	8:15 AM	2	3	3	6	3	1	4	242	3	2	387	5	*661*
8:15 AM ---	8:30 AM	2	3	3	6	3	3	6	294	3	2	487	5	*817*
8:30 AM ---	8:45 AM	2	4	6	6	3	5	7	344	3	4	604	6	*994*
8:45 AM ---	9:00 AM	3	5	6	8	3	5	7	385	3	4	713	6	*1,148*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	0	0	0	0	0	1	44	1	0	62	1	*109*
7:15 AM ---	7:30 AM	0	0	2	4	0	0	2	50	0	0	72	2	*132*
7:30 AM ---	7:45 AM	0	1	0	0	0	0	0	48	0	0	70	0	*119*
7:45 AM ---	8:00 AM	2	0	0	1	0	1	1	45	0	2	88	0	*140*
8:00 AM ---	8:15 AM	0	2	1	1	3	0	0	55	2	0	95	2	*161*
8:15 AM ---	8:30 AM	0	0	0	0	0	2	2	52	0	0	100	0	*156*
8:30 AM ---	8:45 AM	0	1	3	0	0	2	1	50	0	2	117	1	*177*
8:45 AM ---	9:00 AM	1	1	0	2	0	0	0	41	0	0	109	0	*154*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	2	1	2	5	0	1	4	187	1	2	292	3	*500*
7:15 AM ---	8:15 AM	2	3	3	6	3	1	3	198	2	2	325	4	*552*
7:30 AM ---	8:30 AM	2	3	1	2	3	3	3	200	2	2	353	2	*576*
7:45 AM ---	8:45 AM	2	3	4	2	3	5	4	202	2	4	400	3	*634*
8:00 AM ---	9:00 AM	1	4	4	3	3	4	3	198	2	2	421	3	*648*

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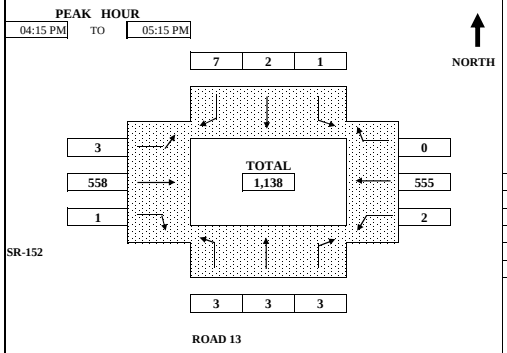
B.A.Y.M.E.T.R.I.C.S.

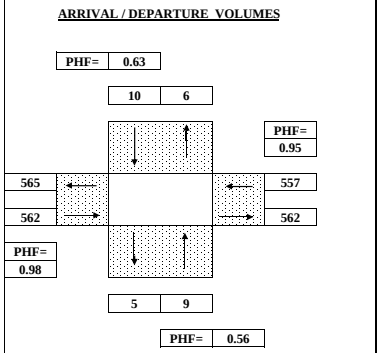
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/19/2010	DAY:	WEDNESDAY
N-S APPROACH:	ROAD 13	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SR-152	CITY:	MERCED	FILE:	3005030-36PM

PEAK HOUR: 04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	1	0	0	0	1	2	127	1	0	129	1	*262*
4:15 PM ---	4:30 PM	0	1	1	0	0	3	2	260	1	1	266	1	*536*
4:30 PM ---	4:45 PM	1	2	1	0	2	3	3	402	1	1	405	1	*822*
4:45 PM ---	5:00 PM	1	2	3	0	2	7	5	542	1	1	539	1	*1,104*
5:00 PM ---	5:15 PM	3	4	3	1	2	8	5	685	2	2	684	1	*1,400*
5:15 PM ---	5:30 PM	3	4	4	1	2	8	6	813	2	3	822	2	*1,670*
5:30 PM ---	5:45 PM	3	5	5	1	3	9	6	950	3	3	959	2	*1,949*
5:45 PM ---	6:00 PM	3	7	5	2	3	9	6	1,081	3	3	1,102	2	*2,226*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	1	0	0	0	1	2	127	1	0	129	1	*262*
4:15 PM ---	4:30 PM	0	0	1	0	0	2	0	133	0	1	137	0	*274*
4:30 PM ---	4:45 PM	1	1	0	0	2	0	1	142	0	0	139	0	*286*
4:45 PM ---	5:00 PM	0	0	2	0	0	4	2	140	0	0	134	0	*282*
5:00 PM ---	5:15 PM	2	2	0	1	0	1	0	143	1	1	145	0	*296*
5:15 PM ---	5:30 PM	0	0	1	0	0	0	1	128	0	1	138	1	*270*
5:30 PM ---	5:45 PM	0	1	1	0	1	1	0	137	1	0	137	0	*279*
5:45 PM ---	6:00 PM	0	2	0	1	0	0	0	131	0	0	143	0	*277*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	1	2	3	0	2	7	5	542	1	1	539	1	*1,104*
4:15 PM ---	5:15 PM	3	3	3	1	2	7	3	558	1	2	555	0	*1,138*
4:30 PM ---	5:30 PM	3	3	3	1	2	5	4	553	1	2	556	1	*1,134*
4:45 PM ---	5:45 PM	2	3	4	1	1	6	3	548	2	2	554	1	*1,127*
5:00 PM ---	6:00 PM	2	5	2	2	1	2	1	539	2	2	563	1	*1,122*

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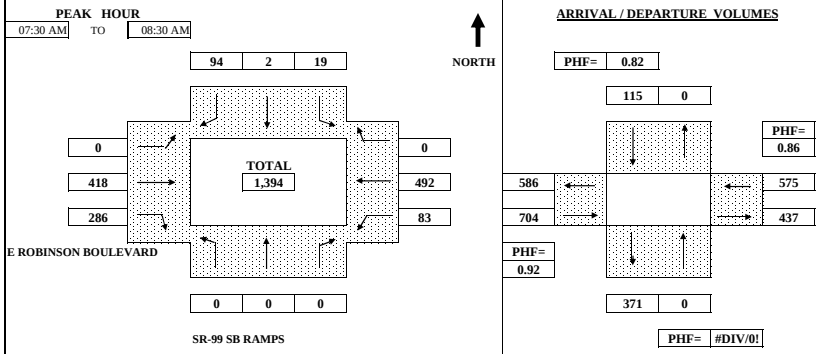
HMF KOJIMA DEVELOPMENT INTERSECTION COUNTS

B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SR-99 SB RAMPS	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	E ROBINSON BOULEVARD	CITY:	MERCED	FILE:	3005030-38AM

PEAK HOUR: 07:30 AM TO 08:30 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	0	0	2	0	32	0	64	73	23	63	0	***257***
7:15 AM ---	7:30 AM	0	0	0	5	0	50	0	130	132	43	145	0	***505***
7:30 AM ---	7:45 AM	0	0	0	14	0	73	0	213	209	65	240	0	***814***
7:45 AM ---	8:00 AM	0	0	0	18	2	92	0	303	295	85	388	0	***1,183***
8:00 AM ---	8:15 AM	0	0	0	21	2	124	0	435	355	107	501	0	***1,545***
8:15 AM ---	8:30 AM	0	0	0	24	2	144	0	548	418	126	637	0	***1,899***
8:30 AM ---	8:45 AM	0	0	0	33	2	168	0	618	479	141	750	0	***2,191***
8:45 AM ---	9:00 AM	0	0	0	37	2	184	0	664	523	153	821	0	***2,384***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	0	0	2	0	32	0	64	73	23	63	0	***257***
7:15 AM ---	7:30 AM	0	0	0	3	0	18	0	66	59	20	82	0	***248***
7:30 AM ---	7:45 AM	0	0	0	9	0	23	0	83	77	22	95	0	***309***
7:45 AM ---	8:00 AM	0	0	0	4	2	19	0	90	86	20	148	0	***369***
8:00 AM ---	8:15 AM	0	0	0	3	0	32	0	132	60	22	113	0	***362***
8:15 AM ---	8:30 AM	0	0	0	3	0	20	0	113	63	19	136	0	***354***
8:30 AM ---	8:45 AM	0	0	0	9	0	24	0	70	61	15	113	0	***292***
8:45 AM ---	9:00 AM	0	0	0	4	0	16	0	46	44	12	71	0	***193***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	0	0	0	18	2	92	0	303	295	85	388	0	***1,183***
7:15 AM ---	8:15 AM	0	0	0	19	2	92	0	371	282	84	438	0	***1,288***
7:30 AM ---	8:30 AM	0	0	0	19	2	94	0	418	286	83	492	0	***1,394***
7:45 AM ---	8:45 AM	0	0	0	19	2	95	0	405	270	76	510	0	***1,377***
8:00 AM ---	9:00 AM	0	0	0	19	0	92	0	361	228	68	433	0	***1,201***

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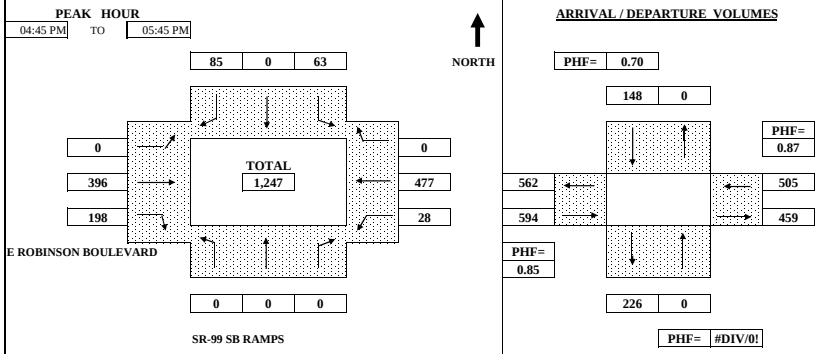
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SR-99 SB RAMPS	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	E ROBINSON BOULEVARD	CITY:	MERCED	FILE:	3005030-38PM

PEAK HOUR: 04:45 PM TO 05:45 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	0	0	16	0	15	0	90	47	7	105	0	***280***
4:15 PM ---	4:30 PM	0	0	0	34	0	37	0	208	104	21	225	0	***629***
4:30 PM ---	4:45 PM	0	0	0	40	1	61	0	291	145	31	311	0	***880***
4:45 PM ---	5:00 PM	0	0	0	62	1	86	0	400	199	37	417	0	***1,202***
5:00 PM ---	5:15 PM	0	0	0	71	1	101	0	494	241	47	532	0	***1,487***
5:15 PM ---	5:30 PM	0	0	0	86	1	118	0	596	286	52	672	0	***1,811***
5:30 PM ---	5:45 PM	0	0	0	103	1	146	0	687	343	59	788	0	***2,127***
5:45 PM ---	6:00 PM	0	0	0	130	1	172	0	785	380	71	898	0	***2,437***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	0	0	16	0	15	0	90	47	7	105	0	***280***
4:15 PM ---	4:30 PM	0	0	0	18	0	22	0	118	57	14	120	0	***349***
4:30 PM ---	4:45 PM	0	0	0	6	1	24	0	83	41	10	86	0	***251***
4:45 PM ---	5:00 PM	0	0	0	22	0	25	0	109	54	6	106	0	***322***
5:00 PM ---	5:15 PM	0	0	0	9	0	15	0	94	42	10	115	0	***285***
5:15 PM ---	5:30 PM	0	0	0	15	0	17	0	102	45	5	140	0	***324***
5:30 PM ---	5:45 PM	0	0	0	17	0	28	0	91	57	7	116	0	***316***
5:45 PM ---	6:00 PM	0	0	0	27	0	26	0	98	37	12	110	0	***310***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	0	0	0	62	1	86	0	400	199	37	417	0	***1,202***
4:15 PM ---	5:15 PM	0	0	0	55	1	86	0	404	194	40	427	0	***1,207***
4:30 PM ---	5:30 PM	0	0	0	52	1	81	0	388	182	31	447	0	***1,182***
4:45 PM ---	5:45 PM	0	0	0	63	0	85	0	396	198	28	477	0	***1,247***
5:00 PM ---	6:00 PM	0	0	0	68	0	86	0	385	181	34	481	0	***1,235***

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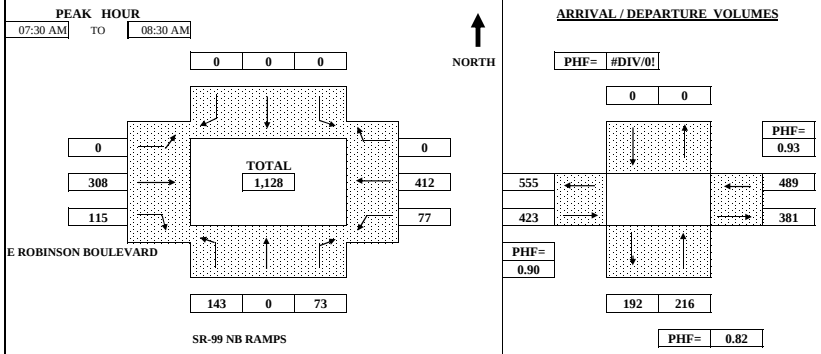
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SR-99 NB RAMPS	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	E ROBINSON BOULEVARD	CITY:	MERCED	FILE:	3005030-39AM

PEAK HOUR: 07:30 AM TO 08:30 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	27	0	10	0	0	0	0	37	30	20	60	0	***184***
7:15 AM ---	7:30 AM	62	0	17	0	0	0	0	67	63	41	129	0	***379***
7:30 AM ---	7:45 AM	101	0	33	0	0	0	0	119	102	69	206	0	***630***
7:45 AM ---	8:00 AM	145	0	55	0	0	0	0	197	121	86	319	0	***923***
8:00 AM ---	8:15 AM	172	0	69	0	0	0	0	285	150	102	426	0	***1,204***
8:15 AM ---	8:30 AM	205	0	90	0	0	0	0	375	178	118	541	0	***1,507***
8:30 AM ---	8:45 AM	238	0	99	0	0	0	0	432	200	135	635	0	***1,739***
8:45 AM ---	9:00 AM	262	0	107	0	0	0	0	463	225	145	690	0	***1,892***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	27	0	10	0	0	0	0	37	30	20	60	0	***184***
7:15 AM ---	7:30 AM	35	0	7	0	0	0	0	30	33	21	69	0	***195***
7:30 AM ---	7:45 AM	39	0	16	0	0	0	0	52	39	28	77	0	***251***
7:45 AM ---	8:00 AM	44	0	22	0	0	0	0	78	19	17	113	0	***293***
8:00 AM ---	8:15 AM	27	0	14	0	0	0	0	88	29	16	107	0	***281***
8:15 AM ---	8:30 AM	33	0	21	0	0	0	0	90	28	16	115	0	***303***
8:30 AM ---	8:45 AM	33	0	9	0	0	0	0	57	22	17	94	0	***232***
8:45 AM ---	9:00 AM	24	0	8	0	0	0	0	31	25	10	55	0	***153***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	145	0	55	0	0	0	0	197	121	86	319	0	***923***
7:15 AM ---	8:15 AM	145	0	59	0	0	0	0	248	120	82	366	0	***1,020***
7:30 AM ---	8:30 AM	143	0	73	0	0	0	0	308	115	77	412	0	***1,128***
7:45 AM ---	8:45 AM	137	0	66	0	0	0	0	313	98	66	429	0	***1,109***
8:00 AM ---	9:00 AM	117	0	52	0	0	0	0	266	104	59	371	0	***969***

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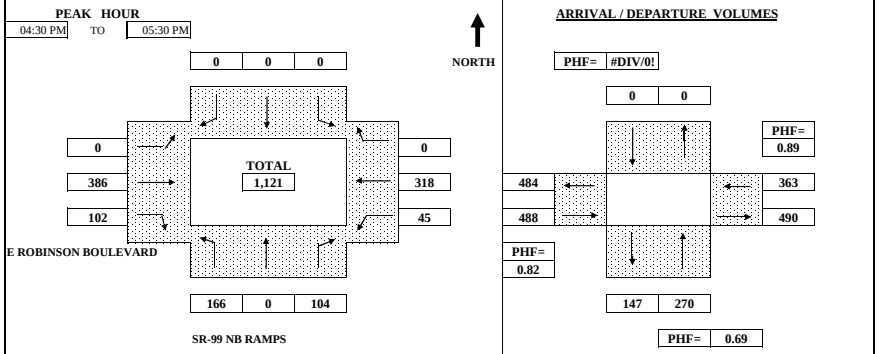
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SR-99 NB RAMPS	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	E ROBINSON BOULEVARD	CITY:	MERCED	FILE:	3005030-39PM

PEAK HOUR: 04:30 PM TO 05:30 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	47	0	30	0	0	0	0	82	29	9	78	0	***275***
4:15 PM ---	4:30 PM	104	0	71	0	0	0	0	128	60	22	143	0	***528***
4:30 PM ---	4:45 PM	135	0	97	0	0	0	0	256	81	36	229	0	***834***
4:45 PM ---	5:00 PM	176	0	119	0	0	0	0	361	107	45	297	0	***1,105***
5:00 PM ---	5:15 PM	210	0	140	0	0	0	0	441	132	54	372	0	***1,349***
5:15 PM ---	5:30 PM	270	0	175	0	0	0	0	514	162	67	461	0	***1,649***
5:30 PM ---	5:45 PM	307	0	193	0	0	0	0	597	182	77	549	0	***1,905***
5:45 PM ---	6:00 PM	343	0	222	0	0	0	0	685	206	90	622	0	***2,168***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	47	0	30	0	0	0	0	82	29	9	78	0	***275***
4:15 PM ---	4:30 PM	57	0	41	0	0	0	0	46	31	13	65	0	***253***
4:30 PM ---	4:45 PM	31	0	26	0	0	0	0	128	21	14	86	0	***306***
4:45 PM ---	5:00 PM	41	0	22	0	0	0	0	105	26	9	68	0	***271***
5:00 PM ---	5:15 PM	34	0	21	0	0	0	0	80	25	9	75	0	***244***
5:15 PM ---	5:30 PM	60	0	35	0	0	0	0	73	30	13	89	0	***300***
5:30 PM ---	5:45 PM	37	0	18	0	0	0	0	83	20	10	88	0	***256***
5:45 PM ---	6:00 PM	36	0	29	0	0	0	0	88	24	13	73	0	***263***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	176	0	119	0	0	0	0	361	107	45	297	0	***1,105***
4:15 PM ---	5:15 PM	163	0	110	0	0	0	0	359	103	45	294	0	***1,074***
4:30 PM ---	5:30 PM	166	0	104	0	0	0	0	386	102	45	318	0	***1,121***
4:45 PM ---	5:45 PM	172	0	96	0	0	0	0	341	101	41	320	0	***1,071***
5:00 PM ---	6:00 PM	167	0	103	0	0	0	0	324	99	45	325	0	***1,063***

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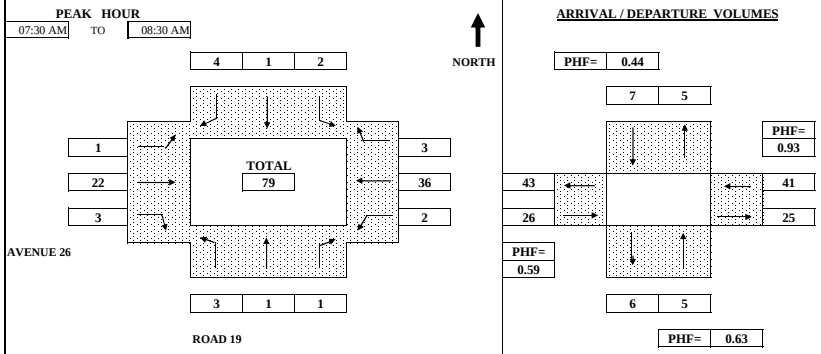
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	ROAD 19	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 26	CITY:	MERCED	FILE:	3005030-40AM

PEAK HOUR: 07:30 AM TO 08:30 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	0	0	0	0	0	1	1	8	0	0	7	0	*17*
7:15 AM	7:30 AM	0	0	0	0	0	1	1	13	0	2	15	0	*32*
7:30 AM	7:45 AM	0	1	0	0	0	2	1	18	1	2	25	0	*50*
7:45 AM	8:00 AM	2	1	0	0	1	5	2	26	3	2	34	0	*76*
8:00 AM	8:15 AM	3	1	0	2	1	5	2	30	3	2	43	2	*94*
8:15 AM	8:30 AM	3	1	1	2	1	5	2	35	3	4	51	3	*111*
8:30 AM	8:45 AM	3	1	1	2	1	6	3	43	4	4	57	3	*128*
8:45 AM	9:00 AM	4	1	1	3	2	6	3	49	4	5	67	3	*148*
TOTAL BY PERIOD														
7:00 AM	7:15 AM	0	0	0	0	0	1	1	8	0	0	7	0	*17*
7:15 AM	7:30 AM	0	0	0	0	0	0	0	5	0	2	8	0	*15*
7:30 AM	7:45 AM	0	1	0	0	0	1	0	5	1	0	10	0	*18*
7:45 AM	8:00 AM	2	0	0	0	1	3	1	8	2	0	9	0	*26*
8:00 AM	8:15 AM	1	0	0	2	0	0	0	4	0	0	9	2	*18*
8:15 AM	8:30 AM	0	0	1	0	0	0	0	5	0	2	8	1	*17*
8:30 AM	8:45 AM	0	0	0	0	0	1	1	8	1	0	6	0	*17*
8:45 AM	9:00 AM	1	0	0	1	1	0	0	6	0	1	10	0	*20*
HOURLY TOTALS														
7:00 AM	8:00 AM	2	1	0	0	1	5	2	26	3	2	34	0	*76*
7:15 AM	8:15 AM	3	1	0	2	1	4	1	22	3	2	36	2	*77*
7:30 AM	8:30 AM	3	1	1	2	1	4	1	22	3	2	36	3	*79*
7:45 AM	8:45 AM	3	0	1	2	1	4	2	25	3	2	32	3	*78*
8:00 AM	9:00 AM	2	0	1	3	1	1	1	23	1	3	33	3	*72*

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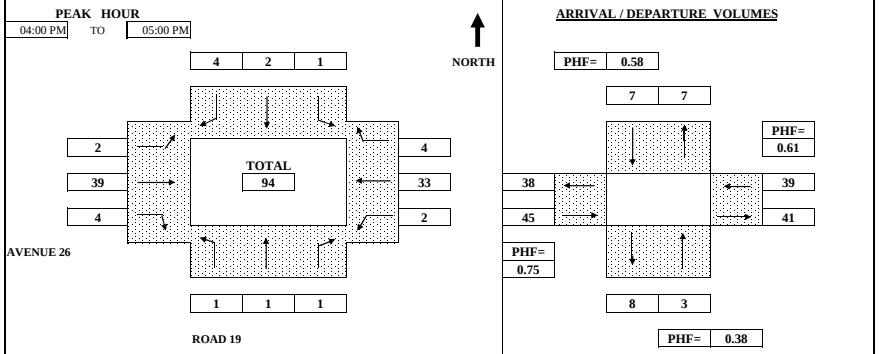
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	ROAD 19	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 26	CITY:	MERCED	FILE:	3005030-40PM

PEAK HOUR: 04:00 PM TO 05:00 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	0	0	0	0	1	1	0	14	1	0	11	1	*29*
4:15 PM	4:30 PM	1	1	0	0	2	3	0	22	2	0	16	3	*50*
4:30 PM	4:45 PM	1	1	1	1	2	4	1	27	2	2	30	3	*75*
4:45 PM	5:00 PM	1	1	1	1	2	4	2	39	4	2	33	4	*94*
5:00 PM	5:15 PM	1	1	1	2	2	4	2	43	4	3	43	4	*110*
5:15 PM	5:30 PM	1	1	1	2	2	5	3	50	4	3	55	4	*131*
5:30 PM	5:45 PM	2	1	1	2	2	5	3	57	5	3	64	4	*149*
5:45 PM	6:00 PM	3	1	1	2	2	5	3	62	5	4	72	4	*164*
TOTAL BY PERIOD														
4:00 PM	4:15 PM	0	0	0	0	1	1	0	14	1	0	11	1	*29*
4:15 PM	4:30 PM	1	1	0	0	1	2	0	8	1	0	5	2	*21*
4:30 PM	4:45 PM	0	0	1	1	0	1	1	5	0	2	14	0	*25*
4:45 PM	5:00 PM	0	0	0	0	0	0	1	12	2	0	3	1	*19*
5:00 PM	5:15 PM	0	0	0	1	0	0	0	4	0	1	10	0	*16*
5:15 PM	5:30 PM	0	0	0	0	0	1	1	7	0	0	12	0	*21*
5:30 PM	5:45 PM	1	0	0	0	0	0	0	7	1	0	9	0	*18*
5:45 PM	6:00 PM	1	0	0	0	0	0	0	5	0	1	8	0	*15*
HOURLY TOTALS														
4:00 PM	5:00 PM	1	1	1	1	2	4	2	39	4	2	33	4	*94*
4:15 PM	5:15 PM	1	1	1	2	1	3	2	29	3	3	32	3	*81*
4:30 PM	5:30 PM	0	0	1	2	0	2	3	28	2	3	39	1	*81*
4:45 PM	5:45 PM	1	0	0	1	0	1	2	30	3	1	34	1	*74*
5:00 PM	6:00 PM	2	0	0	1	0	1	1	23	1	2	39	0	*70*

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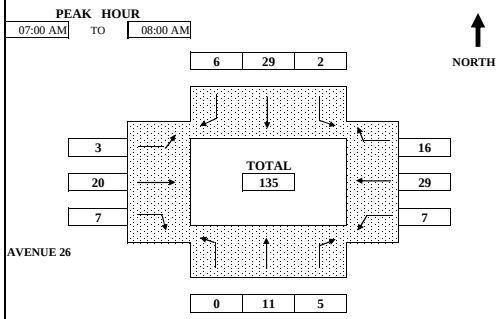
B.A.Y.M.E.T.R.I.C.S.

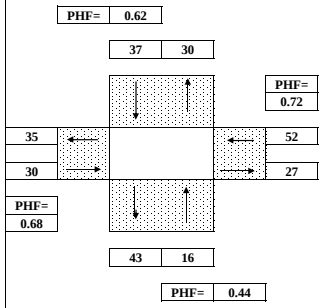
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SANTA FE DRIVE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 26	CITY:	MERCED	FILE:	3005030-41AM

PEAK HOUR: 07:00 AM TO 08:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	5	1	0	2	1	1	6	2	1	6	4	*29*
7:15 AM ---	7:30 AM	0	10	2	0	14	2	1	9	3	4	15	10	*70*
7:30 AM ---	7:45 AM	0	10	3	0	20	2	1	13	5	5	24	12	*95*
7:45 AM ---	8:00 AM	0	11	5	2	29	6	3	20	7	7	29	16	*135*
8:00 AM ---	8:15 AM	0	12	5	4	35	7	3	24	7	8	39	19	*163*
8:15 AM ---	8:30 AM	1	13	5	6	38	8	3	28	7	9	48	20	*186*
8:30 AM ---	8:45 AM	3	20	5	6	44	8	3	37	8	10	52	23	*219*
8:45 AM ---	9:00 AM	7	24	6	6	49	8	3	42	9	11	59	25	*249*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	5	1	0	2	1	1	6	2	1	6	4	*29*
7:15 AM ---	7:30 AM	0	5	1	0	12	1	0	3	1	3	9	6	*41*
7:30 AM ---	7:45 AM	0	0	1	0	6	0	0	4	2	1	9	2	*25*
7:45 AM ---	8:00 AM	0	1	2	2	9	4	2	7	2	2	5	4	*40*
8:00 AM ---	8:15 AM	0	1	0	2	6	1	0	4	0	1	10	3	*28*
8:15 AM ---	8:30 AM	1	1	0	2	3	1	0	4	0	1	9	1	*23*
8:30 AM ---	8:45 AM	2	7	0	0	6	0	0	9	1	1	4	3	*33*
8:45 AM ---	9:00 AM	4	4	1	0	5	0	0	5	1	1	7	2	*30*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	0	11	5	2	29	6	3	20	7	7	29	16	*135*
7:15 AM ---	8:15 AM	0	7	4	4	33	6	2	18	5	7	33	15	*134*
7:30 AM ---	8:30 AM	1	3	3	6	24	6	2	19	4	5	33	10	*116*
7:45 AM ---	8:45 AM	3	10	2	6	24	6	2	24	3	5	28	11	*124*
8:00 AM ---	9:00 AM	7	13	1	4	20	2	0	22	2	4	30	9	*114*

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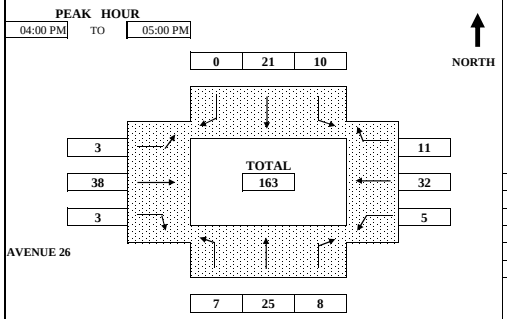
B.A.Y.M.E.T.R.I.C.S.

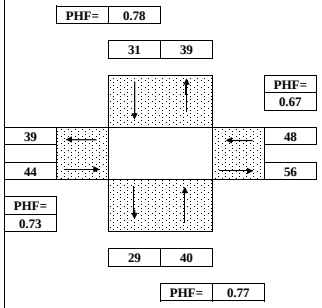
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SANTA FE DRIVE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 26	CITY:	MERCED	FILE:	3005030-41PM

PEAK HOUR: 04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	5	6	2	4	6	0	2	12	1	1	7	6	*52*
4:15 PM ---	4:30 PM	7	12	2	5	12	0	2	20	2	3	12	9	*86*
4:30 PM ---	4:45 PM	7	18	4	6	15	0	2	24	3	3	28	11	*121*
4:45 PM ---	5:00 PM	7	25	8	10	21	0	3	38	3	5	32	11	*163*
5:00 PM ---	5:15 PM	7	30	11	14	25	0	3	42	3	6	43	13	*197*
5:15 PM ---	5:30 PM	7	37	11	15	29	5	3	49	3	10	50	17	*236*
5:30 PM ---	5:45 PM	8	40	11	16	30	6	3	56	4	10	57	17	*258*
5:45 PM ---	6:00 PM	8	45	12	19	33	8	3	61	4	10	64	18	*285*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	5	6	2	4	6	0	2	12	1	1	7	6	*52*
4:15 PM ---	4:30 PM	2	6	0	1	6	0	0	8	1	2	5	3	*34*
4:30 PM ---	4:45 PM	0	6	2	1	3	0	0	4	1	0	16	2	*35*
4:45 PM ---	5:00 PM	0	7	4	4	6	0	1	14	0	2	4	0	*42*
5:00 PM ---	5:15 PM	0	5	3	4	4	0	0	4	0	1	11	2	*34*
5:15 PM ---	5:30 PM	0	7	0	1	4	5	0	7	0	4	7	4	*39*
5:30 PM ---	5:45 PM	1	3	0	1	1	1	0	7	1	0	7	0	*22*
5:45 PM ---	6:00 PM	0	5	1	3	3	2	0	5	0	0	7	1	*27*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	7	25	8	10	21	0	3	38	3	5	32	11	*163*
4:15 PM ---	5:15 PM	2	24	9	10	19	0	1	30	2	5	36	7	*145*
4:30 PM ---	5:30 PM	0	25	9	10	17	5	1	29	1	7	38	8	*150*
4:45 PM ---	5:45 PM	1	22	7	10	15	6	1	32	1	7	29	6	*137*
5:00 PM ---	6:00 PM	1	20	4	9	12	8	0	23	1	5	32	7	*122*

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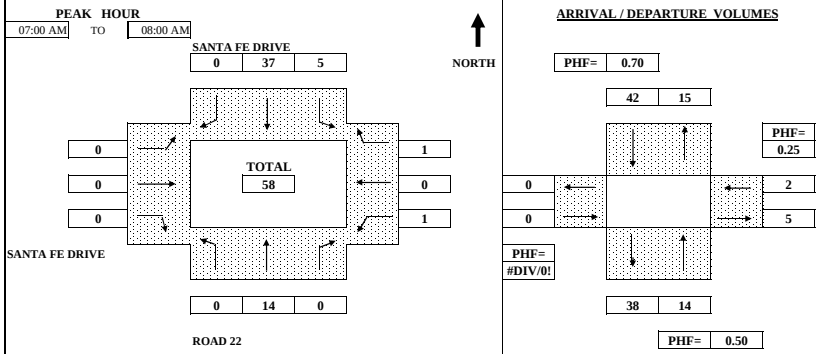
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	ROAD 22 / SANTA FE DRIVE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SANTA FE DRIVE	CITY: MERCED		FILE:	3005030-42AM

PEAK HOUR

07:00 AM TO 08:00 AM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	5	0	0	5	0	0	0	0	0	0	1	*11*
7:15 AM ---	7:30 AM	0	11	0	2	18	0	0	0	0	0	0	1	*32*
7:30 AM ---	7:45 AM	0	12	0	2	27	0	0	0	0	0	0	1	*42*
7:45 AM ---	8:00 AM	0	14	0	5	37	0	0	0	0	1	0	1	*58*
8:00 AM ---	8:15 AM	0	16	0	5	43	0	0	0	0	1	0	1	*66*
8:15 AM ---	8:30 AM	0	17	0	5	46	0	0	0	0	2	0	2	*72*
8:30 AM ---	8:45 AM	0	24	0	9	51	0	0	0	0	2	0	4	*90*
8:45 AM ---	9:00 AM	0	30	0	11	56	0	0	0	0	3	0	5	*105*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	5	0	0	5	0	0	0	0	0	0	1	*11*
7:15 AM ---	7:30 AM	0	6	0	2	13	0	0	0	0	0	0	0	*21*
7:30 AM ---	7:45 AM	0	1	0	0	9	0	0	0	0	0	0	0	*10*
7:45 AM ---	8:00 AM	0	2	0	3	10	0	0	0	0	1	0	0	*16*
8:00 AM ---	8:15 AM	0	2	0	0	6	0	0	0	0	0	0	0	*8*
8:15 AM ---	8:30 AM	0	1	0	0	3	0	0	0	0	1	0	1	*6*
8:30 AM ---	8:45 AM	0	7	0	4	5	0	0	0	0	0	0	2	*18*
8:45 AM ---	9:00 AM	0	6	0	2	5	0	0	0	0	1	0	1	*15*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	0	14	0	5	37	0	0	0	0	1	0	1	*58*
7:15 AM ---	8:15 AM	0	11	0	5	38	0	0	0	0	1	0	0	*55*
7:30 AM ---	8:30 AM	0	6	0	3	28	0	0	0	0	2	0	1	*40*
7:45 AM ---	8:45 AM	0	12	0	7	24	0	0	0	0	2	0	3	*48*
8:00 AM ---	9:00 AM	0	16	0	6	19	0	0	0	0	2	0	4	*47*

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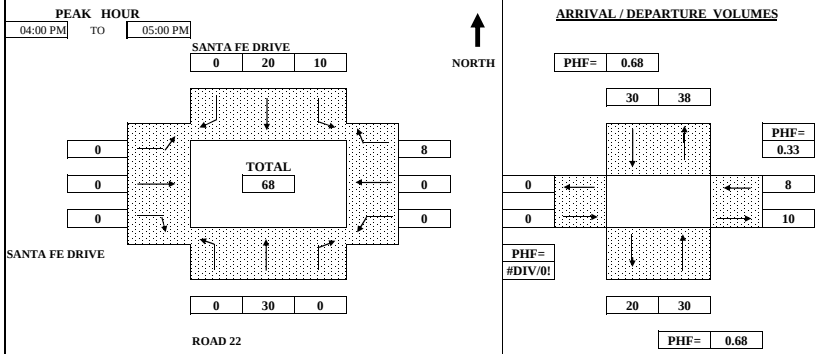
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	ROAD 22 / SANTA FE DRIVE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SANTA FE DRIVE	CITY: MERCED		FILE:	3005030-42PM

PEAK HOUR

04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	11	0	4	7	0	0	0	0	0	0	1	*23*
4:15 PM ---	4:30 PM	0	16	0	6	11	0	0	0	0	0	0	5	*38*
4:30 PM ---	4:45 PM	0	20	0	8	15	0	0	0	0	0	0	7	*50*
4:45 PM ---	5:00 PM	0	30	0	10	20	0	0	0	0	0	0	8	*68*
5:00 PM ---	5:15 PM	0	34	1	10	24	0	0	0	0	0	0	14	*83*
5:15 PM ---	5:30 PM	0	40	1	11	31	0	0	0	0	0	0	15	*98*
5:30 PM ---	5:45 PM	0	43	2	12	32	0	0	0	0	0	0	16	*105*
5:45 PM ---	6:00 PM	0	50	2	13	34	0	0	0	0	0	0	16	*115*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	11	0	4	7	0	0	0	0	0	0	1	*23*
4:15 PM ---	4:30 PM	0	5	0	2	4	0	0	0	0	0	0	4	*15*
4:30 PM ---	4:45 PM	0	4	0	2	4	0	0	0	0	0	0	2	*12*
4:45 PM ---	5:00 PM	0	10	0	2	5	0	0	0	0	0	0	1	*18*
5:00 PM ---	5:15 PM	0	4	1	0	4	0	0	0	0	0	0	6	*15*
5:15 PM ---	5:30 PM	0	6	0	1	7	0	0	0	0	0	0	1	*15*
5:30 PM ---	5:45 PM	0	3	1	1	1	0	0	0	0	0	0	1	*7*
5:45 PM ---	6:00 PM	0	7	0	1	2	0	0	0	0	0	0	0	*10*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	0	30	0	10	20	0	0	0	0	0	0	8	*68*
4:15 PM ---	5:15 PM	0	23	1	6	17	0	0	0	0	0	0	13	*60*
4:30 PM ---	5:30 PM	0	24	1	5	20	0	0	0	0	0	0	10	*60*
4:45 PM ---	5:45 PM	0	23	2	4	17	0	0	0	0	0	0	9	*55*
5:00 PM ---	6:00 PM	0	20	2	3	14	0	0	0	0	0	0	8	*47*

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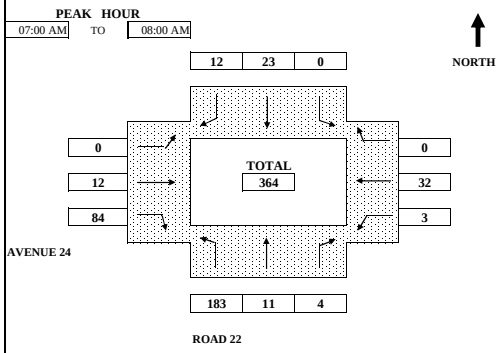
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

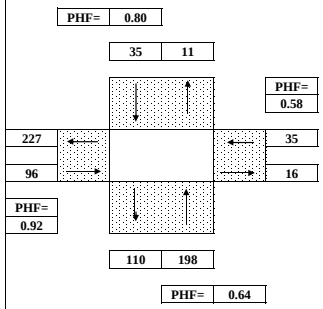
PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	ROAD 22	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 24	CITY:	MERCED	FILE:	3005030-43AM

PEAK HOUR

07:00 AM TO 08:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	31	3	1	0	3	2	0	5	16	1	2	0	*64*
7:15 AM ---	7:30 AM	61	8	1	0	12	4	0	10	36	1	6	0	*139*
7:30 AM ---	7:45 AM	110	9	2	0	19	7	0	10	60	3	19	0	*239*
7:45 AM ---	8:00 AM	183	11	4	0	23	12	0	12	84	3	32	0	*364*
8:00 AM ---	8:15 AM	206	12	4	0	32	12	0	17	97	4	40	0	*424*
8:15 AM ---	8:30 AM	224	13	4	0	36	15	0	19	106	5	43	0	*465*
8:30 AM ---	8:45 AM	234	23	4	0	38	17	0	21	109	5	52	0	*503*
8:45 AM ---	9:00 AM	245	26	5	0	42	18	2	24	112	5	55	0	*534*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	31	3	1	0	3	2	0	5	16	1	2	0	*64*
7:15 AM ---	7:30 AM	30	5	0	0	9	2	0	5	20	0	4	0	*75*
7:30 AM ---	7:45 AM	49	1	1	0	7	3	0	0	24	2	13	0	*100*
7:45 AM ---	8:00 AM	73	2	2	0	4	5	0	2	24	0	13	0	*125*
8:00 AM ---	8:15 AM	23	1	0	0	9	0	0	5	13	1	8	0	*60*
8:15 AM ---	8:30 AM	18	1	0	0	4	3	0	2	9	1	3	0	*41*
8:30 AM ---	8:45 AM	10	10	0	0	2	2	0	2	3	0	9	0	*38*
8:45 AM ---	9:00 AM	11	3	1	0	4	1	2	3	3	0	3	0	*31*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	183	11	4	0	23	12	0	12	84	3	32	0	*364*
7:15 AM ---	8:15 AM	175	9	3	0	29	10	0	12	81	3	38	0	*360*
7:30 AM ---	8:30 AM	163	5	3	0	24	11	0	9	70	4	37	0	*326*
7:45 AM ---	8:45 AM	124	14	2	0	19	10	0	11	49	2	33	0	*264*
8:00 AM ---	9:00 AM	62	15	1	0	19	6	2	12	28	2	23	0	*170*

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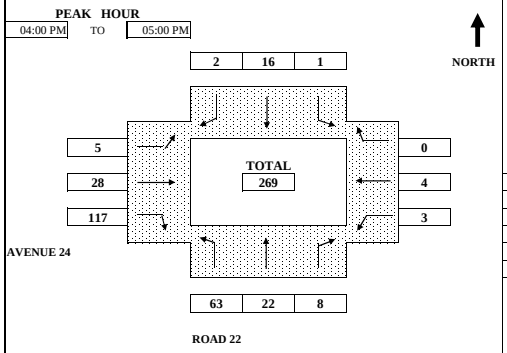
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

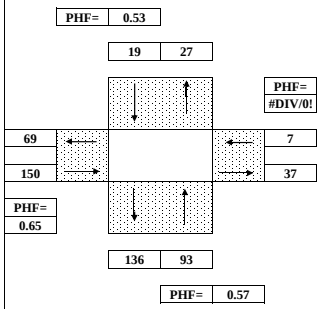
PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	ROAD 22	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 24	CITY:	MERCED	FILE:	3005030-43PM

PEAK HOUR

04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	31	9	1	1	7	1	1	7	50	0	0	0	*108*
4:15 PM ---	4:30 PM	46	13	3	1	10	2	1	12	67	2	1	0	*158*
4:30 PM ---	4:45 PM	55	15	3	1	13	2	4	25	104	3	2	0	*227*
4:45 PM ---	5:00 PM	63	22	8	1	16	2	5	28	117	3	4	0	*269*
5:00 PM ---	5:15 PM	65	25	9	1	17	2	8	32	128	3	10	0	*300*
5:15 PM ---	5:30 PM	66	34	9	1	26	2	8	34	134	4	17	0	*335*
5:30 PM ---	5:45 PM	69	39	10	1	27	3	8	36	140	4	19	0	*356*
5:45 PM ---	6:00 PM	70	40	11	1	27	3	9	39	144	4	19	0	*367*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	31	9	1	1	7	1	1	7	50	0	0	0	*108*
4:15 PM ---	4:30 PM	15	4	2	0	3	1	0	5	17	2	1	0	*50*
4:30 PM ---	4:45 PM	9	2	0	0	3	0	3	13	37	1	1	0	*69*
4:45 PM ---	5:00 PM	8	7	5	0	3	0	1	3	13	0	2	0	*42*
5:00 PM ---	5:15 PM	2	3	1	0	1	0	3	4	11	0	6	0	*31*
5:15 PM ---	5:30 PM	1	9	0	0	9	0	0	2	6	1	7	0	*35*
5:30 PM ---	5:45 PM	3	5	1	0	1	1	0	2	6	0	2	0	*21*
5:45 PM ---	6:00 PM	1	1	1	0	0	0	1	3	4	0	0	0	*11*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	63	22	8	1	16	2	5	28	117	3	4	0	*269*
4:15 PM ---	5:15 PM	34	16	8	0	10	1	7	25	78	3	10	0	*192*
4:30 PM ---	5:30 PM	20	21	6	0	16	0	7	22	67	2	16	0	*177*
4:45 PM ---	5:45 PM	14	24	7	0	14	1	4	11	36	1	17	0	*129*
5:00 PM ---	6:00 PM	7	18	3	0	11	1	4	11	27	1	15	0	*98*

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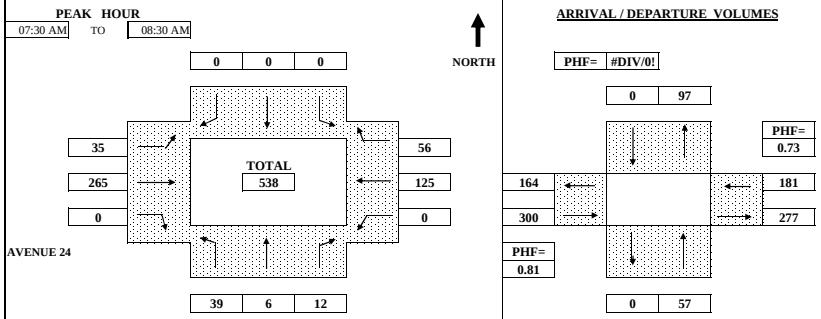
B.A.Y.M.E.T.R.I.C.S.

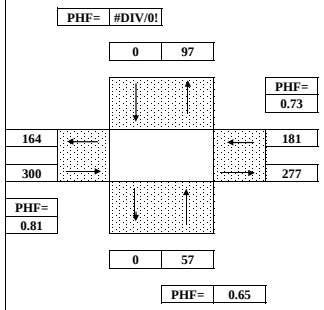
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SR-99 NB RAMPS	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 24	CITY:	MERCED	FILE:	3005030-44AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	8	0	5	0	0	0	3	37	0	0	6	3	*62*
7:15 AM ---	7:30 AM	12	0	8	0	0	0	5	78	0	0	39	12	*154*
7:30 AM ---	7:45 AM	25	1	8	0	0	0	15	137	0	0	57	24	*267*
7:45 AM ---	8:00 AM	35	3	12	0	0	0	17	218	0	0	84	36	*405*
8:00 AM ---	8:15 AM	48	5	19	0	0	0	31	297	0	0	129	53	*582*
8:15 AM ---	8:30 AM	51	6	20	0	0	0	40	343	0	0	164	68	*692*
8:30 AM ---	8:45 AM	61	7	22	0	0	0	43	362	0	0	184	73	*752*
8:45 AM ---	9:00 AM	66	9	25	0	0	0	46	382	0	0	224	77	*829*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	8	0	5	0	0	0	3	37	0	0	6	3	*62*
7:15 AM ---	7:30 AM	4	0	3	0	0	0	2	41	0	0	33	9	*92*
7:30 AM ---	7:45 AM	13	1	0	0	0	0	10	59	0	0	18	12	*113*
7:45 AM ---	8:00 AM	10	2	4	0	0	0	2	81	0	0	27	12	*138*
8:00 AM ---	8:15 AM	13	2	7	0	0	0	14	79	0	0	45	17	*177*
8:15 AM ---	8:30 AM	3	1	1	0	0	0	9	46	0	0	35	15	*110*
8:30 AM ---	8:45 AM	10	1	2	0	0	0	3	19	0	0	20	5	*60*
8:45 AM ---	9:00 AM	5	2	3	0	0	0	3	20	0	0	40	4	*77*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	35	3	12	0	0	0	17	218	0	0	84	36	*405*
7:15 AM ---	8:15 AM	40	5	14	0	0	0	28	260	0	0	123	50	*520*
7:30 AM ---	8:30 AM	39	6	12	0	0	0	35	265	0	0	125	56	*538*
7:45 AM ---	8:45 AM	36	6	14	0	0	0	28	225	0	0	127	49	*485*
8:00 AM ---	9:00 AM	31	6	13	0	0	0	29	164	0	0	140	41	*424*

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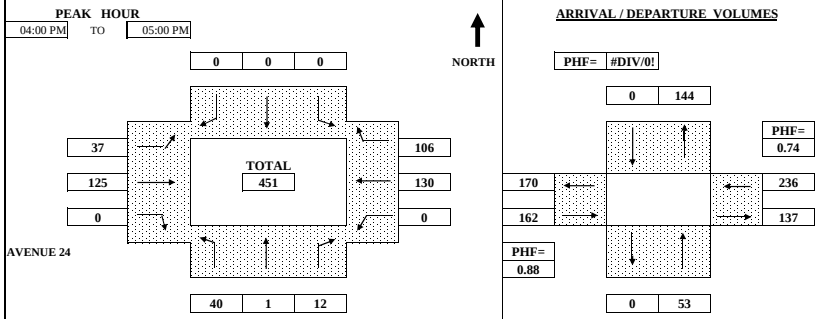
B.A.Y.M.E.T.R.I.C.S.

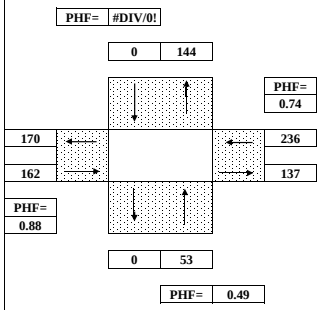
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SR-99 NB RAMPS	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 24	CITY:	MERCED	FILE:	3005030-44PM

PEAK HOUR: 04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	13	0	4	0	0	0	11	25	0	0	38	42	*133*
4:15 PM ---	4:30 PM	23	0	6	0	0	0	19	51	0	0	68	61	*228*
4:30 PM ---	4:45 PM	29	0	9	0	0	0	32	84	0	0	103	84	*341*
4:45 PM ---	5:00 PM	40	1	12	0	0	0	37	125	0	0	130	106	*451*
5:00 PM ---	5:15 PM	53	2	15	0	0	0	48	152	0	0	162	117	*549*
5:15 PM ---	5:30 PM	67	3	27	0	0	0	53	179	0	0	191	128	*648*
5:30 PM ---	5:45 PM	71	3	36	0	0	0	62	201	0	0	214	135	*722*
5:45 PM ---	6:00 PM	78	3	40	0	0	0	69	231	0	0	230	144	*795*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	13	0	4	0	0	0	11	25	0	0	38	42	*133*
4:15 PM ---	4:30 PM	10	0	2	0	0	0	8	26	0	0	30	19	*95*
4:30 PM ---	4:45 PM	6	0	3	0	0	0	13	33	0	0	35	23	*113*
4:45 PM ---	5:00 PM	11	1	3	0	0	0	5	41	0	0	27	22	*110*
5:00 PM ---	5:15 PM	13	1	3	0	0	0	11	27	0	0	32	11	*98*
5:15 PM ---	5:30 PM	14	1	12	0	0	0	5	27	0	0	29	11	*99*
5:30 PM ---	5:45 PM	4	0	9	0	0	0	9	22	0	0	23	7	*74*
5:45 PM ---	6:00 PM	7	0	4	0	0	0	7	30	0	0	16	9	*73*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	40	1	12	0	0	0	37	125	0	0	130	106	*451*
4:15 PM ---	5:15 PM	40	2	11	0	0	0	37	127	0	0	124	75	*416*
4:30 PM ---	5:30 PM	44	3	21	0	0	0	34	128	0	0	123	67	*420*
4:45 PM ---	5:45 PM	42	3	27	0	0	0	30	117	0	0	111	51	*381*
5:00 PM ---	6:00 PM	38	2	28	0	0	0	32	106	0	0	100	38	*344*

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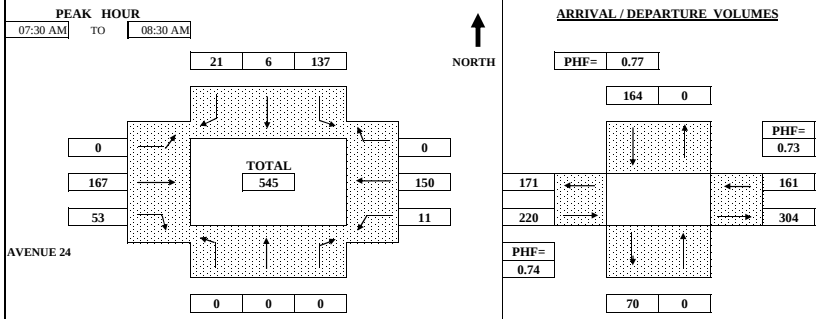
B.A.Y.M.E.T.R.I.C.S.

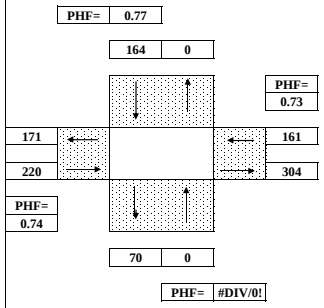
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SR-99 SB RAMPS	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 24	CITY:	MERCED	FILE:	3005030-45AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	0	0	15	0	8	0	23	9	2	13	0	*70*
7:15 AM ---	7:30 AM	0	0	0	35	0	21	0	47	19	4	48	0	*174*
7:30 AM ---	7:45 AM	0	0	0	66	1	23	0	79	33	9	74	0	*285*
7:45 AM ---	8:00 AM	0	0	0	109	3	31	0	123	41	9	111	0	*427*
8:00 AM ---	8:15 AM	0	0	0	152	5	36	0	178	60	13	162	0	*606*
8:15 AM ---	8:30 AM	0	0	0	172	6	42	0	214	72	15	198	0	*719*
8:30 AM ---	8:45 AM	0	0	0	180	6	48	0	225	83	18	225	0	*785*
8:45 AM ---	9:00 AM	0	0	0	185	6	52	0	242	91	24	264	0	*864*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	0	0	15	0	8	0	23	9	2	13	0	*70*
7:15 AM ---	7:30 AM	0	0	0	20	0	13	0	24	10	2	35	0	*104*
7:30 AM ---	7:45 AM	0	0	0	31	1	2	0	32	14	5	26	0	*111*
7:45 AM ---	8:00 AM	0	0	0	43	2	8	0	44	8	0	37	0	*142*
8:00 AM ---	8:15 AM	0	0	0	43	2	5	0	55	19	4	51	0	*179*
8:15 AM ---	8:30 AM	0	0	0	20	1	6	0	36	12	2	36	0	*113*
8:30 AM ---	8:45 AM	0	0	0	8	0	6	0	11	11	3	27	0	*66*
8:45 AM ---	9:00 AM	0	0	0	5	0	4	0	17	8	6	39	0	*79*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	0	0	0	109	3	31	0	123	41	9	111	0	*427*
7:15 AM ---	8:15 AM	0	0	0	137	5	28	0	155	51	11	149	0	*536*
7:30 AM ---	8:30 AM	0	0	0	137	6	21	0	167	53	11	150	0	*545*
7:45 AM ---	8:45 AM	0	0	0	114	5	25	0	146	50	9	151	0	*500*
8:00 AM ---	9:00 AM	0	0	0	76	3	21	0	119	50	15	153	0	*437*

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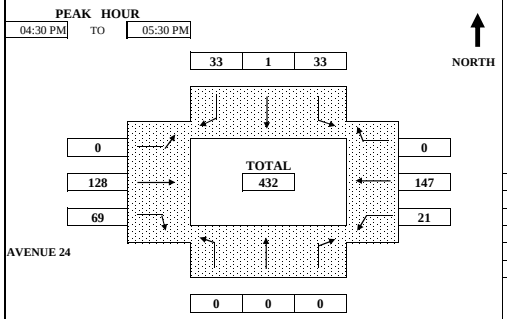
B.A.Y.M.E.T.R.I.C.S.

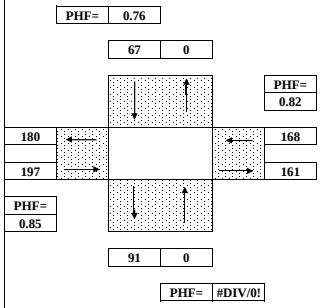
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SR-99 SB RAMPS	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 24	CITY:	MERCED	FILE:	3005030-45PM

PEAK HOUR: 04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	0	0	7	0	6	0	29	21	7	44	0	*114*
4:15 PM ---	4:30 PM	0	0	0	12	0	13	0	56	31	11	80	0	*203*
4:30 PM ---	4:45 PM	0	0	0	20	1	24	0	94	51	15	117	0	*322*
4:45 PM ---	5:00 PM	0	0	0	28	1	32	0	131	68	22	148	0	*430*
5:00 PM ---	5:15 PM	0	0	0	38	1	38	0	159	89	29	187	0	*541*
5:15 PM ---	5:30 PM	0	0	0	45	1	46	0	184	100	32	227	0	*635*
5:30 PM ---	5:45 PM	0	0	0	53	1	59	0	207	108	35	251	0	*714*
5:45 PM ---	6:00 PM	0	0	0	63	3	69	0	234	125	37	273	0	*804*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	0	0	7	0	6	0	29	21	7	44	0	*114*
4:15 PM ---	4:30 PM	0	0	0	5	0	7	0	27	10	4	36	0	*89*
4:30 PM ---	4:45 PM	0	0	0	8	1	11	0	38	20	4	37	0	*119*
4:45 PM ---	5:00 PM	0	0	0	8	0	8	0	37	17	7	31	0	*108*
5:00 PM ---	5:15 PM	0	0	0	10	0	6	0	28	21	7	39	0	*111*
5:15 PM ---	5:30 PM	0	0	0	7	0	8	0	25	11	3	40	0	*94*
5:30 PM ---	5:45 PM	0	0	0	8	0	13	0	23	8	3	24	0	*79*
5:45 PM ---	6:00 PM	0	0	0	10	2	10	0	27	17	2	22	0	*90*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	0	0	0	28	1	32	0	131	68	22	148	0	*430*
4:15 PM ---	5:15 PM	0	0	0	31	1	32	0	130	68	22	143	0	*427*
4:30 PM ---	5:30 PM	0	0	0	33	1	33	0	128	69	21	147	0	*432*
4:45 PM ---	5:45 PM	0	0	0	33	0	35	0	113	57	20	134	0	*392*
5:00 PM ---	6:00 PM	0	0	0	35	2	37	0	103	57	15	125	0	*374*

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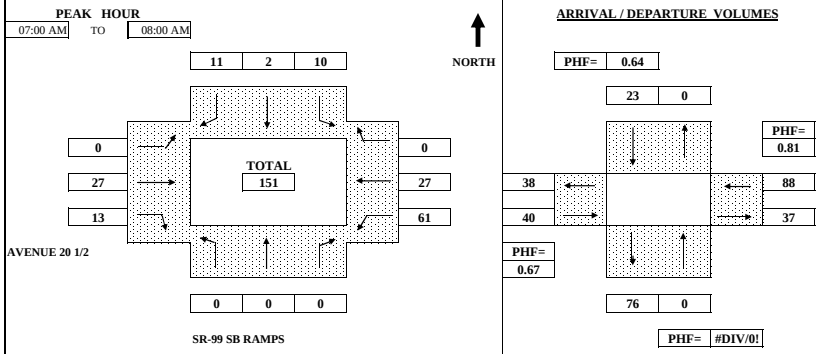
HMF GORDON SHAW INTERSECTION COUNTS

B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/19/2010	DAY:	WEDNESDAY
N-S APPROACH:	SR-99 SB RAMPS	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 20 1/2	CITY:	MERCED	FILE:	3005030-(46-64)AM

PEAK HOUR: 07:00 AM TO 08:00 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	0	0	4	1	4	0	6	2	11	5	0	*33*
7:15 AM ---	7:30 AM	0	0	0	5	2	5	0	11	5	31	12	0	*71*
7:30 AM ---	7:45 AM	0	0	0	8	2	7	0	19	9	45	18	0	*108*
7:45 AM ---	8:00 AM	0	0	0	10	2	11	0	27	13	61	27	0	*151*
8:00 AM ---	8:15 AM	0	0	0	14	2	12	0	35	16	70	33	0	*182*
8:15 AM ---	8:30 AM	0	0	0	14	2	13	0	40	17	80	44	0	*210*
8:30 AM ---	8:45 AM	0	0	0	16	2	17	0	48	24	84	48	0	*239*
8:45 AM ---	9:00 AM	0	0	0	19	2	22	0	53	26	88	52	0	*262*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	0	0	4	1	4	0	6	2	11	5	0	*33*
7:15 AM ---	7:30 AM	0	0	0	1	1	1	0	5	3	20	7	0	*38*
7:30 AM ---	7:45 AM	0	0	0	3	0	2	0	8	4	14	6	0	*37*
7:45 AM ---	8:00 AM	0	0	0	2	0	4	0	8	4	16	9	0	*43*
8:00 AM ---	8:15 AM	0	0	0	4	0	1	0	8	3	9	6	0	*31*
8:15 AM ---	8:30 AM	0	0	0	0	0	1	0	5	1	10	11	0	*28*
8:30 AM ---	8:45 AM	0	0	0	2	0	4	0	8	7	4	4	0	*29*
8:45 AM ---	9:00 AM	0	0	0	3	0	5	0	5	2	4	4	0	*23*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	0	0	0	10	2	11	0	27	13	61	27	0	*151*
7:15 AM ---	8:15 AM	0	0	0	10	1	8	0	29	14	59	28	0	*149*
7:30 AM ---	8:30 AM	0	0	0	9	0	8	0	29	12	49	32	0	*139*
7:45 AM ---	8:45 AM	0	0	0	8	0	10	0	29	15	39	30	0	*131*
8:00 AM ---	9:00 AM	0	0	0	9	0	11	0	26	13	27	25	0	*111*

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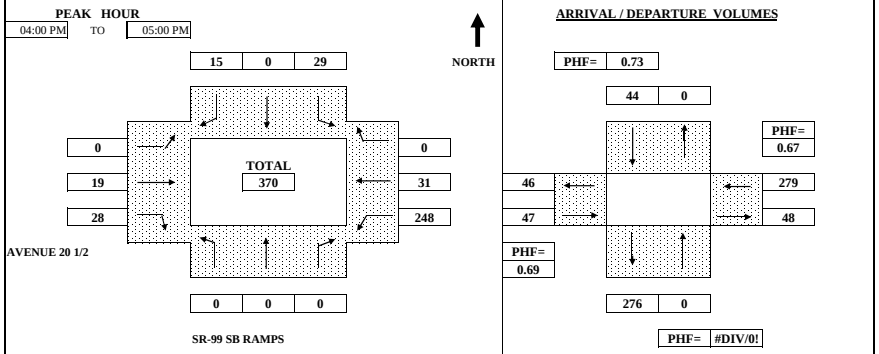
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/19/2010	DAY:	WEDNESDAY
N-S APPROACH:	SR-99 SB RAMPS	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 20 1/2	CITY:	MERCED	FILE:	3005030-(46-64)PM

PEAK HOUR: 04:00 PM TO 05:00 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	0	0	3	0	2	0	6	4	97	7	0	*119*
4:15 PM ---	4:30 PM	0	0	0	13	0	6	0	13	9	144	16	0	*201*
4:30 PM ---	4:45 PM	0	0	0	18	0	11	0	18	21	213	27	0	*308*
4:45 PM ---	5:00 PM	0	0	0	29	0	15	0	19	28	248	31	0	*370*
5:00 PM ---	5:15 PM	0	0	0	35	1	19	0	25	36	275	35	0	*426*
5:15 PM ---	5:30 PM	0	0	0	44	2	20	0	27	41	289	39	0	*462*
5:30 PM ---	5:45 PM	0	0	0	45	2	20	0	31	43	307	42	0	*490*
5:45 PM ---	6:00 PM	0	0	0	51	3	21	0	37	51	316	49	0	*528*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	0	0	3	0	2	0	6	4	97	7	0	*119*
4:15 PM ---	4:30 PM	0	0	0	10	0	4	0	7	5	47	9	0	*82*
4:30 PM ---	4:45 PM	0	0	0	5	0	5	0	5	12	69	11	0	*107*
4:45 PM ---	5:00 PM	0	0	0	11	0	4	0	1	7	35	4	0	*62*
5:00 PM ---	5:15 PM	0	0	0	6	1	4	0	6	8	27	4	0	*56*
5:15 PM ---	5:30 PM	0	0	0	9	1	1	0	2	5	14	4	0	*36*
5:30 PM ---	5:45 PM	0	0	0	1	0	0	0	4	2	18	3	0	*28*
5:45 PM ---	6:00 PM	0	0	0	6	1	1	0	6	8	9	7	0	*38*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	0	0	0	29	0	15	0	19	28	248	31	0	*370*
4:15 PM ---	5:15 PM	0	0	0	32	1	17	0	19	32	178	28	0	*307*
4:30 PM ---	5:30 PM	0	0	0	31	2	14	0	14	32	145	23	0	*261*
4:45 PM ---	5:45 PM	0	0	0	27	2	9	0	13	22	94	15	0	*182*
5:00 PM ---	6:00 PM	0	0	0	22	3	6	0	18	23	68	18	0	*158*

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B.A.Y.M.E.T.R.I.C.S.

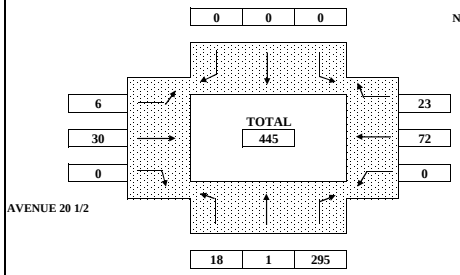
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/19/2010	DAY:	WEDNESDAY
N-S APPROACH:	SR-99 NB RAMPS	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 20 1/2	CITY:	MERCED	FILE:	3005030-(47-63)AM

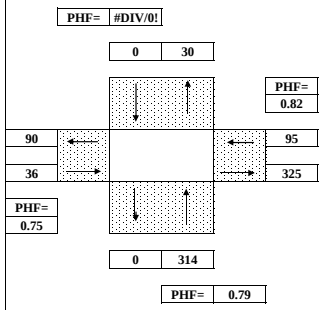
PEAK HOUR

07:00 AM TO 08:00 AM

NORTH



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	4	1	52	0	0	0	2	8	0	0	12	7	*86*
7:15 AM ---	7:30 AM	8	1	114	0	0	0	2	15	0	0	35	9	*184*
7:30 AM ---	7:45 AM	12	1	202	0	0	0	4	23	0	0	51	15	*308*
7:45 AM ---	8:00 AM	18	1	295	0	0	0	6	30	0	0	72	23	*445*
8:00 AM ---	8:15 AM	21	1	331	0	0	0	10	38	0	0	81	27	*509*
8:15 AM ---	8:30 AM	28	1	366	0	0	0	12	42	0	0	95	34	*578*
8:30 AM ---	8:45 AM	30	1	380	0	0	0	14	49	0	0	101	37	*612*
8:45 AM ---	9:00 AM	30	3	402	0	0	0	15	56	0	0	108	42	*656*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	4	1	52	0	0	0	2	8	0	0	12	7	*86*
7:15 AM ---	7:30 AM	4	0	62	0	0	0	0	7	0	0	23	2	*98*
7:30 AM ---	7:45 AM	4	0	88	0	0	0	2	8	0	0	16	6	*124*
7:45 AM ---	8:00 AM	6	0	93	0	0	0	2	7	0	0	21	8	*137*
8:00 AM ---	8:15 AM	3	0	36	0	0	0	4	8	0	0	9	4	*64*
8:15 AM ---	8:30 AM	7	0	35	0	0	0	2	4	0	0	14	7	*69*
8:30 AM ---	8:45 AM	2	0	14	0	0	0	2	7	0	0	6	3	*34*
8:45 AM ---	9:00 AM	0	2	22	0	0	0	1	7	0	0	7	5	*44*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	18	1	295	0	0	0	6	30	0	0	72	23	*445*
7:15 AM ---	8:15 AM	17	0	279	0	0	0	8	30	0	0	69	20	*423*
7:30 AM ---	8:30 AM	20	0	252	0	0	0	10	27	0	0	60	25	*394*
7:45 AM ---	8:45 AM	18	0	178	0	0	0	10	26	0	0	50	22	*304*
8:00 AM ---	9:00 AM	12	2	107	0	0	0	9	26	0	0	36	19	*211*

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B.A.Y.M.E.T.R.I.C.S.

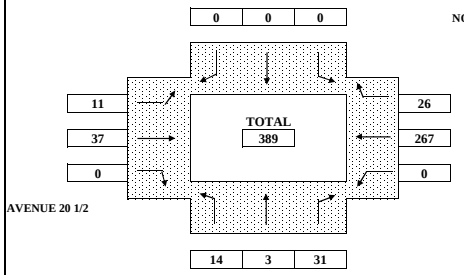
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/19/2010	DAY:	WEDNESDAY
N-S APPROACH:	SR-99 NB RAMPS	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 20 1/2	CITY:	MERCED	FILE:	3005030-(47-63)PM

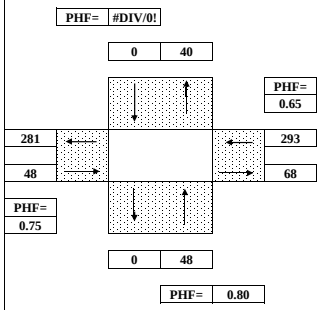
PEAK HOUR

04:00 PM TO 05:00 PM

NORTH



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	1	3	9	0	0	0	3	7	0	0	103	9	*135*
4:15 PM ---	4:30 PM	4	3	14	0	0	0	7	19	0	0	157	16	*220*
4:30 PM ---	4:45 PM	8	3	25	0	0	0	11	26	0	0	239	23	*335*
4:45 PM ---	5:00 PM	14	3	31	0	0	0	11	37	0	0	267	26	*389*
5:00 PM ---	5:15 PM	17	3	40	0	0	0	14	46	0	0	295	32	*447*
5:15 PM ---	5:30 PM	17	6	48	0	0	0	16	55	0	0	313	35	*490*
5:30 PM ---	5:45 PM	20	7	59	0	0	0	18	60	0	0	331	44	*539*
5:45 PM ---	6:00 PM	24	7	66	0	0	0	21	69	0	0	344	45	*576*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	1	3	9	0	0	0	3	7	0	0	103	9	*135*
4:15 PM ---	4:30 PM	3	0	5	0	0	0	4	12	0	0	54	7	*85*
4:30 PM ---	4:45 PM	4	0	11	0	0	0	4	7	0	0	82	7	*115*
4:45 PM ---	5:00 PM	6	0	6	0	0	0	0	11	0	0	28	3	*54*
5:00 PM ---	5:15 PM	3	0	9	0	0	0	3	9	0	0	28	6	*58*
5:15 PM ---	5:30 PM	0	3	8	0	0	0	2	9	0	0	18	3	*43*
5:30 PM ---	5:45 PM	3	1	11	0	0	0	2	5	0	0	18	9	*49*
5:45 PM ---	6:00 PM	4	0	7	0	0	0	3	9	0	0	13	1	*37*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	14	3	31	0	0	0	11	37	0	0	267	26	*389*
4:15 PM ---	5:15 PM	16	0	31	0	0	0	11	39	0	0	192	23	*312*
4:30 PM ---	5:30 PM	13	3	34	0	0	0	9	36	0	0	156	19	*270*
4:45 PM ---	5:45 PM	12	4	34	0	0	0	7	34	0	0	92	21	*204*
5:00 PM ---	6:00 PM	10	4	35	0	0	0	10	32	0	0	77	19	*187*

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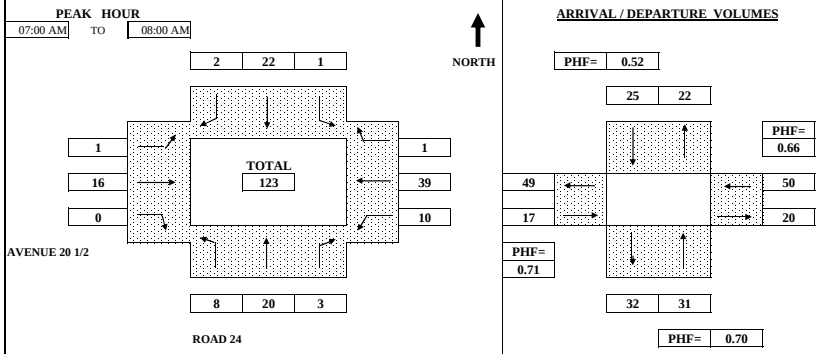
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	ROAD 24	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 20 1/2	CITY:	MERCED	FILE:	3005030-48AM

PEAK HOUR: 07:00 AM TO 08:00 AM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	3	4	0	0	4	1	0	6	0	5	4	1	*28*
7:15 AM ---	7:30 AM	5	11	2	0	8	1	0	11	0	6	10	1	*55*
7:30 AM ---	7:45 AM	7	13	2	1	18	2	0	13	0	10	25	1	*92*
7:45 AM ---	8:00 AM	8	20	3	1	22	2	1	16	0	10	39	1	*123*
8:00 AM ---	8:15 AM	8	24	4	1	24	2	2	21	0	13	46	2	*147*
8:15 AM ---	8:30 AM	14	25	6	1	25	2	2	24	0	14	59	2	*174*
8:30 AM ---	8:45 AM	15	28	6	1	27	2	3	27	1	18	62	4	*194*
8:45 AM ---	9:00 AM	15	30	9	1	30	3	3	32	1	19	69	4	*216*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	3	4	0	0	4	1	0	6	0	5	4	1	*28*
7:15 AM ---	7:30 AM	2	7	2	0	4	0	0	5	0	1	6	0	*27*
7:30 AM ---	7:45 AM	2	2	0	1	10	1	0	2	0	4	15	0	*37*
7:45 AM ---	8:00 AM	1	7	1	0	4	0	1	3	0	0	14	0	*31*
8:00 AM ---	8:15 AM	0	4	1	0	2	0	1	5	0	3	7	1	*24*
8:15 AM ---	8:30 AM	6	1	2	0	1	0	0	3	0	1	13	0	*27*
8:30 AM ---	8:45 AM	1	3	0	0	2	0	1	3	1	4	3	2	*20*
8:45 AM ---	9:00 AM	0	2	3	0	3	1	0	5	0	1	7	0	*22*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	8	20	3	1	22	2	1	16	0	10	39	1	*123*
7:15 AM ---	8:15 AM	5	20	4	1	20	1	2	15	0	8	42	1	*119*
7:30 AM ---	8:30 AM	9	14	4	1	17	1	2	13	0	8	49	1	*119*
7:45 AM ---	8:45 AM	8	15	4	0	9	0	3	14	1	8	37	3	*102*
8:00 AM ---	9:00 AM	7	10	6	0	8	1	2	16	1	9	30	3	*93*

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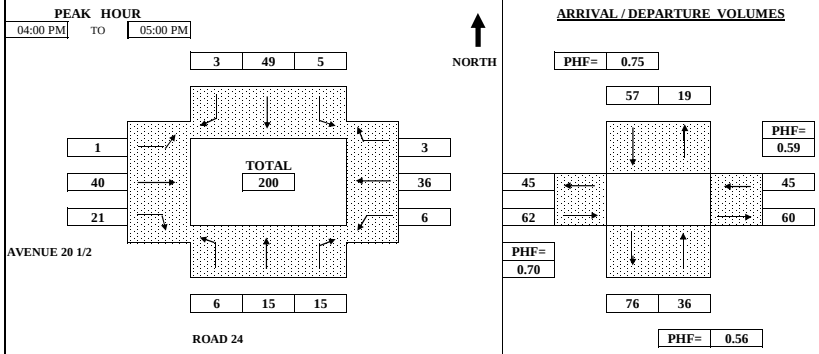
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	ROAD 24	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 20 1/2	CITY:	MERCED	FILE:	3005030-48PM

PEAK HOUR: 04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES

TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	2	7	7	2	6	0	1	14	6	1	17	1	*64*
4:15 PM ---	4:30 PM	3	8	10	3	18	0	1	23	6	4	25	2	*103*
4:30 PM ---	4:45 PM	6	13	13	5	31	2	1	33	18	5	32	2	*161*
4:45 PM ---	5:00 PM	6	15	15	5	49	3	1	40	21	6	36	3	*200*
5:00 PM ---	5:15 PM	7	21	19	6	57	3	1	50	24	8	41	3	*240*
5:15 PM ---	5:30 PM	8	27	21	6	59	4	1	60	27	11	45	3	*272*
5:30 PM ---	5:45 PM	9	30	23	7	63	4	1	65	27	12	49	3	*293*
5:45 PM ---	6:00 PM	9	33	23	8	69	4	1	71	27	14	51	4	*314*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	2	7	7	2	6	0	1	14	6	1	17	1	*64*
4:15 PM ---	4:30 PM	1	1	3	1	12	0	0	9	0	3	8	1	*39*
4:30 PM ---	4:45 PM	3	5	3	2	13	2	0	10	12	1	7	0	*58*
4:45 PM ---	5:00 PM	0	2	2	0	18	1	0	7	3	1	4	1	*39*
5:00 PM ---	5:15 PM	1	6	4	1	8	0	0	10	3	2	5	0	*40*
5:15 PM ---	5:30 PM	1	6	2	0	2	1	0	10	3	3	4	0	*32*
5:30 PM ---	5:45 PM	1	3	2	1	4	0	0	5	0	1	4	0	*21*
5:45 PM ---	6:00 PM	0	3	0	1	6	0	0	6	0	2	2	1	*21*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	6	15	15	5	49	3	1	40	21	6	36	3	*200*
4:15 PM ---	5:15 PM	5	14	12	4	51	3	0	36	18	7	24	2	*176*
4:30 PM ---	5:30 PM	5	19	11	3	41	4	0	37	21	7	20	1	*169*
4:45 PM ---	5:45 PM	3	17	10	2	32	2	0	32	9	7	17	1	*132*
5:00 PM ---	6:00 PM	3	18	8	3	20	1	0	31	6	8	15	1	*114*

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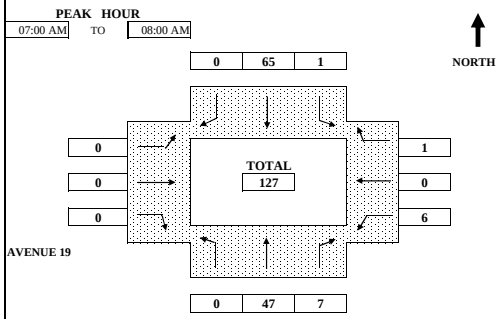
B.A.Y.M.E.T.R.I.C.S.

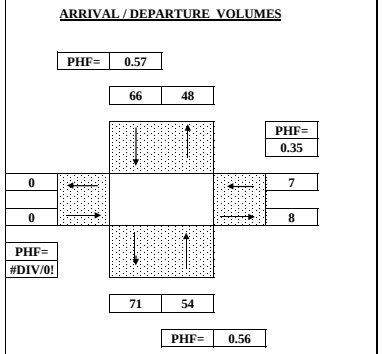
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	ROAD 24	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 19	CITY:	MERCED	FILE:	3005030-49AM

PEAK HOUR: 07:00 AM TO 08:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	7	2	0	29	0	0	0	0	4	0	1	*43*
7:15 AM ---	7:30 AM	0	17	2	0	34	0	0	0	0	4	0	1	*58*
7:30 AM ---	7:45 AM	0	27	3	1	56	0	0	0	0	5	0	1	*93*
7:45 AM ---	8:00 AM	0	47	7	1	65	0	0	0	0	6	0	1	*127*
8:00 AM ---	8:15 AM	0	55	7	1	73	0	0	0	0	7	0	1	*144*
8:15 AM ---	8:30 AM	0	71	8	2	88	0	0	0	0	8	0	1	*178*
8:30 AM ---	8:45 AM	0	80	9	4	102	0	0	0	0	9	0	2	*206*
8:45 AM ---	9:00 AM	0	88	9	5	109	0	0	0	0	9	0	2	*222*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	7	2	0	29	0	0	0	0	4	0	1	*43*
7:15 AM ---	7:30 AM	0	10	0	0	5	0	0	0	0	0	0	0	*15*
7:30 AM ---	7:45 AM	0	10	1	1	22	0	0	0	0	1	0	0	*35*
7:45 AM ---	8:00 AM	0	20	4	0	9	0	0	0	0	1	0	0	*34*
8:00 AM ---	8:15 AM	0	8	0	0	8	0	0	0	0	1	0	0	*17*
8:15 AM ---	8:30 AM	0	16	1	1	15	0	0	0	0	1	0	0	*34*
8:30 AM ---	8:45 AM	0	9	1	2	14	0	0	0	0	1	0	1	*28*
8:45 AM ---	9:00 AM	0	8	0	1	7	0	0	0	0	0	0	0	*16*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	0	47	7	1	65	0	0	0	0	6	0	1	*127*
7:15 AM ---	8:15 AM	0	48	5	1	44	0	0	0	0	3	0	0	*101*
7:30 AM ---	8:30 AM	0	54	6	2	54	0	0	0	0	4	0	0	*120*
7:45 AM ---	8:45 AM	0	53	6	3	46	0	0	0	0	4	0	1	*113*
8:00 AM ---	9:00 AM	0	41	2	4	44	0	0	0	0	3	0	1	*95*

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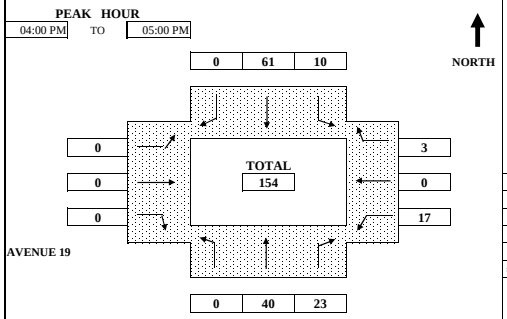
B.A.Y.M.E.T.R.I.C.S.

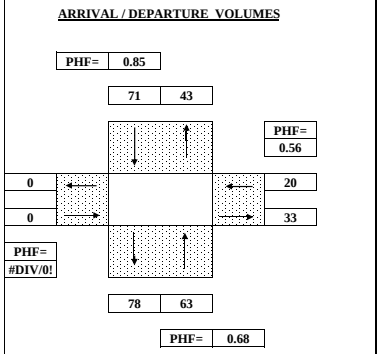
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	ROAD 24	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 19	CITY:	MERCED	FILE:	3005030-49PM

PEAK HOUR: 04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	15	8	1	19	0	0	0	0	5	0	1	*49*
4:15 PM ---	4:30 PM	0	23	15	2	32	0	0	0	0	7	0	1	*80*
4:30 PM ---	4:45 PM	0	32	21	3	52	0	0	0	0	9	0	2	*119*
4:45 PM ---	5:00 PM	0	40	23	10	61	0	0	0	0	17	0	3	*154*
5:00 PM ---	5:15 PM	0	50	26	13	79	0	0	0	0	20	0	5	*193*
5:15 PM ---	5:30 PM	0	59	32	16	94	0	0	0	0	22	0	8	*231*
5:30 PM ---	5:45 PM	0	68	41	16	100	0	0	0	0	22	0	9	*256*
5:45 PM ---	6:00 PM	0	73	48	16	109	0	0	0	0	23	0	9	*278*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	15	8	1	19	0	0	0	0	5	0	1	*49*
4:15 PM ---	4:30 PM	0	8	7	1	13	0	0	0	0	2	0	0	*31*
4:30 PM ---	4:45 PM	0	9	6	1	20	0	0	0	0	2	0	1	*39*
4:45 PM ---	5:00 PM	0	8	2	7	9	0	0	0	0	8	0	1	*35*
5:00 PM ---	5:15 PM	0	10	3	3	18	0	0	0	0	3	0	2	*39*
5:15 PM ---	5:30 PM	0	9	6	3	15	0	0	0	0	2	0	3	*38*
5:30 PM ---	5:45 PM	0	9	9	0	6	0	0	0	0	0	0	1	*25*
5:45 PM ---	6:00 PM	0	5	7	0	9	0	0	0	0	1	0	0	*22*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	0	40	23	10	61	0	0	0	0	17	0	3	*154*
4:15 PM ---	5:15 PM	0	35	18	12	60	0	0	0	0	15	0	4	*144*
4:30 PM ---	5:30 PM	0	36	17	14	62	0	0	0	0	15	0	7	*151*
4:45 PM ---	5:45 PM	0	36	20	13	48	0	0	0	0	13	0	7	*137*
5:00 PM ---	6:00 PM	0	33	25	6	48	0	0	0	0	6	0	6	*124*

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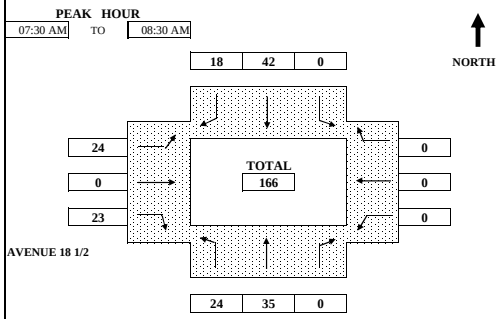
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

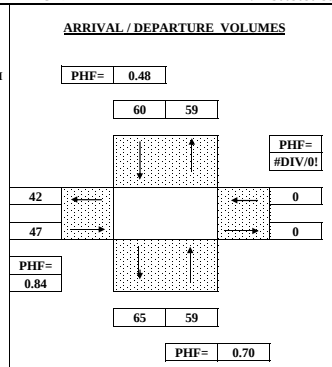
PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	ROAD 24	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 18 1/2	CITY:	MERCED	FILE:	3005030-50AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	3	2	0	0	23	8	6	0	5	0	0	0	*47*
7:15 AM ---	7:30 AM	4	7	0	0	24	12	12	0	11	0	0	0	*70*
7:30 AM ---	7:45 AM	12	13	0	0	44	16	16	0	19	0	0	0	*120*
7:45 AM ---	8:00 AM	22	24	0	0	55	17	23	0	23	0	0	0	*164*
8:00 AM ---	8:15 AM	25	33	0	0	59	23	27	0	29	0	0	0	*196*
8:15 AM ---	8:30 AM	28	42	0	0	66	30	36	0	34	0	0	0	*236*
8:30 AM ---	8:45 AM	28	45	0	0	78	32	42	0	41	0	0	0	*266*
8:45 AM ---	9:00 AM	31	47	0	0	82	35	49	0	48	0	0	0	*292*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	3	2	0	0	23	8	6	0	5	0	0	0	*47*
7:15 AM ---	7:30 AM	1	5	0	0	1	4	6	0	6	0	0	0	*23*
7:30 AM ---	7:45 AM	8	6	0	0	20	4	4	0	8	0	0	0	*50*
7:45 AM ---	8:00 AM	10	11	0	0	11	1	7	0	4	0	0	0	*44*
8:00 AM ---	8:15 AM	3	9	0	0	4	6	4	0	6	0	0	0	*32*
8:15 AM ---	8:30 AM	3	9	0	0	7	7	9	0	5	0	0	0	*40*
8:30 AM ---	8:45 AM	0	3	0	0	12	2	6	0	7	0	0	0	*30*
8:45 AM ---	9:00 AM	3	2	0	0	4	3	7	0	7	0	0	0	*26*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	22	24	0	0	55	17	23	0	23	0	0	0	*164*
7:15 AM ---	8:15 AM	22	31	0	0	36	15	21	0	24	0	0	0	*149*
7:30 AM ---	8:30 AM	24	35	0	0	42	18	24	0	23	0	0	0	*166*
7:45 AM ---	8:45 AM	16	32	0	0	34	16	26	0	22	0	0	0	*146*
8:00 AM ---	9:00 AM	9	23	0	0	27	18	26	0	25	0	0	0	*128*

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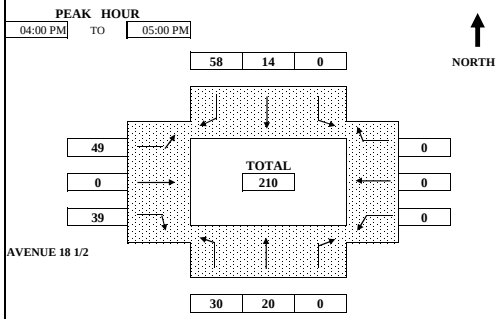
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

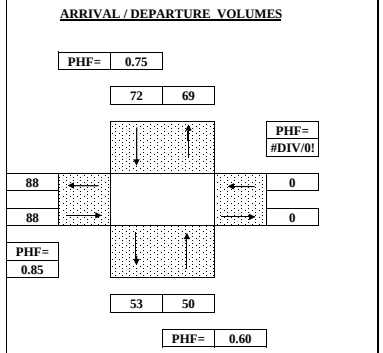
PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	ROAD 24	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 18 1/2	CITY:	MERCED	FILE:	3005030-50PM

PEAK HOUR

04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	9	12	0	0	5	12	18	0	8	0	0	0	*64*
4:15 PM ---	4:30 PM	12	15	0	0	8	26	28	0	20	0	0	0	*109*
4:30 PM ---	4:45 PM	24	19	0	0	11	44	43	0	29	0	0	0	*170*
4:45 PM ---	5:00 PM	30	20	0	0	14	58	49	0	39	0	0	0	*210*
5:00 PM ---	5:15 PM	35	22	0	0	17	79	59	0	46	0	0	0	*258*
5:15 PM ---	5:30 PM	38	28	0	0	21	92	71	0	55	0	0	0	*305*
5:30 PM ---	5:45 PM	46	31	0	0	25	98	80	0	62	0	0	0	*342*
5:45 PM ---	6:00 PM	50	32	0	0	29	104	89	0	67	0	0	0	*371*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	9	12	0	0	5	12	18	0	8	0	0	0	*64*
4:15 PM ---	4:30 PM	3	3	0	0	3	14	10	0	12	0	0	0	*45*
4:30 PM ---	4:45 PM	12	4	0	0	3	18	15	0	9	0	0	0	*61*
4:45 PM ---	5:00 PM	6	1	0	0	3	14	6	0	10	0	0	0	*40*
5:00 PM ---	5:15 PM	5	2	0	0	3	21	10	0	7	0	0	0	*48*
5:15 PM ---	5:30 PM	3	6	0	0	4	13	12	0	9	0	0	0	*47*
5:30 PM ---	5:45 PM	8	3	0	0	4	6	9	0	7	0	0	0	*37*
5:45 PM ---	6:00 PM	4	1	0	0	4	6	9	0	5	0	0	0	*29*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	30	20	0	0	14	58	49	0	39	0	0	0	*210*
4:15 PM ---	5:15 PM	26	10	0	0	12	67	41	0	38	0	0	0	*194*
4:30 PM ---	5:30 PM	26	13	0	0	13	66	43	0	35	0	0	0	*196*
4:45 PM ---	5:45 PM	22	12	0	0	14	54	37	0	33	0	0	0	*172*
5:00 PM ---	6:00 PM	20	12	0	0	15	46	40	0	28	0	0	0	*161*

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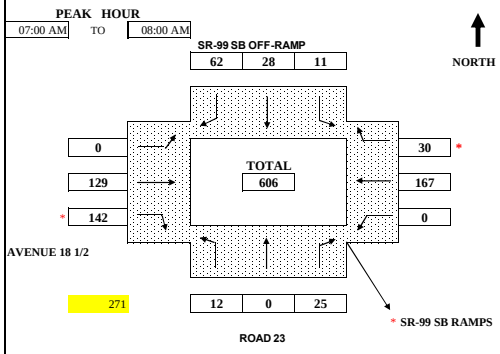
B.A.Y.M.E.T.R.I.C.S.

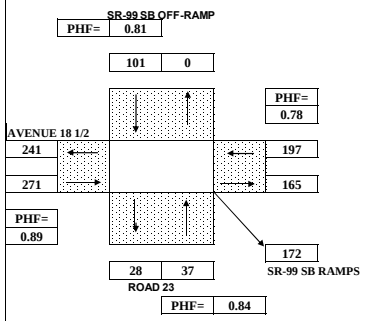
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SR-99 SB RAMPS	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 18 1/2	CITY:	MERCED	FILE:	3005030-51AM

PEAK HOUR: 07:00 AM TO 08:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right*	WESTBOUND Left	Thru	Right*	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	3	0	5	6	5	15	0	24	51	0	46	4	***159***
7:15 AM ---	7:30 AM	7	0	12	8	11	29	0	51	73	0	84	5	***280***
7:30 AM ---	7:45 AM	9	0	19	8	19	46	0	93	107	0	118	16	***435***
7:45 AM ---	8:00 AM	12	0	25	11	28	62	0	129	142	0	167	30	***606***
8:00 AM ---	8:15 AM	13	0	33	11	33	82	0	164	181	0	212	35	***764***
8:15 AM ---	8:30 AM	15	0	38	13	40	95	0	183	216	0	241	41	***882***
8:30 AM ---	8:45 AM	17	0	42	15	45	119	0	204	245	0	274	44	***1,005***
8:45 AM ---	9:00 AM	20	0	45	17	52	136	0	228	284	0	303	52	***1,137***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	3	0	5	6	5	15	0	24	51	0	46	4	***159***
7:15 AM ---	7:30 AM	4	0	7	2	6	14	0	27	22	0	38	1	***121***
7:30 AM ---	7:45 AM	2	0	7	0	8	17	0	42	34	0	34	11	***155***
7:45 AM ---	8:00 AM	3	0	6	3	9	16	0	36	35	0	49	14	***171***
8:00 AM ---	8:15 AM	1	0	8	0	5	20	0	35	39	0	45	5	***158***
8:15 AM ---	8:30 AM	2	0	5	2	7	13	0	19	35	0	29	6	***118***
8:30 AM ---	8:45 AM	2	0	4	2	5	24	0	21	29	0	33	3	***123***
8:45 AM ---	9:00 AM	3	0	3	2	7	17	0	24	39	0	29	8	***132***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	12	0	25	11	28	62	0	129	142	0	167	30	***606***
7:15 AM ---	8:15 AM	10	0	28	5	28	67	0	140	130	0	166	31	***605***
7:30 AM ---	8:30 AM	8	0	26	5	29	66	0	132	143	0	157	36	***602***
7:45 AM ---	8:45 AM	8	0	23	7	26	73	0	111	138	0	156	28	***570***
8:00 AM ---	9:00 AM	8	0	20	6	24	74	0	99	142	0	136	22	***531***

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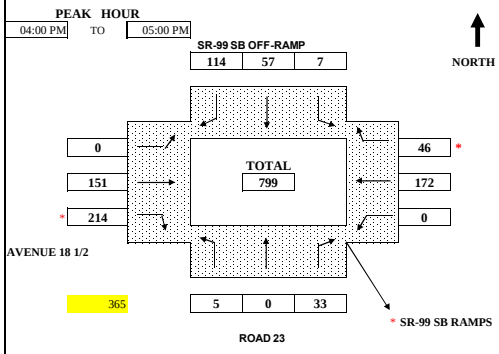
B.A.Y.M.E.T.R.I.C.S.

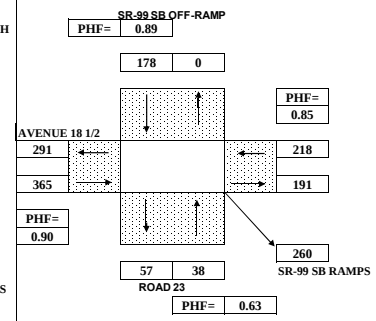
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SR-99 SB RAMPS	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 18 1/2	CITY:	MERCED	FILE:	3005030-51PM

PEAK HOUR: 04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right*	WESTBOUND Left	Thru	Right*	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	0	5	3	20	27	0	35	53	0	57	7	***207***
4:15 PM ---	4:30 PM	2	0	18	5	31	49	0	74	97	0	103	17	***396***
4:30 PM ---	4:45 PM	3	0	24	6	43	80	0	110	162	0	134	34	***596***
4:45 PM ---	5:00 PM	5	0	33	7	57	114	0	151	214	0	172	46	***799***
5:00 PM ---	5:15 PM	6	0	45	8	64	137	0	179	254	0	200	63	***956***
5:15 PM ---	5:30 PM	9	0	52	9	73	161	0	216	285	0	243	72	***1,120***
5:30 PM ---	5:45 PM	10	0	57	9	79	188	0	252	323	0	274	87	***1,279***
5:45 PM ---	6:00 PM	11	0	58	10	88	216	0	283	371	0	310	98	***1,445***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	0	5	3	20	27	0	35	53	0	57	7	***207***
4:15 PM ---	4:30 PM	2	0	13	2	11	22	0	39	44	0	46	10	***189***
4:30 PM ---	4:45 PM	1	0	6	1	12	31	0	36	65	0	31	17	***200***
4:45 PM ---	5:00 PM	2	0	9	1	14	34	0	41	52	0	38	12	***203***
5:00 PM ---	5:15 PM	1	0	12	1	7	23	0	28	40	0	28	17	***157***
5:15 PM ---	5:30 PM	3	0	7	1	9	24	0	37	31	0	43	9	***164***
5:30 PM ---	5:45 PM	1	0	5	0	6	27	0	36	38	0	31	15	***159***
5:45 PM ---	6:00 PM	1	0	1	1	9	28	0	31	48	0	36	11	***166***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	5	0	33	7	57	114	0	151	214	0	172	46	***799***
4:15 PM ---	5:15 PM	6	0	40	5	44	110	0	144	201	0	143	56	***749***
4:30 PM ---	5:30 PM	7	0	34	4	42	112	0	142	188	0	140	55	***724***
4:45 PM ---	5:45 PM	7	0	33	3	36	108	0	142	161	0	140	53	***683***
5:00 PM ---	6:00 PM	6	0	25	3	31	102	0	132	157	0	138	52	***646***

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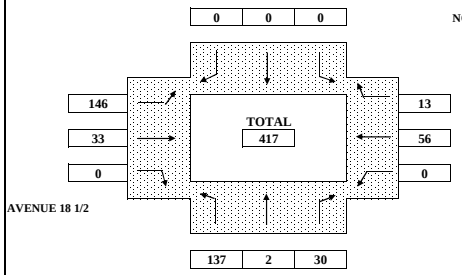
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

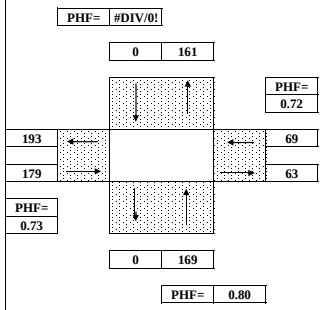
PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SR-99 NB RAMPS	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 18 1/2	CITY:	MERCED	FILE:	3005030-52AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	32	0	6	0	0	0	30	5	0	0	18	6	*97*
7:15 AM ---	7:30 AM	52	1	10	0	0	0	36	9	0	0	34	7	*149*
7:30 AM ---	7:45 AM	80	2	18	0	0	0	82	12	0	0	51	12	*257*
7:45 AM ---	8:00 AM	126	2	25	0	0	0	131	24	0	0	68	18	*394*
8:00 AM ---	8:15 AM	164	2	32	0	0	0	162	36	0	0	80	19	*495*
8:15 AM ---	8:30 AM	189	3	40	0	0	0	182	42	0	0	90	20	*566*
8:30 AM ---	8:45 AM	213	3	46	0	0	0	203	46	0	0	98	20	*629*
8:45 AM ---	9:00 AM	236	3	50	0	0	0	224	54	0	0	112	22	*701*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	32	0	6	0	0	0	30	5	0	0	18	6	*97*
7:15 AM ---	7:30 AM	20	1	4	0	0	0	6	4	0	0	16	1	*52*
7:30 AM ---	7:45 AM	28	1	8	0	0	0	46	3	0	0	17	5	*108*
7:45 AM ---	8:00 AM	46	0	7	0	0	0	49	12	0	0	17	6	*137*
8:00 AM ---	8:15 AM	38	0	7	0	0	0	31	12	0	0	12	1	*101*
8:15 AM ---	8:30 AM	25	1	8	0	0	0	20	6	0	0	10	1	*71*
8:30 AM ---	8:45 AM	24	0	6	0	0	0	21	4	0	0	8	0	*63*
8:45 AM ---	9:00 AM	23	0	4	0	0	0	21	8	0	0	14	2	*72*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	126	2	25	0	0	0	131	24	0	0	68	18	*394*
7:15 AM ---	8:15 AM	132	2	26	0	0	0	132	31	0	0	62	13	*398*
7:30 AM ---	8:30 AM	137	2	30	0	0	0	146	33	0	0	56	13	*417*
7:45 AM ---	8:45 AM	133	1	28	0	0	0	121	34	0	0	47	8	*372*
8:00 AM ---	9:00 AM	110	1	25	0	0	0	93	30	0	0	44	4	*307*

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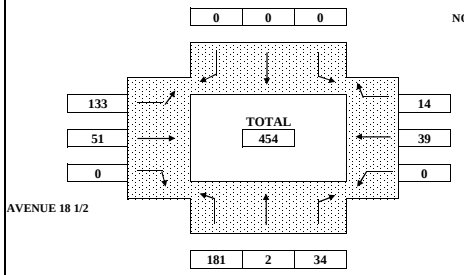
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

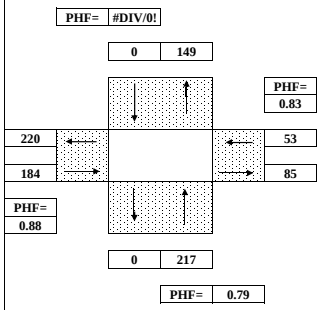
PROJECT:	HSR - MERCED	SURVEY DATE:	5/18/2010	DAY:	TUESDAY
N-S APPROACH:	SR-99 NB RAMPS	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 18 1/2	CITY:	MERCED	FILE:	3005030-52PM

PEAK HOUR

04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	53	1	15	0	0	0	32	11	0	0	13	3	*128*
4:15 PM ---	4:30 PM	99	1	17	0	0	0	65	30	0	0	23	3	*238*
4:30 PM ---	4:45 PM	138	1	27	0	0	0	100	38	0	0	32	7	*343*
4:45 PM ---	5:00 PM	181	2	34	0	0	0	133	51	0	0	39	14	*454*
5:00 PM ---	5:15 PM	215	2	48	0	0	0	168	57	0	0	44	14	*548*
5:15 PM ---	5:30 PM	259	2	62	0	0	0	204	66	0	0	55	17	*665*
5:30 PM ---	5:45 PM	301	4	67	0	0	0	234	77	0	0	58	19	*760*
5:45 PM ---	6:00 PM	340	4	73	0	0	0	258	89	0	0	61	19	*844*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	53	1	15	0	0	0	32	11	0	0	13	3	*128*
4:15 PM ---	4:30 PM	46	0	2	0	0	0	33	19	0	0	10	0	*110*
4:30 PM ---	4:45 PM	39	0	10	0	0	0	35	8	0	0	9	4	*105*
4:45 PM ---	5:00 PM	43	1	7	0	0	0	33	13	0	0	7	7	*111*
5:00 PM ---	5:15 PM	34	0	14	0	0	0	35	6	0	0	5	0	*94*
5:15 PM ---	5:30 PM	44	0	14	0	0	0	36	9	0	0	11	3	*117*
5:30 PM ---	5:45 PM	42	2	5	0	0	0	30	11	0	0	3	2	*95*
5:45 PM ---	6:00 PM	39	0	6	0	0	0	24	12	0	0	3	0	*84*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	181	2	34	0	0	0	133	51	0	0	39	14	*454*
4:15 PM ---	5:15 PM	162	1	33	0	0	0	136	46	0	0	31	11	*420*
4:30 PM ---	5:30 PM	160	1	45	0	0	0	139	36	0	0	32	14	*427*
4:45 PM ---	5:45 PM	163	3	40	0	0	0	134	39	0	0	26	12	*417*
5:00 PM ---	6:00 PM	159	2	39	0	0	0	125	38	0	0	22	5	*390*

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HMF FAGUNDES INTERSECTION COUNTS

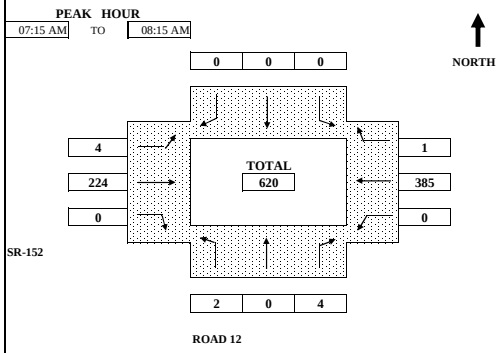
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

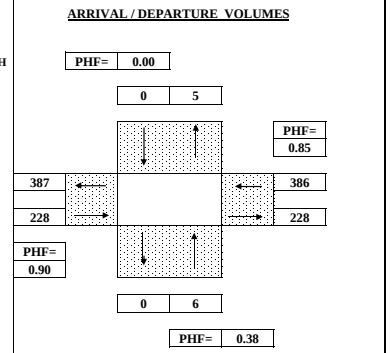
PROJECT:	HSR - MERCED / MADERA COUNTS	SURVEY DATE:	6/3/2010	DAY:	THURSDAY
N-S APPROACH:	ROAD 12	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SR-152	CITY:	CHOWCHILLA	FILE:	3005030(Add)-1AM

PEAK HOUR

07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	0	0	0	0	0	0	57	0	0	80	0	*137*
7:15 AM ---	7:30 AM	0	0	0	0	0	0	0	120	0	0	179	0	*299*
7:30 AM ---	7:45 AM	1	0	0	0	0	0	0	177	0	0	265	0	*443*
7:45 AM ---	8:00 AM	2	0	3	0	0	0	3	230	0	0	363	0	*601*
8:00 AM ---	8:15 AM	2	0	4	0	0	0	4	281	0	0	465	1	*757*
8:15 AM ---	8:30 AM	2	1	4	1	1	0	5	330	0	0	554	1	*899*
8:30 AM ---	8:45 AM	4	1	4	2	1	0	5	383	0	0	649	1	*1,050*
8:45 AM ---	9:00 AM	5	1	5	2	1	0	5	430	0	0	762	1	*1,212*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	0	0	0	0	0	0	57	0	0	80	0	*137*
7:15 AM ---	7:30 AM	0	0	0	0	0	0	0	63	0	0	99	0	*162*
7:30 AM ---	7:45 AM	1	0	0	0	0	0	0	57	0	0	86	0	*144*
7:45 AM ---	8:00 AM	1	0	3	0	0	0	3	53	0	0	98	0	*158*
8:00 AM ---	8:15 AM	0	0	1	0	0	0	1	51	0	0	102	1	*156*
8:15 AM ---	8:30 AM	0	1	0	1	1	0	1	49	0	0	89	0	*142*
8:30 AM ---	8:45 AM	2	0	0	1	0	0	0	53	0	0	95	0	*151*
8:45 AM ---	9:00 AM	1	0	1	0	0	0	0	47	0	0	113	0	*162*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	2	0	3	0	0	0	3	230	0	0	363	0	*601*
7:15 AM ---	8:15 AM	2	0	4	0	0	0	4	224	0	0	385	1	*620*
7:30 AM ---	8:30 AM	2	1	4	1	1	0	5	210	0	0	375	1	*600*
7:45 AM ---	8:45 AM	3	1	4	2	1	0	5	206	0	0	384	1	*607*
8:00 AM ---	9:00 AM	3	1	2	2	1	0	2	200	0	0	399	1	*611*

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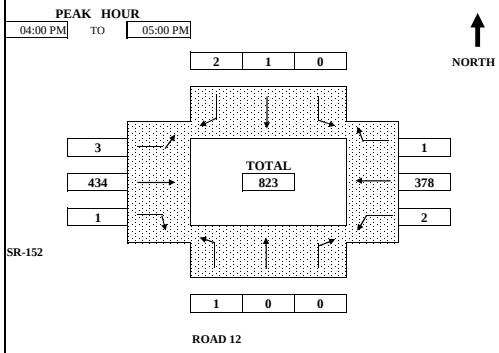
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

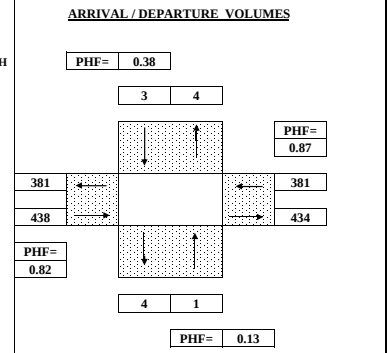
PROJECT:	HSR - MERCED / MADERA COUNTS	SURVEY DATE:	6/3/2010	DAY:	THURSDAY
N-S APPROACH:	ROAD 12	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SR-152	CITY:	CHOWCHILLA	FILE:	3005030(Add)-1PM

PEAK HOUR

04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	0	0	0	0	0	1	111	0	1	109	0	*222*
4:15 PM ---	4:30 PM	0	0	0	0	1	0	1	211	0	1	200	1	*415*
4:30 PM ---	4:45 PM	1	0	0	0	1	1	3	341	1	2	287	1	*638*
4:45 PM ---	5:00 PM	1	0	0	0	1	2	3	434	1	2	378	1	*823*
5:00 PM ---	5:15 PM	1	0	1	0	2	3	3	554	3	2	466	1	*1,036*
5:15 PM ---	5:30 PM	1	0	2	1	2	3	3	668	4	2	536	3	*1,225*
5:30 PM ---	5:45 PM	3	0	2	1	2	3	3	794	6	2	631	3	*1,450*
5:45 PM ---	6:00 PM	3	0	2	2	2	3	5	898	8	2	699	4	*1,628*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	0	0	0	0	0	1	111	0	1	109	0	*222*
4:15 PM ---	4:30 PM	0	0	0	0	1	0	0	100	0	0	91	1	*193*
4:30 PM ---	4:45 PM	1	0	0	0	0	1	2	130	1	1	87	0	*223*
4:45 PM ---	5:00 PM	0	0	0	0	0	1	0	93	0	0	91	0	*185*
5:00 PM ---	5:15 PM	0	0	1	0	1	1	0	120	2	0	88	0	*213*
5:15 PM ---	5:30 PM	0	0	1	1	0	0	0	114	1	0	70	2	*189*
5:30 PM ---	5:45 PM	2	0	0	0	0	0	0	126	2	0	95	0	*225*
5:45 PM ---	6:00 PM	0	0	0	1	0	0	2	104	2	0	68	1	*178*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	1	0	0	0	1	2	3	434	1	2	378	1	*823*
4:15 PM ---	5:15 PM	1	0	1	0	2	3	2	443	3	1	357	1	*814*
4:30 PM ---	5:30 PM	1	0	2	1	1	3	2	457	4	1	336	2	*810*
4:45 PM ---	5:45 PM	2	0	2	1	1	2	0	453	5	0	344	2	*812*
5:00 PM ---	6:00 PM	2	0	2	2	1	1	2	464	7	0	321	3	*805*

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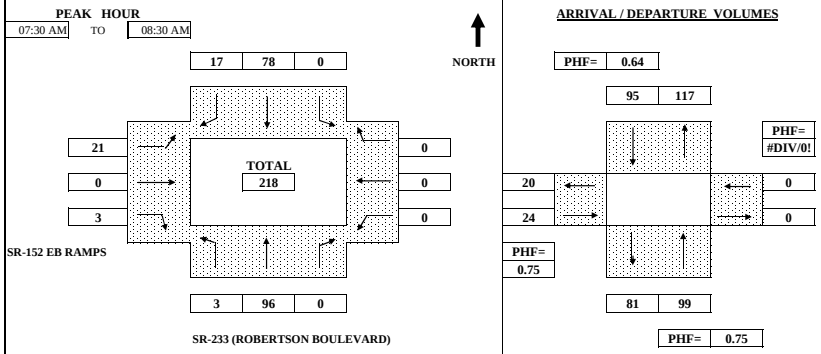
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED / MADERA COUNTS	SURVEY DATE:	6/3/2010	DAY:	THURSDAY
N-S APPROACH:	SR-233 (ROBERTSON BOULEVARD)	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SR-152 EB RAMPS	CITY:	CHOWCHILLA	FILE:	3005030(Add)-2AM

PEAK HOUR: 07:30 AM TO 08:30 AM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	9	0	0	5	2	1	0	1	0	0	0	*18*
7:15 AM ---	7:30 AM	0	26	0	0	11	5	5	0	3	0	0	0	*50*
7:30 AM ---	7:45 AM	1	45	0	0	22	10	11	0	4	0	0	0	*93*
7:45 AM ---	8:00 AM	2	75	0	0	39	13	19	0	4	0	0	0	*152*
8:00 AM ---	8:15 AM	3	89	0	0	71	18	24	0	5	0	0	0	*210*
8:15 AM ---	8:30 AM	3	122	0	0	89	22	26	0	6	0	0	0	*268*
8:30 AM ---	8:45 AM	4	133	0	0	101	25	32	0	7	0	0	0	*302*
8:45 AM ---	9:00 AM	4	151	0	0	115	27	38	0	7	0	0	0	*342*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	9	0	0	5	2	1	0	1	0	0	0	*18*
7:15 AM ---	7:30 AM	0	17	0	0	6	3	4	0	2	0	0	0	*32*
7:30 AM ---	7:45 AM	1	19	0	0	11	5	6	0	1	0	0	0	*43*
7:45 AM ---	8:00 AM	1	30	0	0	17	3	8	0	0	0	0	0	*59*
8:00 AM ---	8:15 AM	1	14	0	0	32	5	5	0	1	0	0	0	*58*
8:15 AM ---	8:30 AM	0	33	0	0	18	4	2	0	1	0	0	0	*58*
8:30 AM ---	8:45 AM	1	11	0	0	12	3	6	0	1	0	0	0	*34*
8:45 AM ---	9:00 AM	0	18	0	0	14	2	6	0	0	0	0	0	*40*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	2	75	0	0	39	13	19	0	4	0	0	0	*152*
7:15 AM ---	8:15 AM	3	80	0	0	66	16	23	0	4	0	0	0	*192*
7:30 AM ---	8:30 AM	3	96	0	0	78	17	21	0	3	0	0	0	*218*
7:45 AM ---	8:45 AM	3	88	0	0	79	15	21	0	3	0	0	0	*209*
8:00 AM ---	9:00 AM	2	76	0	0	76	14	19	0	3	0	0	0	*190*

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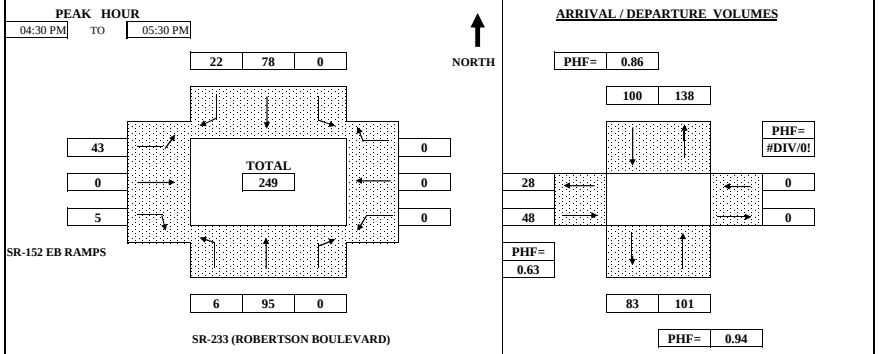
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED / MADERA COUNTS	SURVEY DATE:	6/3/2010	DAY:	THURSDAY
N-S APPROACH:	SR-233 (ROBERTSON BOULEVARD)	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SR-152 EB RAMPS	CITY:	CHOWCHILLA	FILE:	3005030(Add)-2PM

PEAK HOUR: 04:30 PM TO 05:30 PM



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	2	16	0	0	12	8	14	0	0	0	0	0	*52*
4:15 PM ---	4:30 PM	3	32	0	0	27	20	27	0	0	0	0	0	*109*
4:30 PM ---	4:45 PM	4	55	0	0	45	27	35	0	2	0	0	0	*168*
4:45 PM ---	5:00 PM	6	77	0	0	66	30	44	0	3	0	0	0	*226*
5:00 PM ---	5:15 PM	8	101	0	0	91	34	60	0	5	0	0	0	*299*
5:15 PM ---	5:30 PM	9	127	0	0	105	42	70	0	5	0	0	0	*358*
5:30 PM ---	5:45 PM	9	149	0	0	116	45	88	0	6	0	0	0	*413*
5:45 PM ---	6:00 PM	9	163	0	0	130	49	99	0	6	0	0	0	*456*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	2	16	0	0	12	8	14	0	0	0	0	0	*52*
4:15 PM ---	4:30 PM	1	16	0	0	15	12	13	0	0	0	0	0	*57*
4:30 PM ---	4:45 PM	1	23	0	0	18	7	8	0	2	0	0	0	*59*
4:45 PM ---	5:00 PM	2	22	0	0	21	3	9	0	1	0	0	0	*58*
5:00 PM ---	5:15 PM	2	24	0	0	25	4	16	0	2	0	0	0	*73*
5:15 PM ---	5:30 PM	1	26	0	0	14	8	10	0	0	0	0	0	*59*
5:30 PM ---	5:45 PM	0	22	0	0	11	3	18	0	1	0	0	0	*55*
5:45 PM ---	6:00 PM	0	14	0	0	14	4	11	0	0	0	0	0	*43*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	6	77	0	0	66	30	44	0	3	0	0	0	*226*
4:15 PM ---	5:15 PM	6	85	0	0	79	26	46	0	5	0	0	0	*247*
4:30 PM ---	5:30 PM	6	95	0	0	78	22	43	0	5	0	0	0	*249*
4:45 PM ---	5:45 PM	5	94	0	0	71	18	53	0	4	0	0	0	*245*
5:00 PM ---	6:00 PM	3	86	0	0	64	19	55	0	3	0	0	0	*230*

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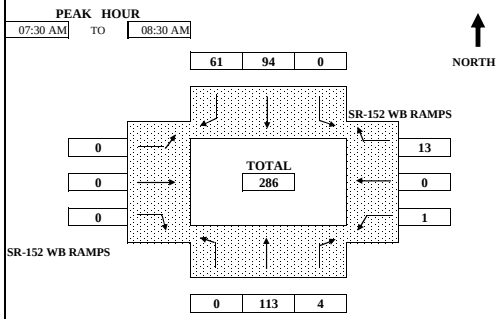
B.A.Y.M.E.T.R.I.C.S.

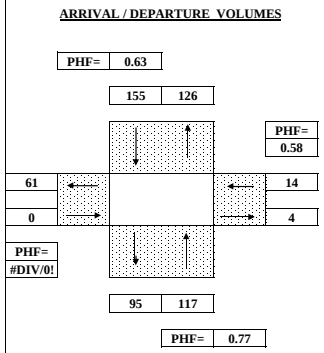
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED / MADERA COUNTS	SURVEY DATE:	6/3/2010	DAY:	THURSDAY
N-S APPROACH:	SR-233 (ROBERTSON BOULEVARD)	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SR-152 WB RAMPS	CITY:	CHOWCHILLA	FILE:	3005030(Add)-3AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM	7:15 AM	0	10	0	0	7	4	0	0	0	0	0	0	*21*
7:15 AM	7:30 AM	0	30	1	0	16	12	0	0	0	0	0	2	*61*
7:30 AM	7:45 AM	0	55	1	0	31	19	0	0	0	1	0	3	*110*
7:45 AM	8:00 AM	0	92	2	0	51	32	0	0	0	1	0	9	*187*
8:00 AM	8:15 AM	0	108	5	0	88	57	0	0	0	1	0	13	*272*
8:15 AM	8:30 AM	0	143	5	0	110	73	0	0	0	1	0	15	*347*
8:30 AM	8:45 AM	0	160	5	0	124	80	0	0	0	2	0	19	*390*
8:45 AM	9:00 AM	0	183	7	0	140	96	0	0	0	3	0	22	*451*
TOTAL BY PERIOD														
7:00 AM	7:15 AM	0	10	0	0	7	4	0	0	0	0	0	0	*21*
7:15 AM	7:30 AM	0	20	1	0	9	8	0	0	0	0	0	2	*40*
7:30 AM	7:45 AM	0	25	0	0	15	7	0	0	0	1	0	1	*49*
7:45 AM	8:00 AM	0	37	1	0	20	13	0	0	0	0	0	6	*77*
8:00 AM	8:15 AM	0	16	3	0	37	25	0	0	0	0	0	4	*85*
8:15 AM	8:30 AM	0	35	0	0	22	16	0	0	0	0	0	2	*75*
8:30 AM	8:45 AM	0	17	0	0	14	7	0	0	0	1	0	4	*43*
8:45 AM	9:00 AM	0	23	2	0	16	16	0	0	0	1	0	3	*61*
HOURLY TOTALS														
7:00 AM	8:00 AM	0	92	2	0	51	32	0	0	0	1	0	9	*187*
7:15 AM	8:15 AM	0	98	5	0	81	53	0	0	0	1	0	13	*251*
7:30 AM	8:30 AM	0	113	4	0	94	61	0	0	0	1	0	13	*286*
7:45 AM	8:45 AM	0	105	4	0	93	61	0	0	0	1	0	16	*280*
8:00 AM	9:00 AM	0	91	5	0	89	64	0	0	0	2	0	13	*264*

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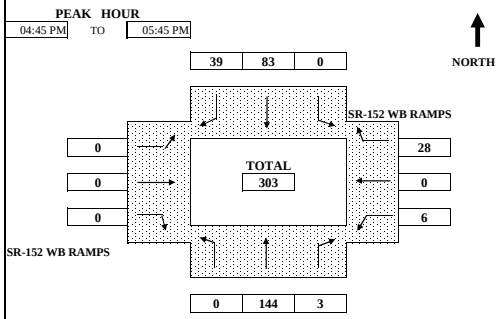
B.A.Y.M.E.T.R.I.C.S.

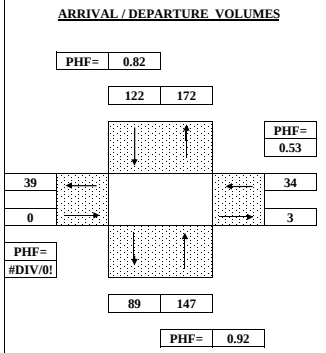
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED / MADERA COUNTS	SURVEY DATE:	6/3/2010	DAY:	THURSDAY
N-S APPROACH:	SR-233 (ROBERTSON BOULEVARD)	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SR-152 WB RAMPS	CITY:	CHOWCHILLA	FILE:	3005030(Add)-3PM

PEAK HOUR: 04:45 PM TO 05:45 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM	4:15 PM	0	30	0	0	18	7	0	0	0	2	0	4	*61*
4:15 PM	4:30 PM	0	58	1	0	43	14	0	0	0	4	0	7	*127*
4:30 PM	4:45 PM	0	87	3	0	68	19	0	0	0	4	0	12	*193*
4:45 PM	5:00 PM	0	116	5	0	91	33	0	0	0	5	0	16	*266*
5:00 PM	5:15 PM	0	156	5	0	115	40	0	0	0	10	0	27	*353*
5:15 PM	5:30 PM	0	191	6	0	137	49	0	0	0	10	0	36	*429*
5:30 PM	5:45 PM	0	231	6	0	151	58	0	0	0	10	0	40	*496*
5:45 PM	6:00 PM	0	254	6	0	170	66	0	0	0	10	0	45	*551*
TOTAL BY PERIOD														
4:00 PM	4:15 PM	0	30	0	0	18	7	0	0	0	2	0	4	*61*
4:15 PM	4:30 PM	0	28	1	0	25	7	0	0	0	2	0	3	*66*
4:30 PM	4:45 PM	0	29	2	0	25	5	0	0	0	0	0	5	*66*
4:45 PM	5:00 PM	0	29	2	0	23	14	0	0	0	1	0	4	*73*
5:00 PM	5:15 PM	0	40	0	0	24	7	0	0	0	5	0	11	*87*
5:15 PM	5:30 PM	0	35	1	0	22	9	0	0	0	0	0	9	*76*
5:30 PM	5:45 PM	0	40	0	0	14	9	0	0	0	0	0	4	*67*
5:45 PM	6:00 PM	0	23	0	0	19	8	0	0	0	0	0	5	*55*
HOURLY TOTALS														
4:00 PM	5:00 PM	0	116	5	0	91	33	0	0	0	5	0	16	*266*
4:15 PM	5:15 PM	0	126	5	0	97	33	0	0	0	8	0	23	*292*
4:30 PM	5:30 PM	0	133	5	0	94	35	0	0	0	6	0	29	*302*
4:45 PM	5:45 PM	0	144	3	0	83	39	0	0	0	6	0	28	*303*
5:00 PM	6:00 PM	0	138	1	0	79	33	0	0	0	5	0	29	*285*

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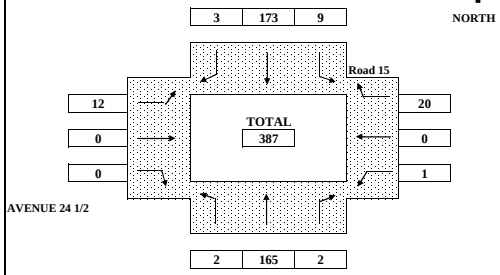
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

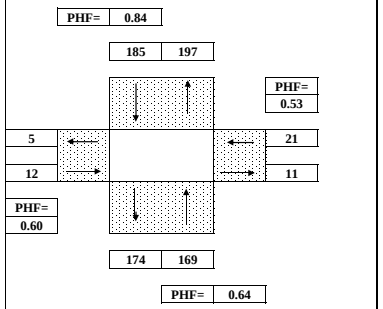
PROJECT:	HSR - MERCED / MADERA COUNTS	SURVEY DATE:	6/3/2010	DAY:	THURSDAY
N-S APPROACH:	SR-233 (ROBERTSON BOULEVARD)	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 24 1/2	CITY:	CHOWCHILLA	FILE:	3005030(Add)-4AM

PEAK HOUR

07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	17	1	0	25	0	0	1	0	0	1	3	***48***
7:15 AM ---	7:30 AM	0	49	1	3	50	0	3	1	0	0	3	9	***119***
7:30 AM ---	7:45 AM	0	85	1	3	80	1	4	2	0	0	3	12	***191***
7:45 AM ---	8:00 AM	0	151	1	6	129	2	9	2	0	0	3	22	***325***
8:00 AM ---	8:15 AM	0	178	1	8	182	2	11	2	0	0	3	25	***412***
8:15 AM ---	8:30 AM	1	214	3	10	225	2	15	2	0	1	3	29	***505***
8:30 AM ---	8:45 AM	2	250	3	12	253	4	16	2	0	1	3	32	***578***
8:45 AM ---	9:00 AM	3	281	3	14	298	8	20	2	0	1	3	36	***669***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	17	1	0	25	0	0	1	0	0	1	3	***48***
7:15 AM ---	7:30 AM	0	32	0	3	25	0	3	0	0	0	2	6	***71***
7:30 AM ---	7:45 AM	0	36	0	0	30	1	1	1	0	0	0	3	***72***
7:45 AM ---	8:00 AM	0	66	0	3	49	1	5	0	0	0	0	10	***134***
8:00 AM ---	8:15 AM	0	27	0	2	53	0	2	0	0	0	0	3	***87***
8:15 AM ---	8:30 AM	1	36	2	2	43	0	4	0	0	1	0	4	***93***
8:30 AM ---	8:45 AM	1	36	0	2	28	2	1	0	0	0	0	3	***73***
8:45 AM ---	9:00 AM	1	31	0	2	45	4	4	0	0	0	0	4	***91***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	0	151	1	6	129	2	9	2	0	0	3	22	***325***
7:15 AM ---	8:15 AM	0	161	0	8	157	2	11	1	0	0	2	22	***364***
7:30 AM ---	8:30 AM	1	165	2	7	175	2	12	1	0	1	0	20	***386***
7:45 AM ---	8:45 AM	2	165	2	9	173	3	12	0	0	1	0	20	***387***
8:00 AM ---	9:00 AM	3	130	2	8	169	6	11	0	0	1	0	14	***344***

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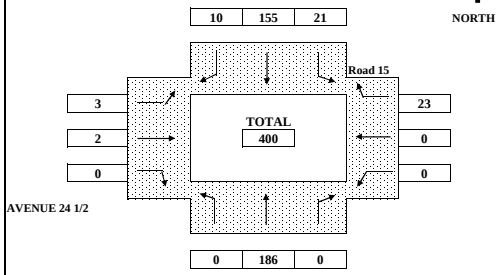
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

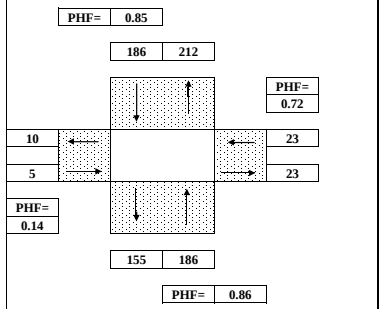
PROJECT:	HSR - MERCED / MADERA COUNTS	SURVEY DATE:	6/3/2010	DAY:	THURSDAY
N-S APPROACH:	SR-233 (ROBERTSON BOULEVARD)	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 24 1/2	CITY:	CHOWCHILLA	FILE:	3005030(Add)-4PM

PEAK HOUR

04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	1	43	0	3	42	3	5	1	3	0	1	2	***104***
4:15 PM ---	4:30 PM	1	88	0	6	71	7	7	1	4	0	1	8	***194***
4:30 PM ---	4:45 PM	1	134	0	12	116	11	7	1	4	0	1	14	***301***
4:45 PM ---	5:00 PM	1	174	0	17	158	13	9	2	4	0	1	20	***399***
5:00 PM ---	5:15 PM	1	220	0	20	194	14	9	2	4	0	1	26	***491***
5:15 PM ---	5:30 PM	1	274	0	27	226	17	10	3	4	0	1	31	***594***
5:30 PM ---	5:45 PM	1	316	0	37	256	18	12	3	4	1	3	36	***687***
5:45 PM ---	6:00 PM	1	361	1	40	293	19	14	3	4	1	3	43	***783***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	1	43	0	3	42	3	5	1	3	0	1	2	***104***
4:15 PM ---	4:30 PM	0	45	0	3	29	4	2	0	1	0	0	6	***90***
4:30 PM ---	4:45 PM	0	46	0	6	45	4	0	0	0	0	0	6	***107***
4:45 PM ---	5:00 PM	0	40	0	5	42	2	2	1	0	0	0	6	***98***
5:00 PM ---	5:15 PM	0	46	0	3	36	1	0	0	0	0	0	6	***92***
5:15 PM ---	5:30 PM	0	54	0	7	32	3	1	1	0	0	0	5	***103***
5:30 PM ---	5:45 PM	0	42	0	10	30	1	2	0	0	1	2	5	***93***
5:45 PM ---	6:00 PM	0	45	1	3	37	1	2	0	0	0	0	7	***96***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	1	174	0	17	158	13	9	2	4	0	1	20	***399***
4:15 PM ---	5:15 PM	0	177	0	17	152	11	4	1	1	0	0	24	***387***
4:30 PM ---	5:30 PM	0	186	0	21	155	10	3	2	0	0	0	23	***400***
4:45 PM ---	5:45 PM	0	182	0	25	140	7	5	2	0	1	2	22	***386***
5:00 PM ---	6:00 PM	0	187	1	23	135	6	5	1	0	1	2	23	***384***

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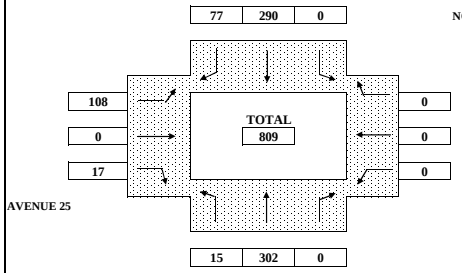
B.A.Y.M.E.T.R.I.C.S.

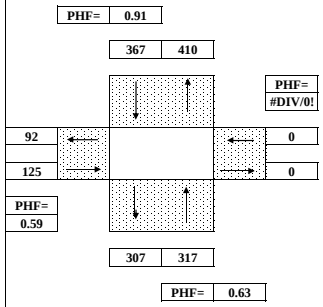
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED / MADERA COUNTS	SURVEY DATE:	6/3/2010	DAY:	THURSDAY
N-S APPROACH:	SR-233 (ROBERTSON BOULEVARD)	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	AVENUE 25	CITY:	CHOWCHILLA	FILE:	3005030(Add)-5AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	1	32	0	0	19	9	7	0	4	0	0	0	*72*
7:15 AM ---	7:30 AM	5	102	0	0	51	15	26	0	8	0	0	0	*207*
7:30 AM ---	7:45 AM	7	169	0	0	114	32	57	0	9	0	0	0	*388*
7:45 AM ---	8:00 AM	14	288	0	0	196	51	101	0	18	0	0	0	*668*
8:00 AM ---	8:15 AM	14	352	0	0	270	73	118	0	21	0	0	0	*848*
8:15 AM ---	8:30 AM	20	404	0	0	341	92	134	0	25	0	0	0	*1,016*
8:30 AM ---	8:45 AM	22	466	0	0	384	106	146	0	28	0	0	0	*1,152*
8:45 AM ---	9:00 AM	27	525	0	0	440	114	161	0	31	0	0	0	*1,298*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	1	32	0	0	19	9	7	0	4	0	0	0	*72*
7:15 AM ---	7:30 AM	4	70	0	0	32	6	19	0	4	0	0	0	*135*
7:30 AM ---	7:45 AM	2	67	0	0	63	17	31	0	1	0	0	0	*181*
7:45 AM ---	8:00 AM	7	119	0	0	82	19	44	0	9	0	0	0	*280*
8:00 AM ---	8:15 AM	0	64	0	0	74	22	17	0	3	0	0	0	*180*
8:15 AM ---	8:30 AM	6	52	0	0	71	19	16	0	4	0	0	0	*168*
8:30 AM ---	8:45 AM	2	62	0	0	43	14	12	0	3	0	0	0	*136*
8:45 AM ---	9:00 AM	5	59	0	0	56	8	15	0	3	0	0	0	*146*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	14	288	0	0	196	51	101	0	18	0	0	0	*668*
7:15 AM ---	8:15 AM	13	320	0	0	251	64	111	0	17	0	0	0	*776*
7:30 AM ---	8:30 AM	15	302	0	0	290	77	108	0	17	0	0	0	*809*
7:45 AM ---	8:45 AM	15	297	0	0	270	74	89	0	19	0	0	0	*764*
8:00 AM ---	9:00 AM	13	237	0	0	244	63	60	0	13	0	0	0	*630*

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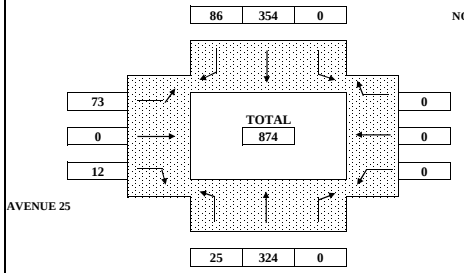
B.A.Y.M.E.T.R.I.C.S.

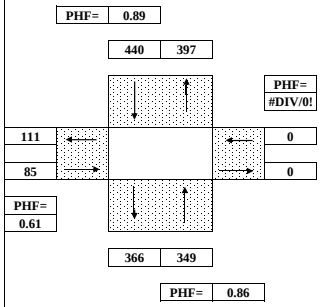
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HSR - MERCED / MADERA COUNTS	SURVEY DATE:	6/3/2010	DAY:	THURSDAY
N-S APPROACH:	SR-233 (ROBERTSON BOULEVARD)	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	AVENUE 25	CITY:	CHOWCHILLA	FILE:	3005030(Add)-5PM

PEAK HOUR: 04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	7	68	0	0	90	34	14	0	2	0	0	0	*215*
4:15 PM ---	4:30 PM	10	156	0	0	183	50	26	0	5	0	0	0	*430*
4:30 PM ---	4:45 PM	21	246	0	0	261	66	43	0	8	0	0	0	*645*
4:45 PM ---	5:00 PM	25	324	0	0	354	86	73	0	12	0	0	0	*874*
5:00 PM ---	5:15 PM	33	408	0	0	436	104	85	0	15	0	0	0	*1,081*
5:15 PM ---	5:30 PM	40	473	0	0	517	130	105	0	20	0	0	0	*1,285*
5:30 PM ---	5:45 PM	46	542	0	0	599	160	133	0	27	0	0	0	*1,507*
5:45 PM ---	6:00 PM	56	612	0	0	672	188	154	0	34	0	0	0	*1,716*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	7	68	0	0	90	34	14	0	2	0	0	0	*215*
4:15 PM ---	4:30 PM	3	88	0	0	93	16	12	0	3	0	0	0	*215*
4:30 PM ---	4:45 PM	11	90	0	0	78	16	17	0	3	0	0	0	*215*
4:45 PM ---	5:00 PM	4	78	0	0	93	20	30	0	4	0	0	0	*229*
5:00 PM ---	5:15 PM	8	84	0	0	82	18	12	0	3	0	0	0	*207*
5:15 PM ---	5:30 PM	7	65	0	0	81	26	20	0	5	0	0	0	*204*
5:30 PM ---	5:45 PM	6	69	0	0	82	30	28	0	7	0	0	0	*222*
5:45 PM ---	6:00 PM	10	70	0	0	73	28	21	0	7	0	0	0	*209*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	25	324	0	0	354	86	73	0	12	0	0	0	*874*
4:15 PM ---	5:15 PM	26	340	0	0	346	70	71	0	13	0	0	0	*866*
4:30 PM ---	5:30 PM	30	317	0	0	334	80	79	0	15	0	0	0	*855*
4:45 PM ---	5:45 PM	25	296	0	0	338	94	90	0	19	0	0	0	*862*
5:00 PM ---	6:00 PM	31	288	0	0	318	102	81	0	22	0	0	0	*842*

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FRESNO AREA INTERSECTION COUNTS

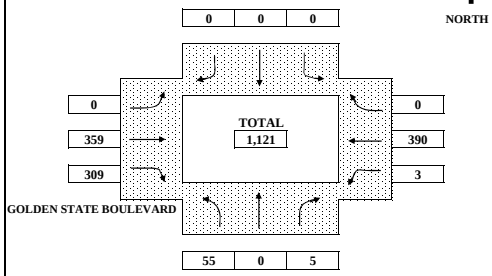
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

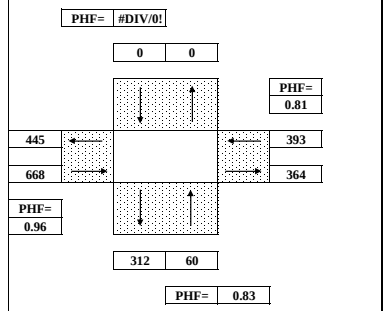
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/9/2011	DAY:	WEDNESDAY
N-S APPROACH:	N. CORNELIA AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	GOLDEN STATE BOULEVARD	JURISDICTION:	IFRESNO	FILE:	3103017-4AM

PEAK HOUR

07:00 AM TO 08:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	13		1					81	93	1	62		*251*
7:15 AM ---	7:30 AM	29		3					169	178	1	160		*540*
7:30 AM ---	7:45 AM	43		4					268	249	2	270		*836*
7:45 AM ---	8:00 AM	55		5					359	309	3	390		*1,121*
8:00 AM ---	8:15 AM	67		7					454	354	4	471		*1,357*
8:15 AM ---	8:30 AM	76		9					504	384	5	533		*1,511*
8:30 AM ---	8:45 AM	83		10					541	418	7	573		*1,632*
8:45 AM ---	9:00 AM	89		13					599	458	8	609		*1,776*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	13	0	1	0	0	0	0	81	93	1	62	0	*251*
7:15 AM ---	7:30 AM	16	0	2	0	0	0	0	88	85	0	98	0	*289*
7:30 AM ---	7:45 AM	14	0	1	0	0	0	0	99	71	1	110	0	*296*
7:45 AM ---	8:00 AM	12	0	1	0	0	0	0	91	60	1	120	0	*285*
8:00 AM ---	8:15 AM	12	0	2	0	0	0	0	95	45	1	81	0	*236*
8:15 AM ---	8:30 AM	9	0	2	0	0	0	0	50	30	1	62	0	*154*
8:30 AM ---	8:45 AM	7	0	1	0	0	0	0	37	34	2	40	0	*121*
8:45 AM ---	9:00 AM	6	0	3	0	0	0	0	58	40	1	36	0	*144*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	55	0	5	0	0	0	0	359	309	3	390	0	*1,121*
7:15 AM ---	8:15 AM	54	0	6	0	0	0	0	373	261	3	409	0	*1,106*
7:30 AM ---	8:30 AM	47	0	6	0	0	0	0	335	206	4	373	0	*971*
7:45 AM ---	8:45 AM	40	0	6	0	0	0	0	273	169	5	303	0	*796*
8:00 AM ---	9:00 AM	34	0	8	0	0	0	0	240	149	5	219	0	*655*

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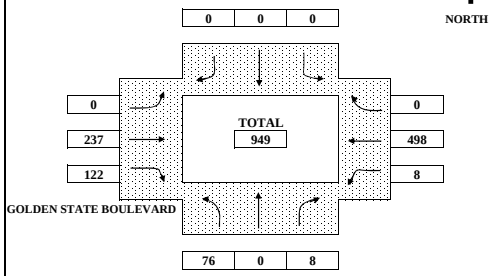
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

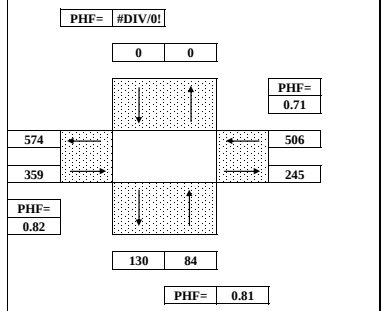
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/9/2011	DAY:	WEDNESDAY
N-S APPROACH:	N. CORNELIA AVENUE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	GOLDEN STATE BOULEVARD	JURISDICTION:	FRESNO	FILE:	3103017-4PM

PEAK HOUR

04:45 PM TO 05:45 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	16		1					74	20	2	94		*207*
4:15 PM ---	4:30 PM	36		3					160	44	5	236		*484*
4:30 PM ---	4:45 PM	48		6					209	65	6	302		*636*
4:45 PM ---	5:00 PM	61		9					270	93	8	411		*852*
5:00 PM ---	5:15 PM	84		11					335	132	10	510		*1,082*
5:15 PM ---	5:30 PM	99		13					391	162	11	687		*1,363*
5:30 PM ---	5:45 PM	124		14					446	187	14	800		*1,585*
5:45 PM ---	6:00 PM	128		16					499	202	15	904		*1,764*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	16	0	1	0	0	0	0	74	20	2	94	0	*207*
4:15 PM ---	4:30 PM	20	0	2	0	0	0	0	86	24	3	142	0	*277*
4:30 PM ---	4:45 PM	12	0	3	0	0	0	0	49	21	1	66	0	*152*
4:45 PM ---	5:00 PM	13	0	3	0	0	0	0	61	28	2	109	0	*216*
5:00 PM ---	5:15 PM	23	0	2	0	0	0	0	65	39	2	99	0	*230*
5:15 PM ---	5:30 PM	15	0	2	0	0	0	0	56	30	1	177	0	*281*
5:30 PM ---	5:45 PM	25	0	1	0	0	0	0	55	25	3	113	0	*222*
5:45 PM ---	6:00 PM	4	0	2	0	0	0	0	53	15	1	104	0	*179*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	61	0	9	0	0	0	0	270	93	8	411	0	*852*
4:15 PM ---	5:15 PM	68	0	10	0	0	0	0	261	112	8	416	0	*875*
4:30 PM ---	5:30 PM	63	0	10	0	0	0	0	231	118	6	451	0	*879*
4:45 PM ---	5:45 PM	76	0	8	0	0	0	0	237	122	8	498	0	*949*
5:00 PM ---	6:00 PM	67	0	7	0	0	0	0	229	109	7	493	0	*912*

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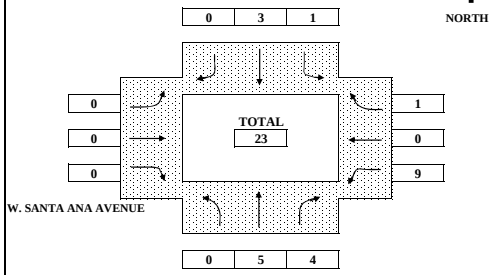
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

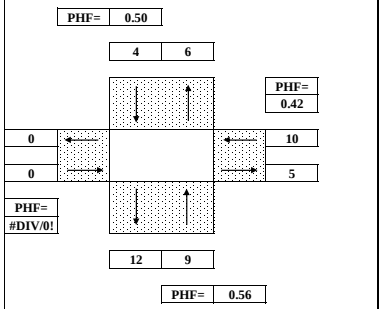
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/9/2011	DAY:	WEDNESDAY
N-S APPROACH:	N. CORNELIA AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	W. SANTA ANA AVENUE	JURISDICTION:	IFRESNO	FILE:	3103017-6AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM		0	1	0	0					0		0	*1*
7:15 AM ---	7:30 AM		1	2	0	0					1		0	*4*
7:30 AM ---	7:45 AM		2	4	0	0					5		0	*11*
7:45 AM ---	8:00 AM		4	6	1	0					10		1	*22*
8:00 AM ---	8:15 AM		5	6	1	1					10		1	*24*
8:15 AM ---	8:30 AM		6	6	1	3					10		1	*27*
8:30 AM ---	8:45 AM		7	6	1	4					11		1	*30*
8:45 AM ---	9:00 AM		7	6	1	4					11		1	*30*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	*1*
7:15 AM ---	7:30 AM	0	1	1	0	0	0	0	0	0	1	0	0	*3*
7:30 AM ---	7:45 AM	0	1	2	0	0	0	0	0	0	4	0	0	*7*
7:45 AM ---	8:00 AM	0	2	2	1	0	0	0	0	0	5	0	1	*11*
8:00 AM ---	8:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	*2*
8:15 AM ---	8:30 AM	0	1	0	0	2	0	0	0	0	0	0	0	*3*
8:30 AM ---	8:45 AM	0	1	0	0	1	0	0	0	0	1	0	0	*3*
8:45 AM ---	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	*0*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	0	4	6	1	0	0	0	0	0	10	0	1	*22*
7:15 AM ---	8:15 AM	0	5	5	1	1	0	0	0	0	10	0	1	*23*
7:30 AM ---	8:30 AM	0	5	4	1	3	0	0	0	0	9	0	1	*23*
7:45 AM ---	8:45 AM	0	5	2	1	4	0	0	0	0	6	0	1	*19*
8:00 AM ---	9:00 AM	0	3	0	0	4	0	0	0	0	1	0	0	*8*

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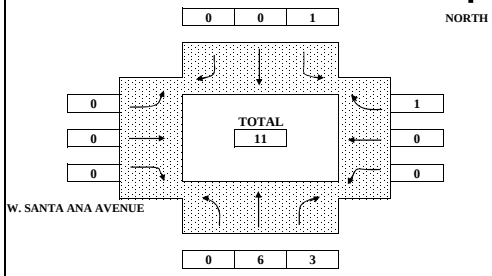
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

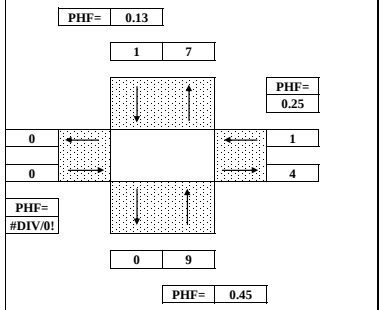
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/9/2011	DAY:	WEDNESDAY
N-S APPROACH:	N. CORNELIA AVENUE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	W. SANTA ANA AVENUE	JURISDICTION:	FRESNO	FILE:	3103017-6PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM		0	0	0	0					0		0	*0*
4:15 PM ---	4:30 PM		0	0	1	0					0		1	*2*
4:30 PM ---	4:45 PM		0	0	1	0					0		1	*2*
4:45 PM ---	5:00 PM		4	0	1	0					0		1	*6*
5:00 PM ---	5:15 PM		6	3	1	0					0		1	*11*
5:15 PM ---	5:30 PM		6	4	1	0					0		1	*12*
5:30 PM ---	5:45 PM		6	4	1	0					0		1	*12*
5:45 PM ---	6:00 PM		6	4	3	0					0		1	*14*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	*0*
4:15 PM ---	4:30 PM	0	0	0	1	0	0	0	0	0	0	0	1	*2*
4:30 PM ---	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	*0*
4:45 PM ---	5:00 PM	0	4	0	0	0	0	0	0	0	0	0	0	*4*
5:00 PM ---	5:15 PM	0	2	3	0	0	0	0	0	0	0	0	0	*5*
5:15 PM ---	5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	*1*
5:30 PM ---	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	*0*
5:45 PM ---	6:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	*2*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	0	4	0	1	0	0	0	0	0	0	0	1	*6*
4:15 PM ---	5:15 PM	0	6	3	1	0	0	0	0	0	0	0	1	*11*
4:30 PM ---	5:30 PM	0	6	4	0	0	0	0	0	0	0	0	0	*10*
4:45 PM ---	5:45 PM	0	6	4	0	0	0	0	0	0	0	0	0	*10*
5:00 PM ---	6:00 PM	0	2	4	2	0	0	0	0	0	0	0	0	*8*

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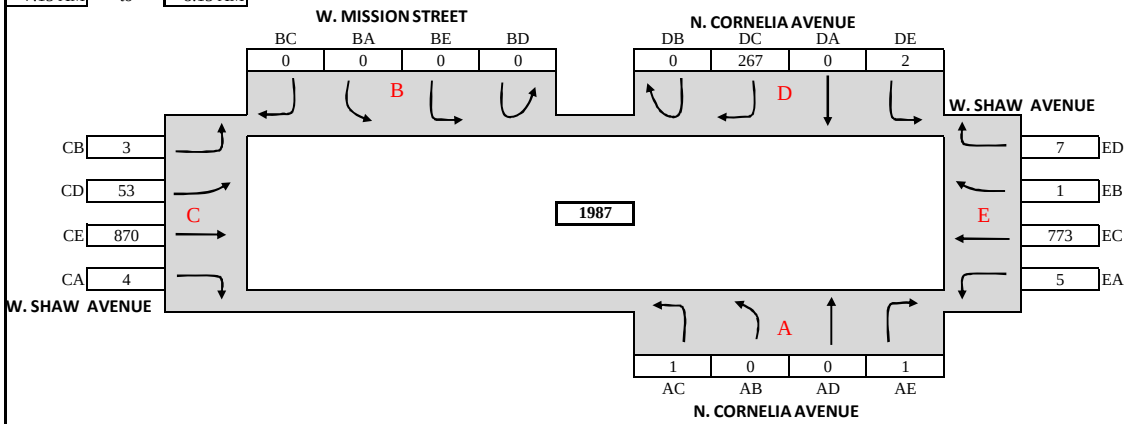
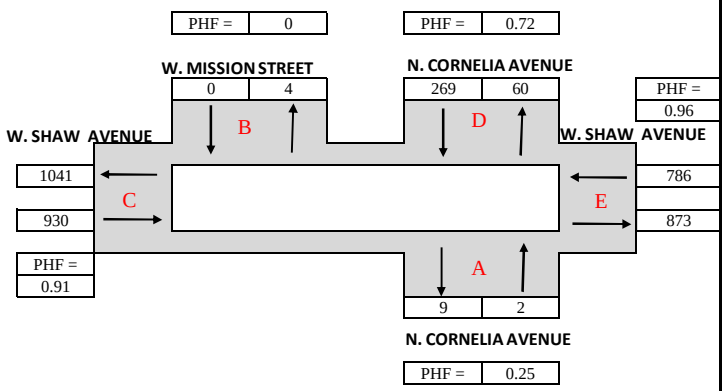
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/9/2011	DAY:	WEDNESDAY
N-S APPROACH:	N. CORNELIA AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SHAW AVENUE	JURISDICTION:	FRESNO	FILE:	3103017-5AM

PEAK HOUR 7:15 AM to 8:15 AM





TIME PERIOD FROM	TO	A N. CORNELIA AVENUE AC	AB	AD	AE	B W. MISSION STREET BD	BE	BA	BC	D N. CORNELIA AVENUE DE	DA	DC	DB	C W. SHAW AVENUE CB	CD	CE	CA	E W. SHAW AVENUE EA	EC	EB	ED	TOTAL
S U R V E Y D A T A																						
7:00 AM	7:15 AM	1	0	0	0				3	1	0	92	0	0	15	108	0	0	160	1	0	***381***
7:15 AM	7:30 AM	1	0	0	1				3	1	0	178	0	2	33	301	0	1	363	1	1	***886***
7:30 AM	7:45 AM	1	0	0	1				3	1	0	251	0	2	47	542	1	4	553	1	2	***1409***
7:45 AM	8:00 AM	1	0	0	1				3	2	0	313	0	2	57	777	3	5	733	2	5	***1904***
8:00 AM	8:15 AM	2	0	0	1				3	3	0	359	0	3	68	978	4	5	933	2	7	***2368***
8:15 AM	8:30 AM	3	0	0	2				3	5	0	389	0	3	77	1161	5	8	1073	3	9	***2741***
8:30 AM	8:45 AM	3	0	0	2				3	6	1	422	0	3	85	1283	6	8	1194	3	9	***3028***
8:45 AM	9:00 AM	3	0	0	4				4	6	2	461	0	3	93	1398	7	8	1346	3	10	***3348***
T O T A L B Y P E R I O D																						
7:00 AM	7:15 AM	1	0	0	0	0	0	0	3	1	0	92	0	0	15	108	0	0	160	1	0	***381***
7:15 AM	7:30 AM	0	0	0	1	0	0	0	0	0	0	86	0	2	18	193	0	1	203	0	1	***505***
7:30 AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	73	0	0	14	241	1	3	190	0	1	***523***
7:45 AM	8:00 AM	0	0	0	0	0	0	0	0	1	0	62	0	0	10	235	2	1	180	1	3	***495***
8:00 AM	8:15 AM	1	0	0	0	0	0	0	0	1	0	46	0	1	11	201	1	0	200	0	2	***464***
8:15 AM	8:30 AM	1	0	0	1	0	0	0	0	2	0	30	0	0	9	183	1	3	140	1	2	***373***
8:30 AM	8:45 AM	0	0	0	0	0	0	0	0	1	1	33	0	0	8	122	1	0	121	0	0	***287***
8:45 AM	9:00 AM	0	0	0	2	0	0	0	1	0	1	39	0	0	8	115	1	0	152	0	1	***320***
H O U R L Y T O T A L S																						
7:00 AM	8:00 AM	1	0	0	1	0	0	0	3	2	0	313	0	2	57	777	3	5	733	2	5	***1904***
7:15 AM	8:15 AM	1	0	0	1	0	0	0	0	2	0	267	0	3	53	870	4	5	773	1	7	***1987***
7:30 AM	8:30 AM	2	0	0	1	0	0	0	0	4	0	211	0	1	44	860	5	7	710	2	8	***1855***
7:45 AM	8:45 AM	2	0	0	1	0	0	0	0	5	1	171	0	1	38	741	5	4	641	2	7	***1619***
8:00 AM	9:00 AM	2	0	0	3	0	0	0	1	4	2	148	0	1	36	621	4	3	613	1	5	***1444***

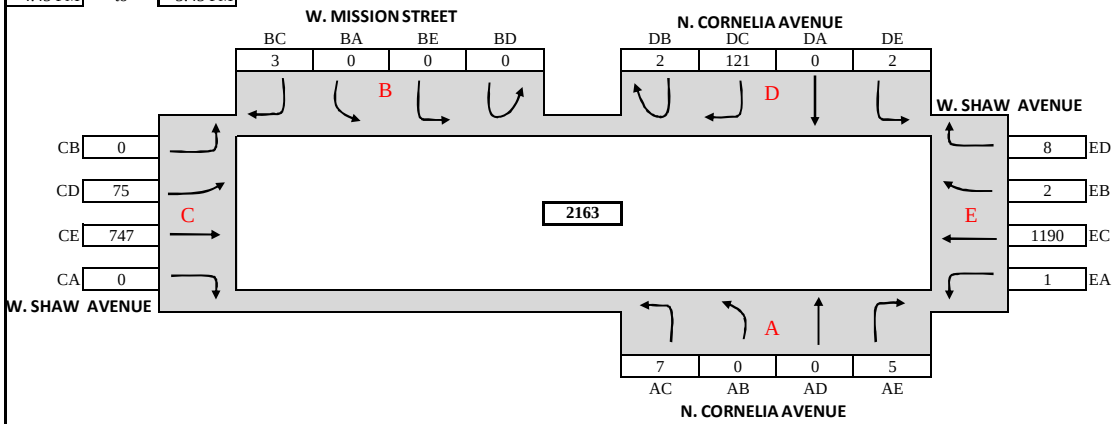
TEL: (510) 232 - 1271 **FAX: (510) 232 - 1272**

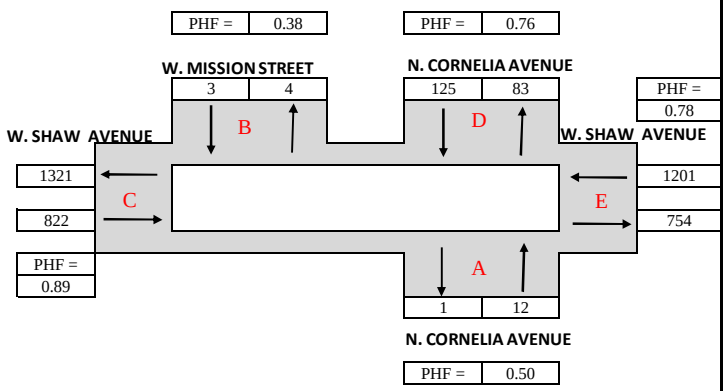
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/9/2011	DAY:	WEDNESDAY
N-S APPROACH:	N. CORNELIA AVENUE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SHAW AVENUE	JURISDICTION:	FRESNO	FILE:	3103017-5PM

PEAK HOUR 4:45 PM to 5:45 PM





TIME PERIOD FROM	TO	A N. CORNELIA AVENUE AC	AB	AD	AE	B W. MISSION STREET BD	BE	BA	BC	D N. CORNELIA AVENUE DE	DA	DC	DB	C W. SHAW AVENUE CB	CD	CE	CA	E W. SHAW AVENUE EA	EC	EB	ED	TOTAL
S U R V E Y D A T A																						
4:00 PM	4:15 PM	0	0	0	1				1	1	0	22	0	0	15	207	0	1	349	1	1	599
4:15 PM	4:30 PM	1	0	0	1				3	1	0	50	0	1	33	417	1	3	652	1	4	1168
4:30 PM	4:45 PM	1	1	0	1				3	1	1	71	0	1	46	529	1	3	849	3	6	1517
4:45 PM	5:00 PM	3	1	0	5				4	1	1	100	0	1	60	727	1	4	1095	3	8	2014
5:00 PM	5:15 PM	6	1	0	6				4	1	1	141	0	1	83	910	1	4	1476	4	10	2649
5:15 PM	5:30 PM	7	1	0	6				5	3	1	166	1	1	100	1110	1	4	1755	5	11	3177
5:30 PM	5:45 PM	8	1	0	6				6	3	1	192	2	1	121	1276	1	4	2039	5	14	3680
5:45 PM	6:00 PM	9	1	0	6				6	4	1	206	2	1	128	1447	1	4	2324	6	15	4161
T O T A L B Y P E R I O D																						
4:00 PM	4:15 PM	0	0	0	1	0	0	0	1	1	0	22	0	0	15	207	0	1	349	1	1	599
4:15 PM	4:30 PM	1	0	0	0	0	0	0	2	0	0	28	0	1	18	210	1	2	303	0	3	569
4:30 PM	4:45 PM	0	1	0	0	0	0	0	0	0	1	21	0	0	13	112	0	0	197	2	2	349
4:45 PM	5:00 PM	2	0	0	4	0	0	0	1	0	0	29	0	0	14	198	0	1	246	0	2	497
5:00 PM	5:15 PM	3	0	0	1	0	0	0	0	0	0	41	0	0	23	183	0	0	381	1	2	635
5:15 PM	5:30 PM	1	0	0	0	0	0	0	1	2	0	25	1	0	17	200	0	0	279	1	1	528
5:30 PM	5:45 PM	1	0	0	0	0	0	0	1	0	0	26	1	0	21	166	0	0	284	0	3	503
5:45 PM	6:00 PM	1	0	0	0	0	0	0	0	1	0	14	0	0	7	171	0	0	285	1	1	481
H O U R L Y T O T A L S																						
4:00 PM	5:00 PM	3	1	0	5	0	0	0	4	1	1	100	0	1	60	727	1	4	1095	3	8	2014
4:15 PM	5:15 PM	6	1	0	5	0	0	0	3	0	1	119	0	1	68	703	1	3	1127	3	9	2050
4:30 PM	5:30 PM	6	1	0	5	0	0	0	2	2	1	116	1	0	67	693	0	1	1103	4	7	2009
4:45 PM	5:45 PM	7	0	0	5	0	0	0	3	2	0	121	2	0	75	747	0	1	1190	2	8	2163
5:00 PM	6:00 PM	6	0	0	1	0	0	0	2	3	0	106	2	0	68	720	0	0	1229	3	7	2147

TEL: (510) 232 - 1271 FAX: (510) 232 - 1272

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Golden State Blvd -- Shaw Ave

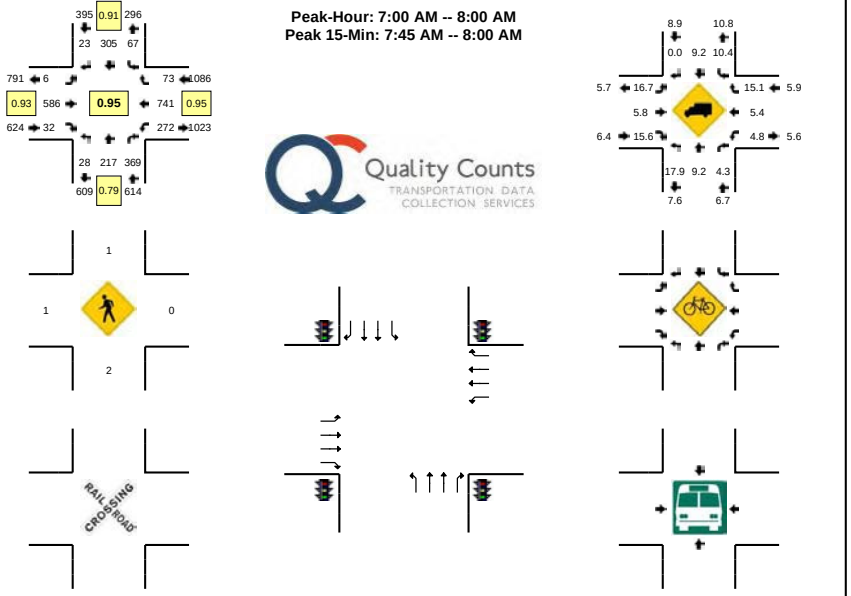
CITY/STATE: Fresno, CA

QC JOB #: 10448103

DATE: 8/25/2009

Peak-Hour: 7:00 AM -- 8:00 AM

Peak 15-Min: 7:45 AM -- 8:00 AM



15-Min Count Period Beginning At	Golden State Blvd (Northbound)				Golden State Blvd (Southbound)				Shaw Ave (Eastbound)				Shaw Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	7	52	71	0	13	83	12	0	2	95	3	0	62	198	27	0	625	
7:15 AM	5	50	88	0	15	79	3	0	1	146	13	0	67	191	20	0	678	
7:30 AM	8	43	89	1	20	81	3	0	2	186	6	0	71	179	7	1	697	
7:45 AM	7	72	121	0	19	62	5	0	1	159	10	0	71	173	19	0	719	2719
8:00 AM	5	53	92	0	17	61	8	0	3	152	7	1	69	135	19	0	622	2716
8:15 AM	7	30	81	0	22	44	5	0	1	187	7	0	57	138	12	1	592	2630
8:30 AM	5	31	80	0	20	39	4	0	0	168	8	0	52	140	12	0	559	2492
8:45 AM	1	28	83	0	17	37	2	0	3	184	6	0	61	126	11	0	559	2332

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	288	484	0	76	248	20	0	4	636	40	0	284	692	76	0	2876
Heavy Trucks	8	20	24		12	8	0		0	28	8		8	40	12		168
Pedestrians		4				0				4				0			8
Bicycles																	
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/4/2009 8:19 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Golden State Blvd -- Shaw Ave

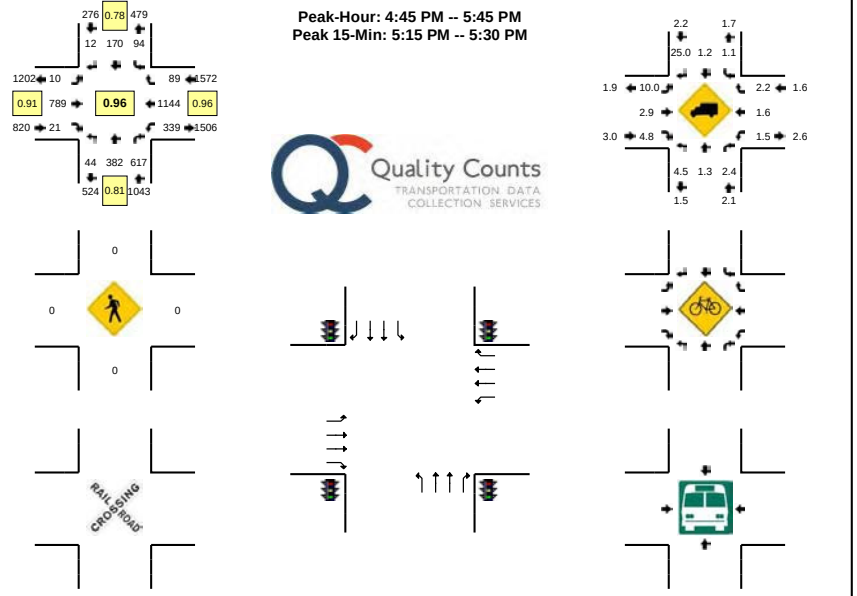
CITY/STATE: Fresno, CA

QC JOB #: 10448104

DATE: 8/25/2009

Peak-Hour: 4:45 PM -- 5:45 PM

Peak 15-Min: 5:15 PM -- 5:30 PM



15-Min Count Period Beginning At	Golden State Blvd (Northbound)				Golden State Blvd (Southbound)				Shaw Ave (Eastbound)				Shaw Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	17	70	143	0	28	55	1	0	4	206	7	0	91	269	26	0	917	
4:15 PM	4	86	149	0	26	49	0	0	2	181	9	0	84	262	20	3	875	
4:30 PM	15	91	130	0	26	36	8	0	1	178	12	0	77	272	28	2	876	
4:45 PM	12	91	141	0	21	34	3	0	1	219	8	1	82	264	23	2	902	3570
5:00 PM	11	94	141	0	36	58	2	0	1	193	6	0	80	303	24	1	950	3603
5:15 PM	11	122	193	0	15	35	3	0	2	199	4	0	85	274	20	2	965	3693
5:30 PM	10	75	142	0	22	43	4	0	4	178	3	1	86	303	22	1	894	3711
5:45 PM	9	75	135	0	20	33	1	0	2	180	5	0	74	281	22	1	838	3647

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	44	488	772	0	60	140	12	0	8	796	16	0	340	1096	80	8	3860
Heavy Trucks	0	4	8		0	0	0		4	16	0		4	24	0		60
Pedestrians		0				0				0				0			0
Bicycles																	
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/4/2009 8:19 AM

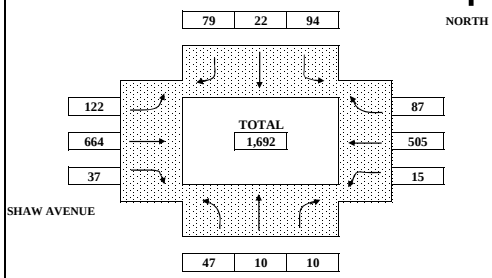
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

B.A.Y.M.E.T.R.I.C.S.

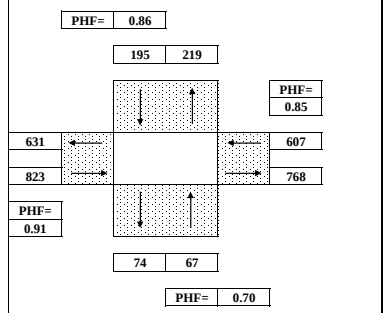
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/15/2011	DAY:	TUESDAY
N-S APPROACH:	BLYTHE AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	SHAW AVENUE	JURISDICTION:	1FRESNO	FILE:	3103017-12AM

PEAK HOUR: 07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	10	5	2	12	9	36	13	84	8	8	114	17	***318***
7:15 AM ---	7:30 AM	12	9	4	25	13	68	32	250	14	8	228	30	***693***
7:30 AM ---	7:45 AM	25	9	5	50	17	90	58	422	24	11	378	55	***1,144***
7:45 AM ---	8:00 AM	37	11	5	72	27	111	100	593	38	15	517	83	***1,609***
8:00 AM ---	8:15 AM	51	16	10	96	32	134	125	737	45	18	612	100	***1,976***
8:15 AM ---	8:30 AM	59	19	14	119	35	147	154	914	51	23	733	117	***2,385***
8:30 AM ---	8:45 AM	67	19	16	143	43	159	178	1,075	58	28	855	147	***2,788***
8:45 AM ---	9:00 AM	68	21	21	168	45	175	206	1,262	65	32	966	174	***3,203***
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	10	5	2	12	9	36	13	84	8	8	114	17	***318***
7:15 AM ---	7:30 AM	2	4	2	13	4	32	19	166	6	0	114	13	***375***
7:30 AM ---	7:45 AM	13	0	1	25	4	22	26	172	10	3	150	25	***451***
7:45 AM ---	8:00 AM	12	2	0	22	10	21	42	171	14	4	139	28	***465***
8:00 AM ---	8:15 AM	14	5	5	24	5	23	25	144	7	3	95	17	***367***
8:15 AM ---	8:30 AM	8	3	4	23	3	13	29	177	6	5	121	17	***409***
8:30 AM ---	8:45 AM	8	0	2	24	8	12	24	161	7	5	122	30	***403***
8:45 AM ---	9:00 AM	1	2	5	25	2	16	28	187	7	4	111	27	***415***
HOURLY TOTALS														
7:00 AM ---	8:00 AM	37	11	5	72	27	111	100	593	38	15	517	83	***1,609***
7:15 AM ---	8:15 AM	41	11	8	84	23	98	112	653	37	10	498	83	***1,658***
7:30 AM ---	8:30 AM	47	10	10	94	22	79	122	664	37	15	505	87	***1,692***
7:45 AM ---	8:45 AM	42	10	11	93	26	69	120	653	34	17	477	92	***1,644***
8:00 AM ---	9:00 AM	31	10	16	96	18	64	106	669	27	17	449	91	***1,594***

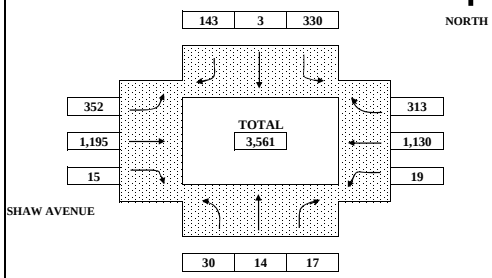
Telephone: (510)232-1271 Fax: (510)232-1272

B.A.Y.M.E.T.R.I.C.S.

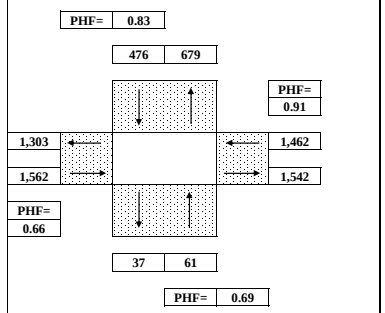
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/15/2011	DAY:	TUESDAY
N-S APPROACH:	BLYTHE AVENUE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	SHAW AVENUE	JURISDICTION:	FRESNO	FILE:	3103017-12PM

PEAK HOUR: 04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	9	4	9	85	1	34	85	66	5	5	293	63	***659***
4:15 PM ---	4:30 PM	18	11	10	181	4	79	189	550	9	16	599	146	***1,812***
4:30 PM ---	4:45 PM	22	14	18	266	4	114	263	771	11	21	898	242	***2,644***
4:45 PM ---	5:00 PM	28	15	22	326	4	124	332	964	14	22	1,114	303	***3,268***
5:00 PM ---	5:15 PM	39	18	26	415	4	177	437	1,261	20	24	1,423	376	***4,220***
5:15 PM ---	5:30 PM	40	22	29	485	5	201	511	1,497	22	27	1,651	445	***4,935***
5:30 PM ---	5:45 PM	42	24	33	563	7	247	586	1,743	23	31	1,973	521	***5,793***
5:45 PM ---	6:00 PM	42	27	34	622	10	282	647	1,930	26	36	2,217	582	***6,455***
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	9	4	9	85	1	34	85	66	5	5	293	63	***659***
4:15 PM ---	4:30 PM	9	7	1	96	3	45	104	484	4	11	306	83	***1,153***
4:30 PM ---	4:45 PM	4	3	8	85	0	35	74	221	2	5	299	96	***832***
4:45 PM ---	5:00 PM	6	1	4	60	0	10	69	193	3	1	216	61	***624***
5:00 PM ---	5:15 PM	11	3	4	89	0	53	105	297	6	2	309	73	***952***
5:15 PM ---	5:30 PM	1	4	3	70	1	24	74	236	2	3	228	69	***715***
5:30 PM ---	5:45 PM	2	2	4	78	2	46	75	246	1	4	322	76	***858***
5:45 PM ---	6:00 PM	0	3	1	59	3	35	61	187	3	5	244	61	***662***
HOURLY TOTALS														
4:00 PM ---	5:00 PM	28	15	22	326	4	124	332	964	14	22	1,114	303	***3,268***
4:15 PM ---	5:15 PM	30	14	17	330	3	143	352	1,195	15	19	1,130	313	***3,561***
4:30 PM ---	5:30 PM	22	11	19	304	1	122	322	947	13	11	1,052	299	***3,123***
4:45 PM ---	5:45 PM	20	10	15	297	3	133	323	972	12	10	1,075	279	***3,149***
5:00 PM ---	6:00 PM	14	12	12	296	6	158	315	966	12	14	1,103	279	***3,187***

Telephone: (510)232-1271 Fax: (510)232-1272

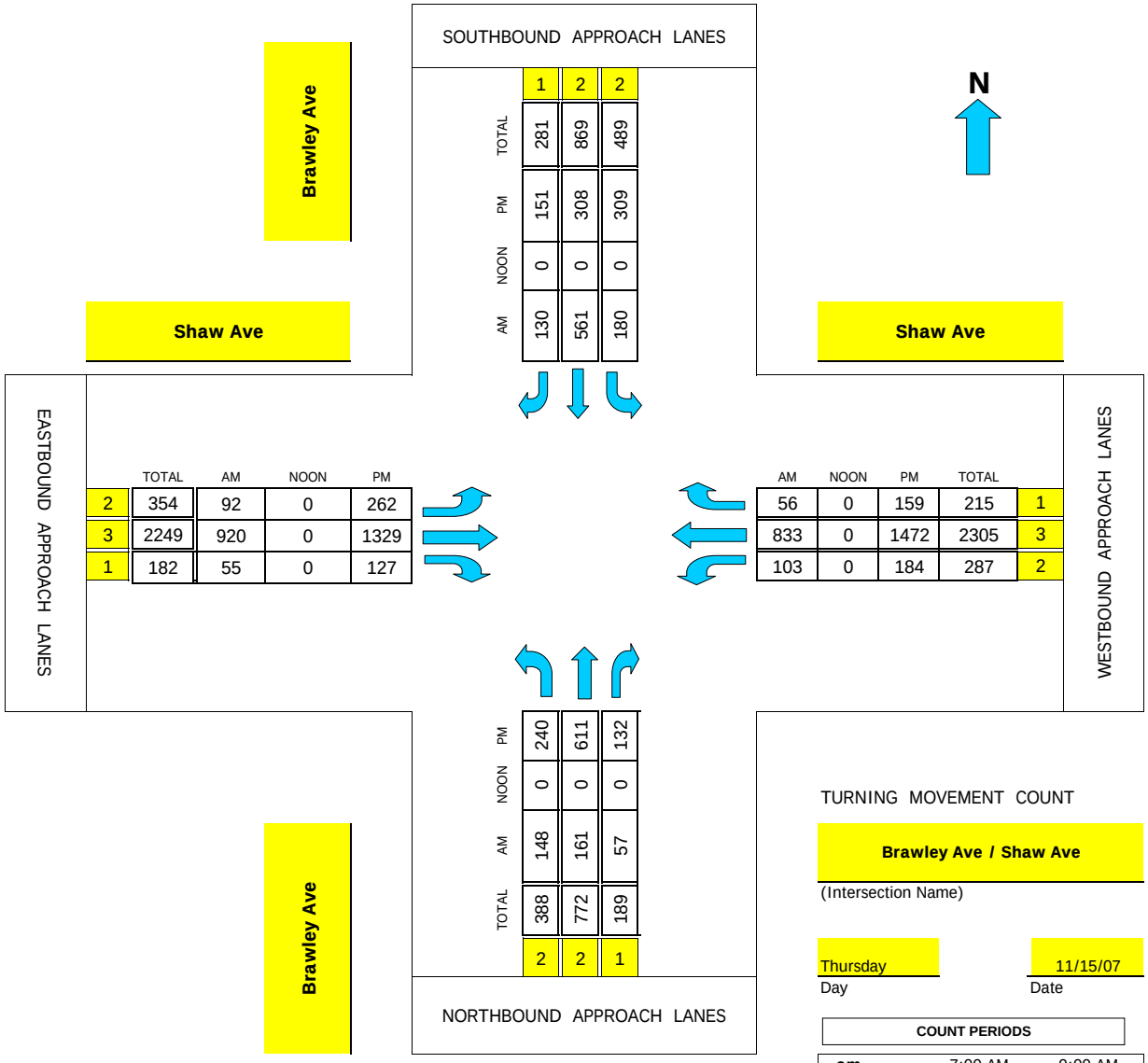
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Brawley Ave/Shaw Ave

Project #: 07-8218-010



	TOTAL	AM	NOON	PM
1	281	130	0	151
2	869	561	0	308
2	489	180	0	309

	TOTAL	AM	NOON	PM
2	354	92	0	262
3	2249	920	0	1329
1	182	55	0	127

	AM	NOON	PM	TOTAL
1	56	0	159	215
3	833	0	1472	2305
2	103	0	184	287

	TOTAL	AM	NOON	PM
2	388	148	0	240
2	772	161	0	611
1	189	57	0	132

TURNING MOVEMENT COUNT

Brawley Ave / Shaw Ave

(Intersection Name)

Thursday — Day

11/15/07 — Date

COUNT PERIODS			
am	7:00 AM	-	9:00 AM
noon		-	
pm	4:00 PM	-	6:00 PM

CONTROL: Signalized

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

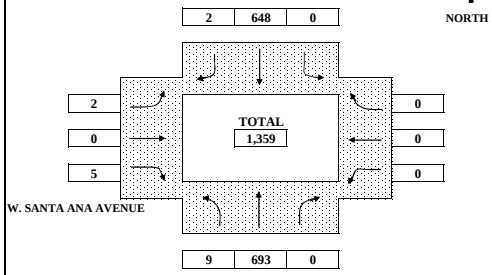
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

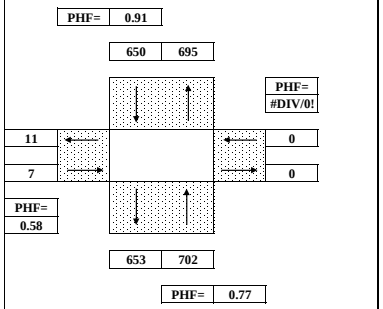
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/15/2011	DAY:	TUESDAY
N-S APPROACH:	N. GOLDEN STATE BLVD	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	W. SANTA ANA AVENUE	JURISDICTION:	IFRESNO	FILE:	3103017-7AM

PEAK HOUR

07:00 AM TO 08:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	0	129			178	0	0		1				*308*
7:15 AM ---	7:30 AM	0	322			342	1	1		1				*667*
7:30 AM ---	7:45 AM	4	471			519	1	1		3				*999*
7:45 AM ---	8:00 AM	9	693			648	2	2		5				*1,359*
8:00 AM ---	8:15 AM	9	835			765	2	2		5				*1,618*
8:15 AM ---	8:30 AM	9	985			875	2	2		5				*1,878*
8:30 AM ---	8:45 AM	10	1,119			985	2	2		5				*2,123*
8:45 AM ---	9:00 AM	10	1,261			1,071	2	2		5				*2,351*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	0	129	0	0	178	0	0	0	1	0	0	0	*308*
7:15 AM ---	7:30 AM	0	193	0	0	164	1	1	0	0	0	0	0	*359*
7:30 AM ---	7:45 AM	4	149	0	0	177	0	0	0	2	0	0	0	*332*
7:45 AM ---	8:00 AM	5	222	0	0	129	1	1	0	2	0	0	0	*360*
8:00 AM ---	8:15 AM	0	142	0	0	117	0	0	0	0	0	0	0	*259*
8:15 AM ---	8:30 AM	0	150	0	0	110	0	0	0	0	0	0	0	*260*
8:30 AM ---	8:45 AM	1	134	0	0	110	0	0	0	0	0	0	0	*245*
8:45 AM ---	9:00 AM	0	142	0	0	86	0	0	0	0	0	0	0	*228*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	9	693	0	0	648	2	2	0	5	0	0	0	*1,359*
7:15 AM ---	8:15 AM	9	706	0	0	587	2	2	0	4	0	0	0	*1,310*
7:30 AM ---	8:30 AM	9	663	0	0	533	1	1	0	4	0	0	0	*1,211*
7:45 AM ---	8:45 AM	6	648	0	0	466	1	1	0	2	0	0	0	*1,124*
8:00 AM ---	9:00 AM	1	568	0	0	423	0	0	0	0	0	0	0	*992*

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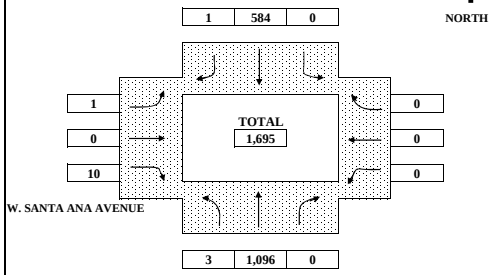
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

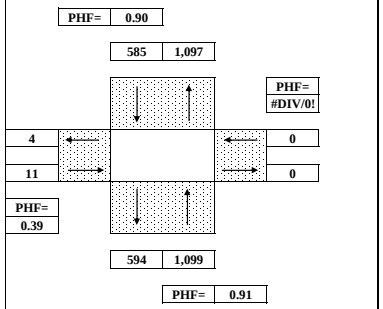
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/15/2011	DAY:	TUESDAY
N-S APPROACH:	N. GOLDEN STATE BLVD	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	W. SANTA ANA AVENUE	JURISDICTION:	FRESNO	FILE:	3103017-7PM

PEAK HOUR

04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	245			135	0	0		0				*380*
4:15 PM ---	4:30 PM	0	511			272	1	1		0				*785*
4:30 PM ---	4:45 PM	1	774			434	1	1		0				*1,211*
4:45 PM ---	5:00 PM	3	1,014			580	2	1		2				*1,602*
5:00 PM ---	5:15 PM	3	1,317			718	2	1		9				*2,050*
5:15 PM ---	5:30 PM	3	1,607			856	2	2		10				*2,480*
5:30 PM ---	5:45 PM	3	1,855			985	2	2		10				*2,857*
5:45 PM ---	6:00 PM	3	2,084			1,109	2	2		12				*3,212*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	245	0	0	135	0	0	0	0	0	0	0	*380*
4:15 PM ---	4:30 PM	0	266	0	0	137	1	1	0	0	0	0	0	*405*
4:30 PM ---	4:45 PM	1	263	0	0	162	0	0	0	0	0	0	0	*426*
4:45 PM ---	5:00 PM	2	240	0	0	146	1	0	0	2	0	0	0	*391*
5:00 PM ---	5:15 PM	0	303	0	0	138	0	0	0	7	0	0	0	*448*
5:15 PM ---	5:30 PM	0	290	0	0	138	0	1	0	1	0	0	0	*430*
5:30 PM ---	5:45 PM	0	248	0	0	129	0	0	0	0	0	0	0	*377*
5:45 PM ---	6:00 PM	0	229	0	0	124	0	0	0	2	0	0	0	*355*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	3	1,014	0	0	580	2	1	0	2	0	0	0	*1,602*
4:15 PM ---	5:15 PM	3	1,072	0	0	583	2	1	0	9	0	0	0	*1,670*
4:30 PM ---	5:30 PM	3	1,096	0	0	584	1	1	0	10	0	0	0	*1,695*
4:45 PM ---	5:45 PM	2	1,081	0	0	551	1	1	0	10	0	0	0	*1,646*
5:00 PM ---	6:00 PM	0	1,070	0	0	529	0	1	0	10	0	0	0	*1,610*

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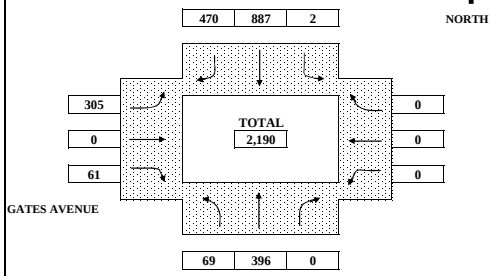
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

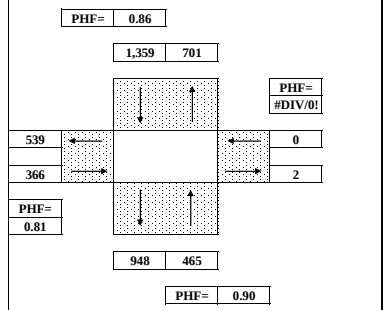
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/15/2011	DAY:	TUESDAY
N-S APPROACH:	FIGARDEN DRIVE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	GATES AVENUE	JURISDICTION:	IFRESNO	FILE:	3103017-11AM

PEAK HOUR

07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND U-turn	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	24	75	0	2	153	98	42		7				*401*
7:15 AM ---	7:30 AM	37	153	0	3	379	202	98		21				*893*
7:30 AM ---	7:45 AM	51	268	0	4	636	281	195		37				*1,472*
7:45 AM ---	8:00 AM	72	368	0	4	861	452	280		53				*2,090*
8:00 AM ---	8:15 AM	93	471	0	4	1,040	568	347		68				*2,591*
8:15 AM ---	8:30 AM	101	557	0	4	1,196	667	397		74				*2,996*
8:30 AM ---	8:45 AM	112	656	0	4	1,362	754	445		85				*3,418*
8:45 AM ---	9:00 AM	112	754	0	4	1,525	831	493		95				*3,814*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	24	75	0	2	153	98	42	0	7	0	0	0	*401*
7:15 AM ---	7:30 AM	13	78	0	1	226	104	56	0	14	0	0	0	*492*
7:30 AM ---	7:45 AM	14	115	0	1	257	79	97	0	16	0	0	0	*579*
7:45 AM ---	8:00 AM	21	100	0	0	225	171	85	0	16	0	0	0	*618*
8:00 AM ---	8:15 AM	21	103	0	0	179	116	67	0	15	0	0	0	*501*
8:15 AM ---	8:30 AM	8	86	0	0	156	99	50	0	6	0	0	0	*405*
8:30 AM ---	8:45 AM	11	99	0	0	166	87	48	0	11	0	0	0	*422*
8:45 AM ---	9:00 AM	0	98	0	0	163	77	48	0	10	0	0	0	*396*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	72	368	0	4	861	452	280	0	53	0	0	0	*2,090*
7:15 AM ---	8:15 AM	69	396	0	2	887	470	305	0	61	0	0	0	*2,190*
7:30 AM ---	8:30 AM	64	404	0	1	817	465	299	0	53	0	0	0	*2,103*
7:45 AM ---	8:45 AM	61	388	0	0	726	473	250	0	48	0	0	0	*1,946*
8:00 AM ---	9:00 AM	40	386	0	0	664	379	213	0	42	0	0	0	*1,724*

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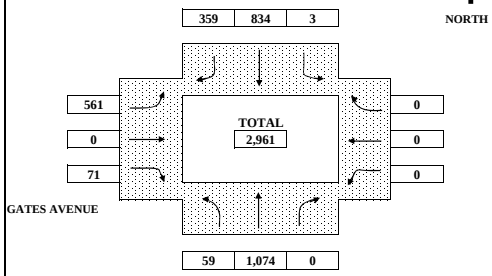
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

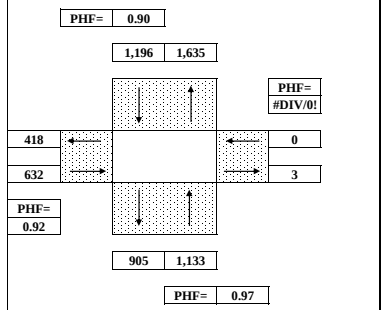
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/15/2011	DAY:	TUESDAY
N-S APPROACH:	FIGARDEN DRIVE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	GATES AVENUE	JURISDICTION:	FRESNO	FILE:	3103017-11PM

PEAK HOUR

05:00 PM TO 06:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND U-turn	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	22	250	0	1	216	92	129		27				*737*
4:15 PM ---	4:30 PM	35	504	0	2	401	168	267		49				*1,426*
4:30 PM ---	4:45 PM	50	756	0	3	590	258	401		70				*2,128*
4:45 PM ---	5:00 PM	61	1,016	0	3	779	340	520		92				*2,811*
5:00 PM ---	5:15 PM	71	1,286	0	3	979	422	675		108				*3,544*
5:15 PM ---	5:30 PM	85	1,554	0	4	1,161	503	817		124				*4,248*
5:30 PM ---	5:45 PM	96	1,834	0	6	1,375	605	959		142				*5,017*
5:45 PM ---	6:00 PM	120	2,090	0	6	1,613	699	1,081		163				*5,772*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	22	250	0	1	216	92	129	0	27	0	0	0	*737*
4:15 PM ---	4:30 PM	13	254	0	1	185	76	138	0	22	0	0	0	*689*
4:30 PM ---	4:45 PM	15	252	0	1	189	90	134	0	21	0	0	0	*702*
4:45 PM ---	5:00 PM	11	260	0	0	189	82	119	0	22	0	0	0	*683*
5:00 PM ---	5:15 PM	10	270	0	0	200	82	155	0	16	0	0	0	*733*
5:15 PM ---	5:30 PM	14	268	0	1	182	81	142	0	16	0	0	0	*704*
5:30 PM ---	5:45 PM	11	280	0	2	214	102	142	0	18	0	0	0	*769*
5:45 PM ---	6:00 PM	24	256	0	0	238	94	122	0	21	0	0	0	*755*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	61	1,016	0	3	779	340	520	0	92	0	0	0	*2,811*
4:15 PM ---	5:15 PM	49	1,036	0	2	763	330	546	0	81	0	0	0	*2,807*
4:30 PM ---	5:30 PM	50	1,050	0	2	760	335	550	0	75	0	0	0	*2,822*
4:45 PM ---	5:45 PM	46	1,078	0	3	785	347	558	0	72	0	0	0	*2,889*
5:00 PM ---	6:00 PM	59	1,074	0	3	834	359	561	0	71	0	0	0	*2,961*

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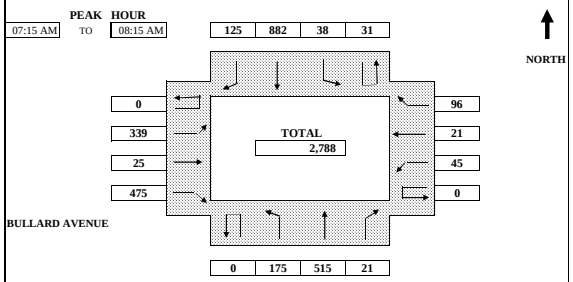
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

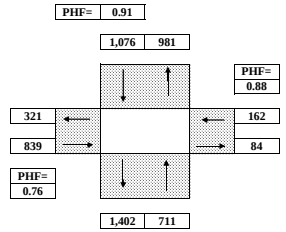
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/9/2011	DAY:	WEDNESDAY
N-S APPROACH:	FIGARDEN DRIVE	SURVEY TIME:	7:00 AM TO 9:00 AM		
E-W APPROACH:	BULLARD AVENUE	CITY:	FRESNO	FILE:	3103017-2AM

PEAK HOUR

07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND U-Turn	Left	Thru	Right	SOUTHBOUND U-Turn	Left	Thru	Right	EASTBOUND U-Turn	Left	Thru	Right	WESTBOUND U-Turn	Left	Thru	Right	TOTAL
SURVEY DATA																		
7:00 AM	7:15 AM		30	80	3	4	2	180	22		58	3	103		8	8	17	***518***
7:15 AM	7:30 AM		68	179	6	10	8	391	42		128	12	224		16	10	39	***1,133***
7:30 AM	7:45 AM		111	333	11	17	15	606	71		237	18	386		30	17	61	***1,913***
7:45 AM	8:00 AM		157	476	17	27	23	838	102		345	21	495		38	23	88	***2,650***
8:00 AM	8:15 AM		205	595	24	35	40	1,062	147		397	28	578		53	29	113	***3,306***
8:15 AM	8:30 AM		246	694	29	39	51	1,216	179		442	34	649		70	39	131	***3,819***
8:30 AM	8:45 AM		280	771	35	49	66	1,363	211		492	41	746		80	44	150	***4,328***
8:45 AM	9:00 AM		315	891	46	59	76	1,490	226		527	43	839		97	54	164	***4,827***
TOTAL BY PERIOD																		
7:00 AM	7:15 AM	0	30	80	3	4	2	180	22	0	58	3	103	0	8	8	17	***518***
7:15 AM	7:30 AM	0	38	99	3	6	6	211	20	0	70	9	121	0	8	2	22	***615***
7:30 AM	7:45 AM	0	43	154	5	7	7	215	29	0	109	6	162	0	14	7	22	***780***
7:45 AM	8:00 AM	0	46	143	6	10	8	232	31	0	108	3	109	0	8	6	27	***737***
8:00 AM	8:15 AM	0	48	119	7	8	17	224	45	0	52	7	83	0	15	6	25	***656***
8:15 AM	8:30 AM	0	41	99	5	4	11	154	32	0	45	6	71	0	17	10	18	***513***
8:30 AM	8:45 AM	0	34	77	6	10	15	147	32	0	50	7	97	0	10	5	19	***509***
8:45 AM	9:00 AM	0	35	120	11	10	10	127	15	0	35	2	93	0	17	10	14	***499***
HOURLY TOTALS																		
7:00 AM	8:00 AM	0	157	476	17	27	23	838	102	0	345	21	495	0	38	23	88	***2,650***
7:15 AM	8:15 AM	0	175	515	21	31	38	882	125	0	339	25	475	0	45	21	96	***2,788***
7:30 AM	8:30 AM	0	178	515	23	29	43	825	137	0	314	22	425	0	54	29	92	***2,686***
7:45 AM	8:45 AM	0	169	438	24	32	51	757	140	0	255	23	360	0	50	27	89	***2,415***
8:00 AM	9:00 AM	0	158	415	29	32	53	652	124	0	182	22	344	0	59	31	76	***2,177***

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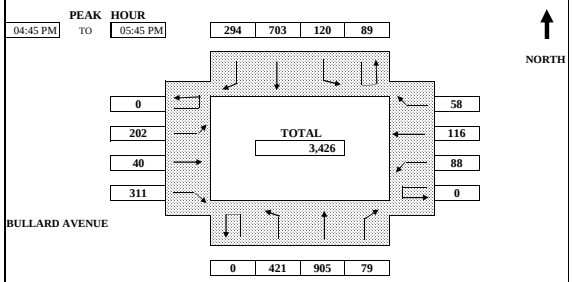
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

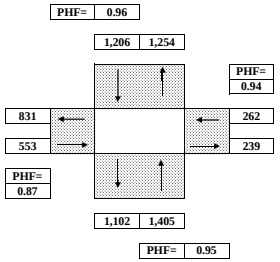
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/9/2011	DAY:	WEDNESDAY
N-S APPROACH:	FIGARDEN DRIVE	SURVEY TIME:	4:00 PM TO 6:00 PM		
E-W APPROACH:	BULLARD AVENUE	CITY:	FRESNO	FILE:	3103017-2PM

PEAK HOUR

04:45 PM TO 05:45 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND U-Turn	Left	Thru	Right	SOUTHBOUND U-Turn	Left	Thru	Right	EASTBOUND U-Turn	Left	Thru	Right	WESTBOUND U-Turn	Left	Thru	Right	TOTAL
SURVEY DATA																		
4:00 PM	4:15 PM		100	217	12	17	21	167	62		53	6	76		21	22	21	***795***
4:15 PM	4:30 PM		196	411	21	43	35	315	106		87	17	151		32	45	31	***1,490***
4:30 PM	4:45 PM		290	659	40	62	60	462	157		145	29	227		61	62	51	***2,305***
4:45 PM	5:00 PM		400	886	57	84	92	627	224		183	41	284		83	81	65	***3,107***
5:00 PM	5:15 PM		502	1,114	80	104	119	819	299		250	50	367		103	112	83	***4,002***
5:15 PM	5:30 PM		609	1,358	100	126	154	986	375		297	59	442		127	145	96	***4,874***
5:30 PM	5:45 PM		711	1,564	119	151	180	1,165	451		347	69	538		149	178	109	***5,731***
5:45 PM	6:00 PM		820	1,771	131	169	213	1,310	544		385	82	607		162	201	122	***6,517***
TOTAL BY PERIOD																		
4:00 PM	4:15 PM	0	100	217	12	17	21	167	62	0	53	6	76	0	21	22	21	***795***
4:15 PM	4:30 PM	0	96	194	9	26	14	148	44	0	34	11	75	0	11	23	10	***695***
4:30 PM	4:45 PM	0	94	248	19	19	25	147	51	0	58	12	76	0	29	17	20	***815***
4:45 PM	5:00 PM	0	110	227	17	22	32	165	67	0	38	12	57	0	22	19	14	***802***
5:00 PM	5:15 PM	0	102	228	23	20	27	192	75	0	67	9	83	0	20	31	18	***895***
5:15 PM	5:30 PM	0	107	244	20	22	35	167	76	0	47	9	75	0	24	33	13	***872***
5:30 PM	5:45 PM	0	102	206	19	25	26	179	76	0	50	10	96	0	22	33	13	***857***
5:45 PM	6:00 PM	0	109	207	12	18	33	145	93	0	38	13	69	0	13	23	13	***786***
HOURLY TOTALS																		
4:00 PM	5:00 PM	0	400	886	57	84	92	627	224	0	183	41	284	0	83	81	65	***3,107***
4:15 PM	5:15 PM	0	402	897	68	87	98	652	237	0	197	44	291	0	82	90	62	***3,207***
4:30 PM	5:30 PM	0	413	947	79	83	119	671	269	0	210	42	291	0	95	100	65	***3,384***
4:45 PM	5:45 PM	0	421	905	79	89	120	703	294	0	202	40	311	0	88	116	58	***3,426***
5:00 PM	6:00 PM	0	420	885	74	85	121	683	320	0	202	41	323	0	79	120	57	***3,410***

Telephone: (510)232-1271 Fax: (510)232-1272

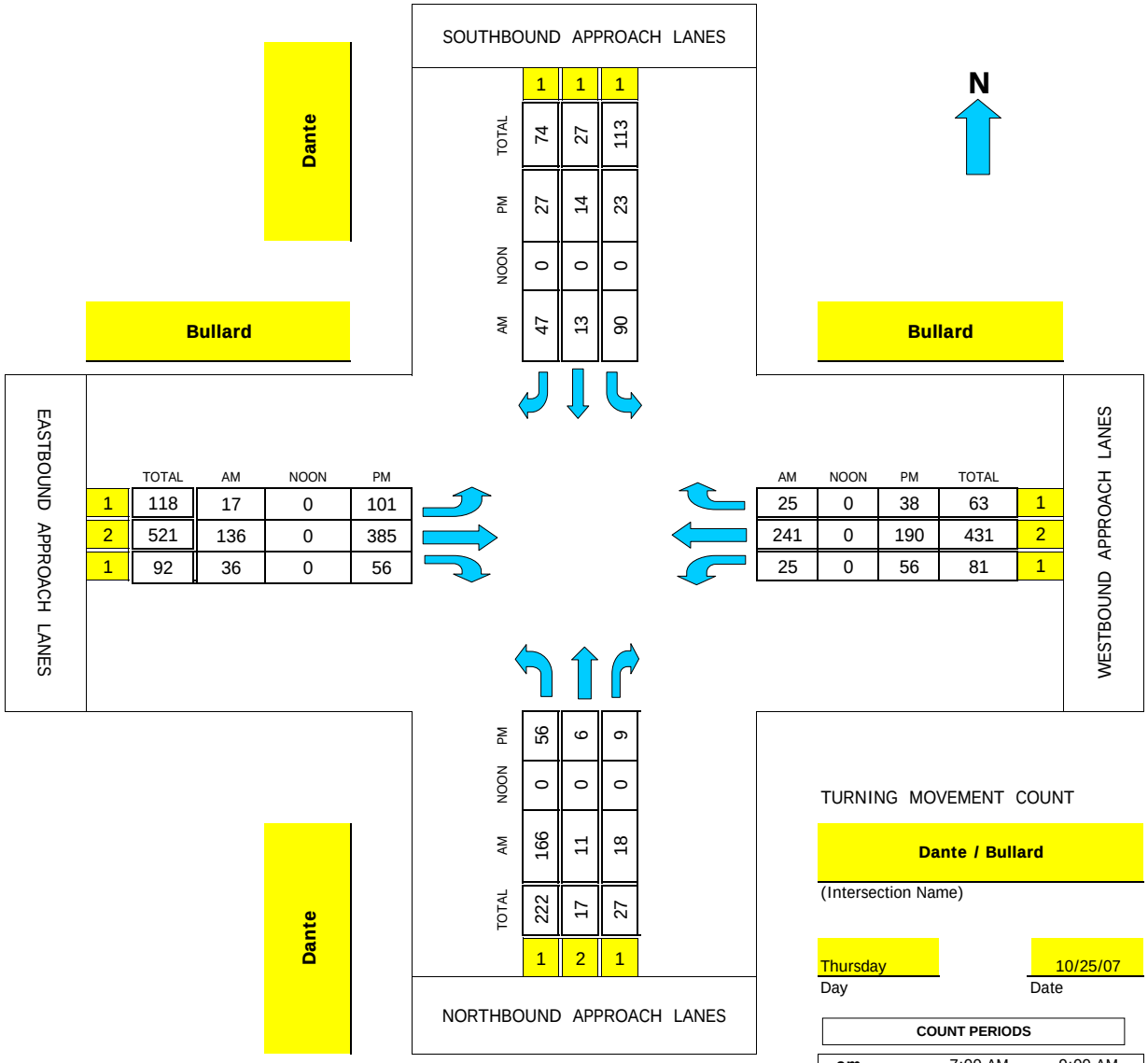
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Dante/Bullard

Project #: 07-8202-026



	TOTAL	AM	NOON	PM
1	74	47	0	27
1	27	13	0	14
1	113	90	0	23

	TOTAL	AM	NOON	PM
1	118	17	0	101
2	521	136	0	385
1	92	36	0	56

	AM	NOON	PM	TOTAL
1	25	0	38	63
2	241	0	190	431
1	25	0	56	81

	TOTAL	AM	NOON	PM
1	222	166	0	56
2	17	11	0	6
1	27	18	0	9

TURNING MOVEMENT COUNT

Dante / Bullard

(Intersection Name)

Thursday — Day

10/25/07 — Date

COUNT PERIODS			
am	7:00 AM	-	9:00 AM
noon		-	
pm	4:00 PM	-	6:00 PM

CONTROL: 4-way stop sign

AM PEAK HOUR	700 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	500 PM

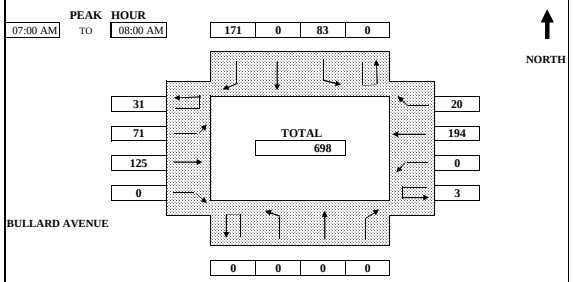
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

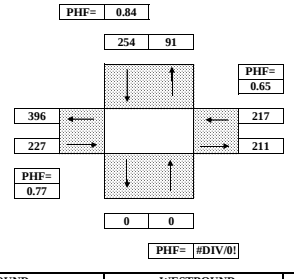
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/9/2011	DAY:	WEDNESDAY
N-S APPROACH:	POLK AVENUE	SURVEY TIME:	7:00 AM TO 9:00 AM		
E-W APPROACH:	BULLARD AVENUE	CITY:	FRESNO	FILE:	3103017-1AM

PEAK HOUR

07:00 AM TO 08:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND U-Turn	Left	Thru	Right	SOUTHBOUND U-Turn	Left	Thru	Right	EASTBOUND U-Turn	Left	Thru	Right	WESTBOUND U-Turn	Left	Thru	Right	TOTAL
SURVEY DATA																			
7:00 AM	---	7:15 AM						11		65	7	16	32		0		50	3	***184***
7:15 AM	---	7:30 AM						35		114	18	40	71		2		120	12	***412***
7:30 AM	---	7:45 AM						62		143	25	57	97		2		154	13	***553***
7:45 AM	---	8:00 AM						83		171	31	71	125		3		194	20	***698***
8:00 AM	---	8:15 AM						96		193	39	90	144		4		251	31	***848***
8:15 AM	---	8:30 AM						113		211	46	107	158		5		280	35	***955***
8:30 AM	---	8:45 AM						161		237	57	133	182		5		342	56	***1,173***
8:45 AM	---	9:00 AM						185		253	62	146	208		7		364	62	***1,287***
TOTAL BY PERIOD																			
7:00 AM	---	7:15 AM	0	0	0	0	0	11	0	65	7	16	32	0	0	0	50	3	***184***
7:15 AM	---	7:30 AM	0	0	0	0	0	24	0	49	11	24	39	0	2	0	70	9	***228***
7:30 AM	---	7:45 AM	0	0	0	0	0	27	0	29	7	17	26	0	0	0	34	1	***141***
7:45 AM	---	8:00 AM	0	0	0	0	0	21	0	28	6	14	28	0	1	0	40	7	***145***
8:00 AM	---	8:15 AM	0	0	0	0	0	13	0	22	8	19	19	0	1	0	57	11	***150***
8:15 AM	---	8:30 AM	0	0	0	0	0	17	0	18	7	17	14	0	1	0	29	4	***107***
8:30 AM	---	8:45 AM	0	0	0	0	0	48	0	26	11	26	24	0	0	0	62	21	***218***
8:45 AM	---	9:00 AM	0	0	0	0	0	24	0	16	5	13	26	0	2	0	22	6	***114***
HOURLY TOTALS																			
7:00 AM	---	8:00 AM	0	0	0	0	0	83	0	171	31	71	125	0	3	0	194	20	***698***
7:15 AM	---	8:15 AM	0	0	0	0	0	85	0	128	32	74	112	0	4	0	201	28	***664***
7:30 AM	---	8:30 AM	0	0	0	0	0	78	0	97	28	67	87	0	3	0	160	23	***543***
7:45 AM	---	8:45 AM	0	0	0	0	0	99	0	94	32	76	85	0	3	0	188	43	***620***
8:00 AM	---	9:00 AM	0	0	0	0	0	102	0	82	31	75	83	0	4	0	170	42	***589***

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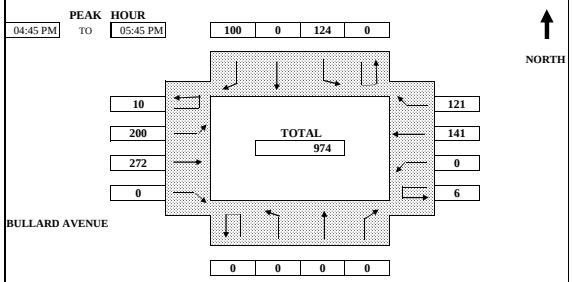
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

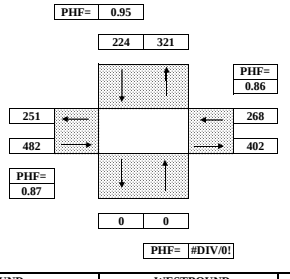
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/9/2011	DAY:	WEDNESDAY
N-S APPROACH:	POLK AVENUE	SURVEY TIME:	4:00 PM TO 6:00 PM		
E-W APPROACH:	BULLARD AVENUE	CITY:	FRESNO	FILE:	3103017-1PM

PEAK HOUR

04:45 PM TO 05:45 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND U-Turn	Left	Thru	Right	SOUTHBOUND U-Turn	Left	Thru	Right	EASTBOUND U-Turn	Left	Thru	Right	WESTBOUND U-Turn	Left	Thru	Right	TOTAL
SURVEY DATA																			
4:00 PM	---	4:15 PM						24		26	1	36	42		0		30	18	***177***
4:15 PM	---	4:30 PM						48		48	6	65	81		1		66	40	***355***
4:30 PM	---	4:45 PM						68		73	12	110	146		2		97	66	***574***
4:45 PM	---	5:00 PM						102		96	15	154	198		3		124	95	***787***
5:00 PM	---	5:15 PM						133		122	18	203	268		4		167	129	***1,044***
5:15 PM	---	5:30 PM						162		144	20	256	352		7		204	157	***1,302***
5:30 PM	---	5:45 PM						192		173	22	310	418		8		238	187	***1,548***
5:45 PM	---	6:00 PM						218		197	25	347	465		9		267	204	***1,732***
TOTAL BY PERIOD																			
4:00 PM	---	4:15 PM	0	0	0	0	0	24	0	26	1	36	42	0	0	0	30	18	***177***
4:15 PM	---	4:30 PM	0	0	0	0	0	24	0	22	5	29	39	0	1	0	36	22	***178***
4:30 PM	---	4:45 PM	0	0	0	0	0	20	0	25	6	45	65	0	1	0	31	26	***219***
4:45 PM	---	5:00 PM	0	0	0	0	0	34	0	23	3	44	52	0	1	0	27	29	***213***
5:00 PM	---	5:15 PM	0	0	0	0	0	31	0	26	3	49	70	0	1	0	43	34	***257***
5:15 PM	---	5:30 PM	0	0	0	0	0	29	0	22	2	53	84	0	3	0	37	28	***258***
5:30 PM	---	5:45 PM	0	0	0	0	0	30	0	29	2	54	66	0	1	0	34	30	***246***
5:45 PM	---	6:00 PM	0	0	0	0	0	26	0	24	3	37	47	0	1	0	29	17	***184***
HOURLY TOTALS																			
4:00 PM	---	5:00 PM	0	0	0	0	0	102	0	96	15	154	198	0	3	0	124	95	***787***
4:15 PM	---	5:15 PM	0	0	0	0	0	109	0	96	17	167	226	0	4	0	137	111	***867***
4:30 PM	---	5:30 PM	0	0	0	0	0	114	0	96	14	191	271	0	6	0	138	117	***947***
4:45 PM	---	5:45 PM	0	0	0	0	0	124	0	100	10	200	272	0	6	0	141	121	***974***
5:00 PM	---	6:00 PM	0	0	0	0	0	116	0	101	10	193	267	0	6	0	143	109	***945***

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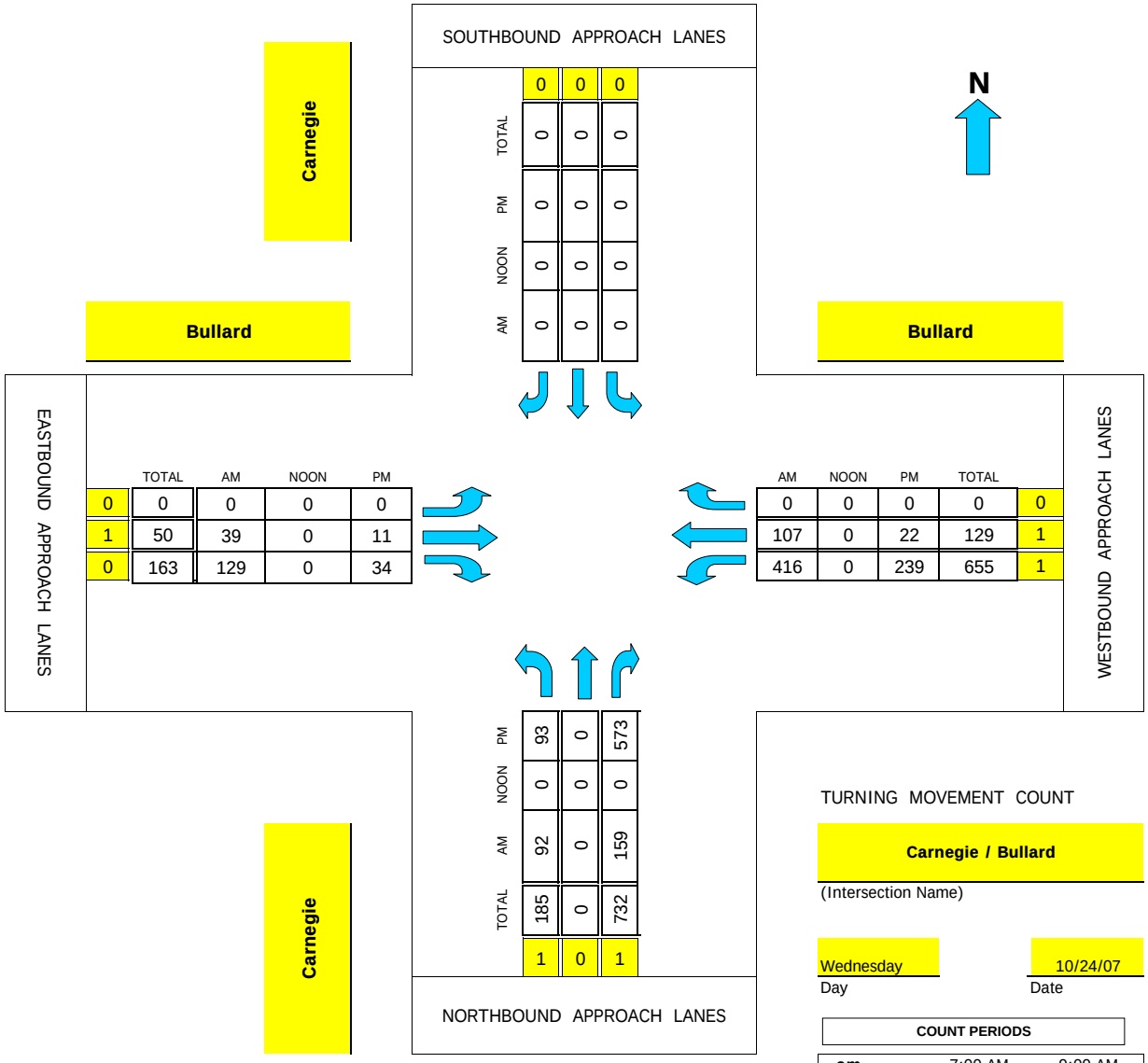
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Carnegie / Bullard

Project #: 07-8202-022



	TOTAL	AM	NOON	PM
0	0	0	0	0
1	50	39	0	11
0	163	129	0	34

	AM	NOON	PM	TOTAL
0	0	0	0	0
1	107	0	22	129
1	416	0	239	655

TOTAL	0	0	0
PM	0	0	0
NOON	0	0	0
AM	0	0	0
	0	0	0

PM	93	0	573
NOON	0	0	0
AM	92	0	159
TOTAL	185	0	732
	1	0	1

TURNING MOVEMENT COUNT

Carnegie / Bullard

(Intersection Name)

Wednesday — Day

10/24/07 — Date

COUNT PERIODS			
am	7:00 AM	-	9:00 AM
noon		-	
pm	4:00 PM	-	6:00 PM

CONTROL: 3 Way Stop Signs- Dante= N/S- Bullard= E/W Turn Lane Indicators at NL and WL only-

AM PEAK HOUR	700 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	445 PM

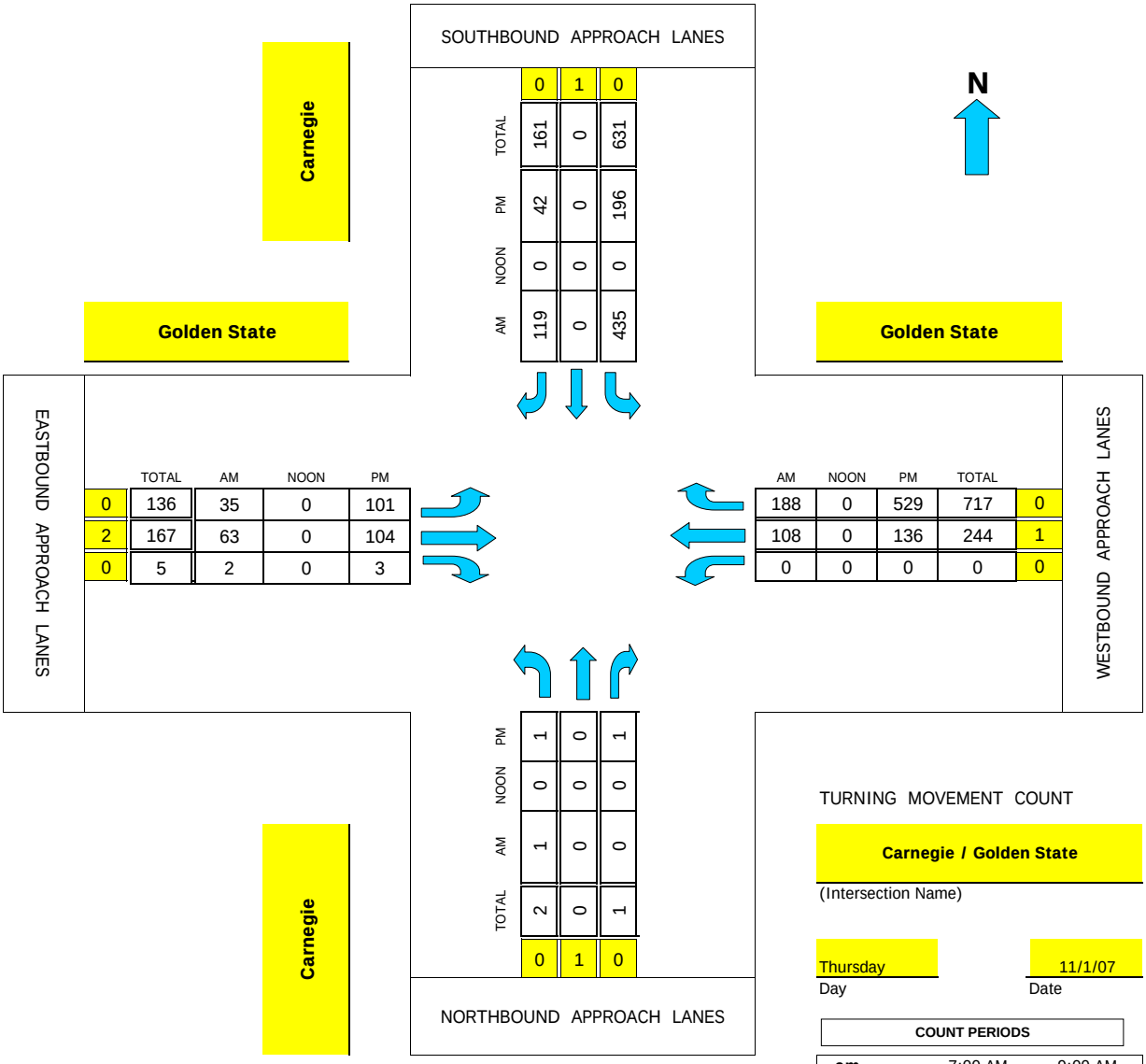
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Carnegie / Golden State

Project #: 07-8202-021



	TOTAL	AM	NOON	PM
0	161	119	0	42
1	0	0	0	0
0	631	435	0	196

	TOTAL	AM	NOON	PM
0	136	35	0	101
2	167	63	0	104
0	5	2	0	3

	AM	NOON	PM	TOTAL
0	188	0	529	717
1	108	0	136	244
0	0	0	0	0

	TOTAL	AM	NOON	PM
0	2	1	0	1
1	0	0	0	0
0	1	0	0	1

TURNING MOVEMENT COUNT

Carnegie / Golden State

(Intersection Name)

Thursday — Day

11/1/07 — Date

COUNT PERIODS			
am	7:00 AM	-	9:00 AM
noon		-	
pm	4:00 PM	-	6:00 PM

CONTROL: 3-WAY STOP

AM PEAK HOUR	700 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	445 PM

ADT COUNTS

B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	1. On Avenue 8 1/2, just east of Road 27 (SR-145)								2. On Road 27 (SR-145), just north of Avenue 8 1/2								3. On Avenue 9, just east of Road 26 1/2							
Direction	East Bound		West Bound		East Bound		West Bound		North Bound		South Bound		North Bound		South Bound		East Bound		West Bound		East Bound		West Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	9	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	4	0	1	0	1	0	6	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	4	0	1	0	6	0	3	0	0	0	0	0	0	0	0	0
1245	0	0	0	0	0	0	0	0	2	19	1	6	2	9	4	14	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	3	13	1	4	3	12	4	17	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	9	0	3	0	11	5	16	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	5	10	1	3	1	6	7	20	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	5	13	2	4	0	4	0	16	0	0	0	0	0	0	0	0
200	0	0	0	0	1	1	0	0	3	13	1	4	4	5	0	12	0	0	0	0	0	0	0	0
215	0	0	0	0	0	1	0	0	0	13	2	6	1	6	5	12	0	0	0	0	0	0	0	0
230	0	0	0	0	0	1	0	0	2	10	2	7	3	8	5	10	0	0	0	0	0	0	0	0
245	0	0	0	0	0	1	0	0	3	8	0	5	3	11	4	14	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	1	6	2	6	4	11	8	22	0	0	0	0	0	0	0	0
315	0	0	0	0	0	0	0	0	5	11	6	10	0	10	4	21	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0	9	6	14	4	11	7	23	0	0	0	0	0	0	0	0
345	0	0	0	0	0	0	0	0	6	12	5	19	3	11	8	27	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	3	14	14	31	1	8	5	24	0	0	0	0	0	0	0	0
415	0	0	0	0	0	0	0	0	3	12	6	31	4	12	6	26	0	0	0	0	0	0	0	0
430	0	0	0	0	0	0	0	0	0	12	18	43	1	9	14	33	0	0	0	0	0	0	0	0
445	0	0	0	0	0	0	0	0	2	8	30	68	2	8	22	47	0	0	0	0	0	0	1	1
500	0	0	0	0	0	0	0	0	3	8	37	91	5	12	43	85	1	1	1	1	0	0	0	1
515	0	0	0	0	0	0	0	0	5	10	33	118	4	12	56	135	1	2	0	1	1	1	1	2
530	0	0	0	0	0	0	0	0	0	10	73	173	7	18	51	172	0	2	1	2	0	1	0	2
545	1	1	0	0	1	1	0	0	9	17	68	211	4	20	71	221	2	4	2	4	0	1	0	1
600	1	2	2	2	1	2	1	1	14	28	62	236	7	22	48	226	1	4	1	4	0	1	1	2
615	1	3	1	3	1	3	3	4	34	57	38	241	20	38	46	216	0	3	0	4	0	0	0	1
630	1	4	2	5	1	4	2	6	12	69	65	233	17	48	43	208	3	6	2	5	1	1	0	1
645	1	4	1	6	1	4	1	7	18	78	49	214	19	63	24	161	1	5	2	5	1	2	1	2
700	4	7	0	4	0	3	0	6	4	68	73	225	21	77	28	141	1	5	0	4	1	3	0	1
715	1	7	1	4	4	6	2	5	18	52	32	219	21	78	26	121	2	7	0	4	0	3	0	1
730	5	11	0	2	4	9	0	3	16	56	48	202	22	83	30	108	0	4	0	2	0	2	1	2
745	1	11	1	2	0	8	1	3	18	56	27	180	24	88	27	111	1	4	1	1	1	2	0	1
800	0	7	1	3	0	8	1	4	21	73	39	146	19	86	25	108	1	4	1	2	0	1	0	1
815	0	6	1	3	0	4	2	4	17	72	12	126	2	67	20	102	0	2	0	2	2	3	0	1
830	1	2	0	3	3	3	1	5	9	65	40	118	22	67	21	93	1	3	1	3	0	3	0	0
845	1	2	2	4	0	3	2	6	8	55	22	113	16	59	32	98	1	3	1	3	1	3	0	0
900	0	2	0	3	3	6	2	7	31	65	32	106	21	61	16	89	0	2	0	2	1	4	2	2
915	4	6	3	5	4	10	2	7	9	57	18	112	5	64	20	89	1	3	0	2	1	3	0	2
930	2	7	1	6	2	9	2	8	22	70	27	99	14	56	29	97	0	2	0	1	0	3	0	2
945	7	13	5	9	3	12	3	9	12	74	29	106	31	71	12	77	1	2	0	0	0	2	0	2
1000	3	16	2	11	3	12	3	10	16	59	30	104	5	55	11	72	1	3	2	2	2	3	2	2
1015	2	14	3	11	3	11	2	10	29	79	47	133	11	61	11	63	0	2	0	2	2	4	0	2
1030	0	12	2	12	4	13	1	9	24	81	24	130	20	67	17	51	0	2	1	3	0	4	0	2
1045	2	7	0	7	4	14	2	8	24	93	43	144	27	63	25	64	0	1	0	3	0	4	0	2
1100	3	7	3	8	1	12	1	6	25	102	26	140	9	67	25	78	0	0	0	1	0	2	0	0
1115	3	8	0	5	1	10	2	6	13	86	61	154	6	62	20	87	0	0	0	1	0	0	0	0
1130	0	8	1	4	1	7	2	7	10	72	50	180	13	55	30	100	1	1	1	1	0	0	0	0
1145	5	11	2	6	2	5	2	7	21	69	38	175	24	52	11	86	0	1	1	2	1	1	0	0
1200	5	13	2	5	1	5	1	7	17	61	26	175	15	58	13	74	0	1	0	2	1	2	0	0
1215	0	10	3	8	1	5	0	5	19	67	42	156	18	70	22	76	0	1	0	2	0	2	0	0
1230	1	11	1	8	1	5	0	3	19	76	25	131	22	79	26	72	1	1	1	2	0	2	0	0
1245	0	6	3	9	3	6	2	3	15	70	30	123	10	65	25	86	0	1	0	1	0	1	0	0
1300	1	2	4	11	1	6	1	3	13	66	14	111	3	53	35	108	0	1	0	1	1	1	2	2
1315	1	3	1	9	3	8	0	3	25	72	21	90	3	38	39	125	1	2	1	2	0	1	0	2
1330	3	5	0	8	0	7	3	6	23	76	21	86	17	33	24	123	0	1	0	1	0	1	0	2
1345	2	7	4	9	1	5	3	7	26	87	30	86	32	55	26	124	0	1	0	1	1	2	1	3
1400	0	6	0	5	0	4	1	7	18	92	30	102	19	71	33	122	0	1	0	1	0	1	2	3
1415	0	5	4	8	0	1	1	8	13	80	29	110	14	82	24	107	0	0	0	0	1	2	0	3
1430	1	3	2	10	1	2	0	5	30	87	32	121	10	75	37	120	1	1	1	1	0	2	2	5
1445	2	3	3	9	2	3	5	7	34	95	18	109	14	57	24	118	1	2	1	2	0	1	1	5
1500	5	8	5	14	2	5	2	8	34	111	19	98	12	50	21	106	0	2	2	4	0	1	0	3
1515	0	8	1	11	2	7	0	7	28	126	34	103	24	60	25	107	1	3	1	5	1	1	2	5
1530	2	9	1	10	0	6	1	8	36	132	27	98	23	73	23	93	1	3	0	4	0	1	0	3
1545	5	12	3	10	1	5	4	7	33	131	18	98	39	98	2	71	1	3	2	5	0	1	0	2
1600	2	9	2	7	1	4	3	8	16	113	42	121	31	117	39	89	1	4	1	4	1	2	0	2
1615	3	12	3	9	1	3	1	9	23	108	32	119	25	118	16	80	1	4	0	3	0	1	0	0
1630	1	11	1	9	3	6	0	8	21	93	60	152	23	118	24	81	0	3	2	5	1	2	1	1
1645	0	6	2	8	0	5	1	5	22	82	44	178	21	100	42	121	1	3	1	4	0	2	0	1
1700	2	6	3	9	0	4	1	3	14	80	44	180	28	97	39	121	0	2	1	4	1	2	0	1
1715	0	3	1	7	3	6	1	3	28	85	25	173	48	120	37	142	0	1	0	4	0	2	0	1
1730	1	3	0	6	0	3	3	6	91	155	35	148	21	118	46	164	1	2	1	3	1	2	1	1
1745	1	4	1	5	0	3	1	6	17	150	38	142	29	126	19	141	0	1	1	3	0	2	1	2
1800	1	3	0	2	3	6	3	8	38	174	20	118	38	136	21	123	0	1	0	2	0	1	0	2
1815	1	4	0	1	2	5	0	7	20	166	25	118	18	106	22	108	0	1	0	2	1	2	0	2
1830	0	3	2	3	0	5	0	4	28	103	18	101	20	105	24	86	0	0	0	1	0	1	1	2
1845	1	3	0	2	0	5	1	4	3	89	27	90	13	89	24	91	0	0	0	0	0	1	1	2
1900	0	2	0	2	1	3	0	1	16	67	13	83	7	58	15	85	0	0	0	0	0	1	0	2
1915	0	1	0	2	0	1	2	3	2	49	23	81	12	52	20	83	1	1	0	0	0	0	0	2
1930	1	2	3	3	0	1	0	3	10	31	19	82	8	40	12	71	1	2	0	0	1	1	0	1
1945	1	2	0	3	0	1	1	3	1	29	30	85	10	37	8	55	0	2	0	0	0	1	0	0
2000	0	2	0	3	0	0	0	3	1	14	23	95	18	48	11	51	0	2	0	0	0	1	0	0
2015	0	2	1	4	0	0	0	1	10	22	16	88	21	57	14	45	0	1	0	0	0	1	0	0
2030	0	1	0	1	0	0	0	1	5	17	12	81	13	62	4	37	0	0	0	0	1	1	0	0
2045	0	0	0	1	0	0	0	0	1	17	17	68	11	63	14	43	0	0	0	0	0	1	0	0
2100	0	0	0	1	0	0	0	0	6	22	12	57	4	49	9	41	0	0	0	0	0	1	0	0
2115	0	0	0	0	0	0	1	1	10	22	10	51	7	35	13	40	0	0	0	0	0	1	0	0
2130	0	0	0	0	0	0	0	1	6	23	5	44	15	37	8	44	0	0	0	0	0	0	0	0
2145	0	0	0	0	0	0	0	1	11	33	6	33	6	32	5	35	0	0	0	0	0	0	0	0
2200	0	0	0	0	0	0	0	1	11	38	6	27	9	37	5	31	0	0	0	0	0	0	0	0
2215	0	0	0	0	0	0	0	0	7	35	5	22	7	37	11	29	0	0	0	0	0	0	0	0
2230	0	0	0	0	0	0	0	0	3	32	4	21	3	25	8	29	0	0	0	0	0	0	0	0
2245	0	0	0	0	0	0	0	0	5	26	3	18	2	21	5	29	0	0	0	0	0	0	0	0
2300	0	0	0	0	0	0	0	0	3	18	2	14	1	13	5	29	0	0	0	0	0	0	0	0
2315	0	0	0	0	0	0	0	0	1	12	5	14	5	11	8	26	0	0	0	0	0	0	0	0
2330	0	0	0	0	0	0	0	0	4	13	6	16	3	11	8	26	0	0	0	0	0	0	0	0
2345	0	0	0	0	0	0	0	0	0	8	1	14	6	15	7	28	0	0	0	0	0	0	0	0
TOTAL	92	N/A	90	N/A	81	N/A	83	N/A	1,319	N/A	2,289	N/A	1,217	N/A	1,878	N/A	33	N/A	34	N/A	27	N/A	24	N/A
AM		13		9		12		9		78		241		88		226		7		5		4		2
NOON		16		12		14		10		102		180		82		125		3		3		4		5
PM		12		14		7		9		174		180		136		164		4		5		2		5
EVEN		2		4		0		3		38		95		63		51		2		0		1		0

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	4. On Road 26, just north of Avenue 9 1/2								5. On Road 25 1/2, just north of Avenue 10								6. On Road 25, just north of Avenue 10 1/2							
Direction	North Bound		South Bound		North Bound		South Bound		North Bound		South Bound		North Bound		South Bound		North Bound		South Bound		North Bound		South Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0
1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	5	0	1	0	2
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	0	0	2
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	1
200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
230	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
245	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0
300	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	0	0
315	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	3	3
330	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	1	0	3
345	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	1	0	0	1	4
400	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1	0	1	1	1	0	4
415	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	1	2	1	2	0	1
430	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	2	3	0	2	3	4
445	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	5	3	6	3	5	6	9
500	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	2	8	2	6	3	12
515	0	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	1	6	3	10	1	6	6	18
530	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	6	3	11	3	9	7	22
545	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	4	6	7	15	4	10	13	29
600	0	0	0	1	1	1	0	0	0	1	0	0	0	0	0	0	2	7	10	23	1	9	15	41
615	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	9	5	25	5	13	10	45
630	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	13	11	33	5	15	9	47
645	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	8	17	16	42	8	19	20	54
700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	22	11	43	11	29	13	52
715	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	9	28	14	52	11	35	13	55
730	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	1	11	35	7	48	22	52	9	55
745	0	0	1	1	0	0	0	1	0	0	0	1	0	0	0	1	22	49	16	48	15	59	14	49
800	0	0	0	1	1	1	0	1	0	0	1	2	0	0	0	1	16	58	7	44	13	61	13	49
815	0	0	0	1	0	1	1	2	0	0	0	1	0	0	0	0	10	59	19	49	9	59	15	51
830	0	0	0	1	0	1	0	1	1	1	1	2	1	1	0	0	17	65	9	51	14	51	7	49
845	0	0	0	0	1	2	1	2	0	1	0	2	0	1	0	0	12	55	6	41	9	45	11	46
900	1	1	0	0	0	1	0	2	0	1	0	1	0	1	0	0	12	51	6	40	20	52	6	39
915	0	1	0	0	0	1	0	1	0	1	0	1	1	2	0	0	7	48	6	27	13	56	5	29
930	0	1	0	0	0	1	0	1	0	0	0	0	0	1	0	0	5	36	16	34	14	56	6	28
945	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	15	39	5	33	12	59	10	27
1000	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1	7	34	8	35	11	50	6	27
1015	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	5	32	7	36	12	49	15	37
1030	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4	31	10	30	13	48	11	42
1045	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	7	23	7	32	12	48	10	42
1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	28	9	33	12	49	5	41
1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	32	11	37	15	52	9	35
1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	35	5	32	5	44	4	28
1145	1	1	0	0	1	1	0	0	1	1	0	0	0	0	0	0	11	39	15	40	15	47	5	23
1200	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	12	39	7	38	17	52	12	30
1215	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	7	37	13	40	11	48	5	26
1230	0	1	0	0	0	1	1	1	0	1	0	0	0	0	0	0	11	41	5	40	18	61	14	36
1245	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	4	34	11	36	13	59	15	46
1300	0	0	0	0	0	0	0	1	0	0	1	1	1	1	0	1	11	33	13	42	3	45	13	47
1315	0	0	0	0	0	0	0	1	1	1	1	2	0	1	0	1	21	47	13	42	16	50	13	55
1330	0	0	0	0	1	1	0	0	0	1	0	2	0	1	0	1	16	52	4	41	7	39	12	53
1345	0	0	0	0	0	1	0	0	0	1	0	2	0	1	0	0	8	56	11	41	4	30	19	57
1400	0	0	0	0	1	2	0	0	0	1	0	1	0	0	0	0	21	66	12	40	9	36	11	55
1415	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	8	53	9	36	28	48	13	55
1430	0	0	0	0	0	1	0	0	1	1	1	1	1	1	0	0	9	46	9	41	14	55	16	59
1445	0	0	1	1	0	1	0	0	0	1	0	1	0	1	0	0	13	51	12	42	10	61	14	54
1500	0	0	0	1	1	1	1	1	1	2	0	1	0	1	1	1	8	38	12	42	14	66	15	58
1515	1	1	1	2	0	1	0	1	0	2	0	1	0	1	0	1	13	43	13	46	30	68	24	69
1530	0	1	0	2	1	2	2	3	1	2	1	1	1	1	0	1	18	52	12	49	13	67	14	67
1545	0	1	0	1	0	2	1	4	0	2	0	1	0	1	1	2	24	63	5	42	20	77	18	71
1600	1	2	1	2	1	2	1	4	1	2	0	1	1	2	0	1	21	76	12	42	13	76	9	65
1615	1	2	0	1	2	4	2	6	2	4	1	2	0	2	1	2	13	76	26	55	15	61	20	61
1630	0	2	1	2	1	4	0	4	0	3	0	1	1	2	0	2	22	80	14	57	24	72	16	63
1645	1	3	0	2	0	4	1	4	1	4	1	2	0	2	0	1	13	69	17	69	10	62	12	57
1700	0	2	0	1	0	3	0	3	0	3	0	2	1	2	0	1	19	67	10	67	22	71	16	64
1715	1	2	1	2	1	2	0	1	0	1	1	2	0	2	0	0	26	80	18	59	26	82	11	55
1730	1	3	0	1	0	1	0	1	1	2	0	2	1	2	1	1	14	72	11	56	16	74	7	46
1745	0	2	0	1	0	1	0	0	0	1	1	2	0	2	0	1	8	67	12	51	7	71	11	45
1800	0	2	0	1	0	1	0	0	0	1	0	2	0	1	0	1	13	61	8	49	9	58	11	40
1815	0	1	1	1	0	0	0	0	0	1	0	1	0	1	0	1	8	43	4	35	5	37	7	36
1830	1	1	0	1	0	0	0	0	0	0	0	1	0	0	1	1	4	33	6	30	9	30	5	34
1845	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	6	31	8	26	4	27	8	31
1900	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	19	4	22	6	24	4	24
1915	0	1	0	0	0	0	0	0	1	1	0	0	1	1	0	1	4	15	7	25	1	20	1	18
1930	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	3	14	2	21	4	15	5	18
1945	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	4	12	4	17	1	12	7	17
2000	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	2	13	1	14	6	12	1	14
2015	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	7	16	5	12	5	16	7	20
2030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	14	3	13	1	13	1	16
2045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12	6	15	1	13	7	16
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	3	17	0	7	4	19
2115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	2	14	3	5	7	19
2130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	8	2	13	1	5	2	20
2145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8	2	9	6	10	4	17
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9	6	12	2	12	1	14
2215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9	6	16	0	9	5	12
2230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	9	1	15	0	8	1	11
2245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1	14	1	3	3	10
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	9	0	1	0	9
2315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	4	7	1	2	2	6
2330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	1	7	0	2	0	5
2345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	2	8	1	2	1	3
TOTAL	10	N/A	8	N/A	13	N/A	12	N/A	15	N/A	13	N/A	11	N/A	9	N/A	650	N/A	635	N/A	722	N/A	710	N/A
AM		1		1		2		2		1		2		2		1		65		52		61		55
NOON		1		1		2		1		1		2		1		1		66		42		61		59
PM		3		2		4		6		4		2		2		2		80		69		82		71
EVEN		0		0		0		0		1		1		1		0		16		17		16		20

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B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	7. On Avenue 11, just east of Road 24 1/2								8. On Road 24 1/2, just north of Avenue 11								9. On Avenue 12, just east of Road 23 1/2							
Direction	East Bound		West Bound		East Bound		West Bound		North Bound		South Bound		North Bound		South Bound		East Bound		West Bound		East Bound		West Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	0	1	0	2	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	0	2	0	3	0
1230	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0	1	0	4	0
1245	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	11	1	5	2	11
100	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	5	2	9	0	4	2	11
115	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	1	6	2	4	2	10
130	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2	4	7	1	4	1	7
145	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	3	1	8	0	3	0	5
200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	8	0	3	2	5
215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	6	13	0	1	0	3
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	3	12	0	0	0	2
245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	11	1	1	1	3
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	11	0	1	0	1
315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	4	9	0	1	4	5
330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	7	13	3	4	8	13
345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	14	0	3	8	20
400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	8	3	15	3	6	4	24
415	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	7	1	12	6	12	9	29
430	1	1	0	0	0	1	3	3	0	0	0	0	0	0	0	0	2	6	7	12	4	13	9	30
445	0	1	0	0	0	1	1	4	1	1	1	1	0	0	0	0	1	7	4	15	3	16	9	31
500	2	3	1	1	0	1	1	5	0	1	0	1	1	1	1	1	7	11	11	23	12	25	14	41
515	1	4	1	2	1	1	2	7	0	1	0	1	0	1	0	1	4	14	17	39	4	23	15	47
530	3	6	1	3	0	1	1	5	0	1	0	1	0	1	0	1	11	23	19	51	6	25	16	54
545	1	7	2	5	2	3	4	8	1	1	0	0	1	2	0	1	11	33	27	74	15	37	34	79
600	0	5	1	5	0	3	2	9	0	1	0	0	1	2	0	0	10	36	41	104	7	32	47	112
615	2	6	3	7	2	4	5	12	0	1	0	0	0	2	0	0	9	41	33	120	14	42	47	144
630	2	5	3	9	1	5	1	12	0	1	0	0	0	2	0	0	16	46	51	152	19	55	65	193
645	1	5	3	10	3	6	2	10	0	0	1	1	0	1	0	0	12	47	52	177	13	53	50	209
700	2	7	2	11	1	7	1	9	0	0	1	2	0	0	0	0	20	57	62	198	16	62	63	225
715	2	7	0	8	2	7	2	6	2	2	0	2	0	0	1	1	22	70	55	220	14	62	41	219
730	3	8	2	7	1	7	1	6	2	4	1	3	1	1	0	1	12	66	39	208	19	62	44	198
745	2	9	1	5	4	8	1	5	0	4	0	2	0	1	1	2	17	71	42	198	25	74	45	193
800	2	9	0	3	1	8	0	4	1	5	1	2	1	2	1	3	31	82	54	190	30	88	63	193
815	2	9	1	4	2	8	2	4	0	3	0	2	1	3	0	2	21	81	53	188	34	108	59	211
830	0	6	3	5	2	9	1	4	1	2	0	1	0	2	0	2	26	95	43	192	15	104	39	206
845	2	6	2	6	0	5	0	3	1	3	1	2	1	3	1	2	32	110	55	205	33	112	49	210
900	1	5	2	8	3	7	3	6	0	2	0	1	0	2	0	1	14	93	38	189	20	102	48	195
915	0	3	1	8	2	7	2	6	0	2	0	1	0	1	0	1	18	90	41	177	20	88	46	182
930	2	5	1	6	0	5	2	7	1	2	1	2	0	1	1	2	13	77	23	157	16	89	33	176
945	1	4	1	5	3	8	4	11	1	2	0	1	1	1	0	1	28	73	50	152	22	78	42	169
1000	2	5	2	5	2	7	0	8	1	3	1	2	0	1	0	1	34	93	50	164	21	79	39	160
1015	1	6	1	5	2	7	2	8	1	4	1	3	0	1	1	2	23	98	35	158	29	88	45	159
1030	1	5	0	4	2	9	1	7	2	5	2	4	1	2	0	1	28	113	52	187	14	86	30	156
1045	1	5	4	7	0	6	1	4	0	4	2	6	1	2	1	2	27	112	49	186	26	90	45	159
1100	3	6	2	7	3	7	5	9	0	3	0	5	0	2	0	2	26	104	39	175	22	91	57	177
1115	1	6	2	8	2	7	0	7	0	2	1	5	1	3	0	1	24	105	53	193	20	82	41	173
1130	3	8	5	13	0	5	2	8	1	1	0	3	0	2	0	1	15	92	30	171	25	93	40	183
1145	0	7	2	11	2	7	1	8	1	2	1	2	0	1	0	0	21	86	53	175	23	90	46	184
1200	0	4	3	12	1	5	3	6	3	5	1	3	0	1	1	1	28	88	44	180	22	90	38	165
1215	3	6	4	14	3	6	1	7	0	5	0	2	2	2	2	3	22	86	35	162	29	99	47	171
1230	2	5	0	9	3	9	0	5	1	5	1	3	0	2	0	3	21	92	36	168	12	86	32	163
1245	5	10	1	8	0	7	1	5	1	5	1	3	0	2	0	3	16	87	44	159	23	86	41	158
1300	3	13	4	9	4	10	1	3	0	2	0	2	0	2	0	2	13	72	27	142	28	92	45	165
1315	1	11	3	8	2	9	4	6	1	3	1	3	3	3	2	2	17	67	41	148	16	79	37	155
1330	3	12	3	11	2	8	2	8	0	2	1	3	0	3	0	2	14	60	33	145	17	84	37	160
1345	2	9	0	10	3	11	1	8	0	1	0	2	0	3	0	2	21	65	45	146	19	80	33	152
1400	2	8	4	10	0	7	2	9	0	1	0	2	0	3	1	3	25	77	38	157	22	74	37	144
1415	4	11	4	11	4	9	2	7	0	0	2	3	1	1	0	1	14	74	30	146	23	81	42	149
1430	3	11	1	9	2	9	3	8	0	0	1	3	0	1	0	1	26	86	64	177	24	88	56	168
1445	3	12	5	14	2	8	5	12	0	0	0	3	0	1	1	2	23	88	44	176	16	85	30	165
1500	0	10	1	11	3	11	2	12	0	0	1	4	0	1	0	1	31	94	49	187	31	94	55	183
1515	2	8	4	11	2	9	1	11	1	1	0	2	0	0	1	2	27	107	40	197	28	99	46	187
1530	2	7	3	13	3	10	3	11	1	2	1	2	1	1	2	4	33	114	59	192	31	106	55	186
1545	1	5	4	12	1	9	3	9	1	3	0	2	1	2	1	4	35	126	54	202	37	127	48	204
1600	3	8	4	15	1	7	5	12	0	3	0	1	0	2	0	4	44	139	67	220	34	130	56	205
1615	1	7	2	13	5	10	2	13	0	2	0	1	0	2	0	3	25	137	38	218	27	129	46	205
1630	2	7	1	11	7	14	3	13	0	1	0	0	0	1	1	2	39	143	50	209	47	145	59	209
1645	2	8	0	7	0	13	0	10	0	0	1	1	1	1	0	1	27	135	43	198	45	153	68	229
1700	2	7	2	5	1	13	0	5	0	0	0	1	0	1	1	2	39	130	57	188	30	149	43	216
1715	1	7	3	6	3	11	2	5	1	1	1	2	1	2	2	4	30	135	49	199	49	171	72	242
1730	1	6	1	6	0	4	0	2	0	1	0	2	0	2	1	4	23	119	44	193	28	152	51	234
1745	3	7	0	6	0	4	1	3	3	4	2	3	1	2	0	4	25	117	55	205	23	130	48	214
1800	2	7	0	4	1	4	1	4	1	5	1	4	1	3	1	4	21	99	40	188	20	120	32	203
1815	1	7	0	1	0	1	2	4	0	4	0	3	0	2	0	2	16	85	30	169	16	87	28	159
1830	2	8	0	0	0	1	0	4	0	4	0	3	0	2	1	2	18	80	26	151	10	69	18	126
1845	1	6	0	0	2	3	1	4	0	1	0	1	0	1	0	2	7	62	28	124	17	63	26	104
1900	3	7	0	0	0	2	0	3	0	0	1	1	0	0	0	1	11	52	18	102	15	58	27	99
1915	3	9	1	1	0	2	2	3	0	0	0	1	0	0	0	1	10	46	16	88	12	54	21	92
1930	1	8	3	4	1	3	0	3	1	1	1	2	0	0	0	0	10	38	14	76	6	50	15	89
1945	2	9	0	4	2	3	1	3	0	1	1	3	0	0	0	0	7	38	14	62	10	43	16	79
2000	0	6	1	5	0	3	1	4	0	1	2	4	1	1	0	0	6	33	15	59	9	37	26	78
2015	2	5	0	4	0	3	0	2	0	1	1	5	0	1	0	0	8	31	14	57	3	28	13	70
2030	0	4	0	1	0	2	0	2	0	0	0	4	0	1	0	0	7	28	13	56	5	27	9	64
2045	2	4	0	1	0	0	0	1	0	0	1	4	0	1	1	1	9	30	19	61	5	22	10	58
2100	0	4	0	0	2	2	1	1	0	0	0	2	0	0	1	2	1	25	11	57	8	21	17	49
2115	0	2	0	0	1	3	1	2	0	0	0	1	0	0	0	2	8	25	12	55	1	19	3	39
2130	1	3	1	1	0	3	0	2	0	0	0	1	0	0	0	2	8	26	14	56	3	17	7	37
2145	3	4	0	1	1	4	0	2	0	0	1	1	0	0	0	1	10	27	15	52	8	20	14	41
2200	0	4	0	1	1	3	0	1	0	0	0	1	0	0	0	0	4	30	8	49	3	15	13	37
2215	0	4	0	1	0	2	0	0	0	0	0	1	0	0	0	0	5	27	8	45	3	17	7	41
2230	0	3	0	0	0	2	0	0	0	0	0	1	0	0	0	0	8	27	24	55	7	21	14	48
2245	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	8	25	8	48	2	15	5	39
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	25	4	44	5	17	14	40
2315	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	4	24	8	44	2	16	2	35
2330	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	19	3	23	5	14	11	32
2345	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	2	13	4	19	4	16	6	33
TOTAL	118	N/A	114	N/A	108	N/A	111	N/A	32	N/A	38	N/A	24	N/A	28	N/A	1,368	N/A	2,678	N/A	1,402	N/A	2,749	N/A
AM		9		11		9		12		5		3		3		3		110		220		112		225
NOON		13		14		11		12		5		6		3		3		113		193		99		184
PM		10		15		14		13		5		4		3		4		143		220		171		242
EVEN		6		5		4		4		1		5		1		2		33		61		37		78

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	10. On Road 23, just north of Avenue 12 1/2								11. On Avenue 13, between Road 22 1/2 and Road 23								12. On Road 22, between Avenue 13 1/2 and Avenue 14							
Direction	North Bound		South Bound		North Bound		South Bound		East Bound		West Bound		East Bound		West Bound		North Bound		South Bound		North Bound		South Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	2	2	5	1	1	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	2	1	4	0	1	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	2	2	0	4	0	1	0	4	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
130	1	3	0	3	1	2	1	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
145	1	4	1	2	1	2	2	5	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
200	5	9	0	1	1	3	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
215	1	8	0	1	1	4	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	0	7	0	1	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245	1	7	1	1	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	2	4	1	2	3	4	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
315	3	6	2	4	4	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	1	7	0	4	1	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
345	1	7	2	5	2	10	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	0	5	3	7	2	9	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
415	3	5	0	5	2	7	3	5	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
430	1	5	3	8	3	9	1	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
445	6	10	11	17	8	15	13	17	0	0	1	1	0	0	1	1	0	1	0	0	0	0	0	0
500	3	13	9	23	7	20	9	26	0	0	0	1	0	0	0	1	2	3	1	1	0	0	0	0
515	4	14	20	43	5	23	12	35	0	0	0	1	0	0	0	1	0	2	0	1	0	0	0	0
530	8	21	13	53	4	24	23	57	0	0	0	1	0	0	0	1	0	2	0	1	0	0	0	0
545	12	27	22	64	16	32	21	65	1	1	3	3	1	1	3	3	0	2	0	1	0	0	0	0
600	12	36	20	75	18	43	37	93	2	3	2	5	1	2	5	8	0	0	0	0	1	1	0	0
615	11	43	27	82	16	54	41	122	0	3	2	7	2	4	4	12	0	0	0	0	0	1	0	0
630	7	42	36	105	11	61	28	127	2	5	3	10	2	6	5	17	0	0	0	0	0	1	0	0
645	25	55	31	114	25	70	21	127	1	5	2	9	1	6	3	17	0	0	0	0	0	1	0	0
700	21	64	20	114	21	73	21	111	2	5	1	8	4	9	1	13	0	0	0	0	0	0	0	0
715	18	71	23	110	18	75	21	91	0	5	0	6	2	9	2	11	0	0	0	0	0	0	0	0
730	19	83	28	102	17	81	17	80	1	4	3	6	1	8	4	10	1	1	0	0	2	2	1	1
745	18	76	19	90	20	76	19	78	10	13	6	10	5	12	4	11	1	2	0	0	0	2	2	3
800	27	82	16	86	17	72	17	74	5	16	6	15	8	16	1	11	0	2	0	0	1	3	0	3
815	19	83	25	88	16	70	14	67	6	22	5	20	4	18	2	11	0	2	0	0	0	3	1	4
830	14	78	12	72	20	73	31	81	0	21	3	20	1	18	3	10	0	1	0	0	0	1	1	4
845	10	70	9	62	18	71	11	73	3	14	3	17	2	15	1	7	0	0	0	0	2	3	1	3
900	21	64	9	55	25	79	14	70	1	10	3	14	2	9	3	9	1	1	2	2	0	2	0	3
915	20	65	10	40	19	82	10	66	1	5	1	10	1	6	2	9	0	1	0	2	0	2	0	2
930	18	69	22	50	10	72	10	45	1	6	1	8	1	6	1	7	0	1	0	2	0	2	0	1
945	18	77	14	55	17	71	17	51	0	3	1	6	2	6	0	6	0	1	0	2	0	0	0	0
1000	5	61	17	63	26	72	18	55	0	2	3	6	0	4	3	6	1	1	1	1	0	0	0	0
1015	20	61	8	61	14	67	19	64	1	2	0	5	0	3	2	6	0	1	0	1	0	0	0	0
1030	15	58	10	49	16	73	12	66	0	1	2	6	1	3	2	7	0	1	0	1	0	0	0	0
1045	9	49	16	51	18	74	8	57	0	1	1	6	2	3	1	8	0	1	0	1	0	0	0	0
1100	11	55	8	42	20	68	20	59	0	1	3	6	1	4	1	6	0	0	0	0	0	0	0	0
1115	17	52	17	51	18	72	16	56	1	1	4	10	1	5	3	7	0	0	0	0	0	0	0	0
1130	24	61	10	51	19	75	26	70	2	3	2	10	3	7	0	5	0	0	0	0	0	0	0	0
1145	20	72	16	51	23	80	20	82	0	3	1	10	0	5	1	5	0	0	0	0	1	1	0	0
1200	22	83	18	61	19	79	10	72	2	5	2	9	0	4	2	6	0	0	0	0	0	1	0	0
1215	10	76	26	70	14	75	16	72	0	4	1	6	2	5	1	4	0	0	0	0	0	1	0	0
1230	13	65	11	71	14	70	18	64	4	6	3	7	0	2	1	5	0	0	0	0	0	1	1	1
1245	10	55	11	66	14	61	21	65	0	6	2	8	1	3	2	6	0	0	0	0	0	0	0	1
1300	21	54	18	66	10	52	14	69	4	8	1	7	0	3	3	7	0	0	0	0	0	0	0	1
1315	16	60	18	58	24	62	9	62	1	9	3	9	2	3	1	7	0	0	0	0	0	0	0	1
1330	18	65	18	65	16	64	9	53	2	7	1	7	0	3	1	7	0	0	0	0	1	1	0	0
1345	15	70	23	77	10	60	12	44	0	7	1	6	4	6	1	6	0	0	0	0	0	1	0	0
1400	7	56	11	70	13	63	21	51	1	4	2	7	0	6	2	5	0	0	0	0	1	2	0	0
1415	25	65	16	68	23	62	24	66	1	4	0	4	0	4	1	5	0	0	0	0	0	2	0	0
1430	21	68	17	67	28	74	16	73	2	4	1	4	2	6	0	4	0	0	0	0	0	1	0	0
1445	19	72	8	52	35	99	24	85	3	7	4	7	1	3	2	5	0	0	1	1	0	1	0	0
1500	12	77	18	59	20	106	19	83	6	12	3	8	4	7	1	4	0	0	0	1	1	1	1	1
1515	19	71	19	62	22	105	20	79	0	11	1	9	2	9	0	3	1	1	1	2	1	2	0	1
1530	30	80	17	62	38	115	13	76	1	10	2	10	1	8	3	6	3	4	2	4	3	5	4	5
1545	32	93	23	77	20	100	12	64	4	11	5	11	1	8	0	4	0	4	0	3	2	7	1	6
1600	14	95	20	79	39	119	30	75	4	9	3	11	4	8	2	5	1	5	2	5	2	8	2	7
1615	21	97	24	84	23	120	20	75	3	12	2	12	4	10	2	7	1	5	0	4	3	10	2	9
1630	30	97	19	86	37	119	32	94	2	13	2	12	2	11	4	8	2	4	1	3	1	8	1	6
1645	28	93	9	72	26	125	27	109	4	13	2	9	3	13	2	10	1	5	2	5	0	6	1	6
1700	26	105	27	79	24	110	25	104	4	13	2	8	5	14	6	14	0	4	0	3	0	4	0	4
1715	25	109	14	69	19	106	13	97	7	17	1	7	3	13	3	15	1	4	1	4	1	2	0	2
1730	20	99	20	70	17	86	17	82	4	19	1	6	1	12	2	13	1	3	0	3	0	1	0	1
1745	26	97	13	74	26	86	8	63	3	18	1	5	1	10	0	11	0	2	0	1	0	1	0	0
1800	10	81	15	62	15	77	12	50	4	18	2	5	2	7	2	7	0	2	0	1	0	1	0	0
1815	13	69	15	63	13	71	15	52	1	12	1	5	3	7	1	5	0	1	1	1	0	0	0	0
1830	8	57	9	52	14	68	10	45	1	9	0	4	3	9	2	5	1	1	0	1	0	0	0	0
1845	6	37	6	45	9	51	11	48	0	6	1	4	0	8	1	6	0	1	0	1	0	0	0	0
1900	9	36	10	40	8	44	4	40	0	2	0	2	0	6	0	4	0	1	0	1	0	0	0	0
1915	4	27	9	34	2	33	12	37	2	3	0	1	0	3	0	3	0	1	0	0	0	0	0	0
1930	7	26	9	34	9	28	3	30	0	2	1	2	2	2	0	1	0	0	0	0	0	0	0	0
1945	6	26	4	32	8	27	7	26	0	2	0	1	1	3	1	1	0	0	0	0	0	0	0	0
2000	4	21	7	29	5	24	10	32	0	2	0	1	0	3	0	1	0	0	0	0	0	0	0	0
2015	4	21	8	28	3	25	10	30	1	1	1	2	1	4	1	2	0	0	0	0	0	0	0	0
2030	6	20	5	24	2	18	7	34	0	1	0	1	0	2	1	3	0	0	0	0	0	0	0	0
2045	4	18	5	25	1	11	11	38	0	1	1	2	0	1	1	3	0	0	0	0	0	0	0	0
2100	1	15	8	26	2	8	9	37	0	1	0	2	0	1	0	3	0	0	0	0	0	0	0	0
2115	5	16	10	28	0	5	6	33	1	1	0	1	0	0	1	3	0	0	0	0	0	0	0	0
2130	4	14	8	31	3	6	3	29	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0
2145	3	13	0	26	6	11	5	23	0	1	0	0	1	1	0	1	0	0	0	0	0	0	0	0
2200	1	13	2	20	3	12	6	20	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0
2215	6	14	7	17	6	18	5	19	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
2230	2	12	6	15	2	17	4	20	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
2245	3	12	3	18	4	15	1	16	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0
2300	0	11	4	20	1	13	3	13	0	0	1	2	0	1	1	1	0	0	0	0	0	0	0	0
2315	3	8	3	16	1	8	6	14	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0
2330	3	9	1	11	3	9	2	12	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0
2345	1	7	5	13	1	6	1	12	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
TOTAL	1,049	N/A	1,094	N/A	1,156	N/A	1,156	N/A	112	N/A	118	N/A	105	N/A	112	N/A	19	N/A	15	N/A	23	N/A	19	N/A
AM		83		114		82		127		22		20		18		17		2		2		3		4
NOON		83		77		99		85		9		10		7		8		1		1		2		1
PM		109		86		125		109		19		12		14		15		5		5		10		9
EVEN		21		31		25		38		2		2		4		3		0		0		0		0

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	13. On Avenue 14, between Road 21 1/2 and Road 22								14. On Avenue 15, just west of Road 21								15. On Road 20, just N. of Avenue 15 1/2 (S. of Fresno River)							
Direction	East Bound		West Bound		East Bound		West Bound		East Bound		West Bound		East Bound		West Bound		North Bound		South Bound		North Bound		South Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	1	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	3	5	0	5	3	4	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	2	7	1	4	0	4	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	1	7	2	5	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	6	0	3	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	3	6	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	0	4	1	3	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	0	3	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	0	3	1	2	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
315	0	0	0	1	1	2	2	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	4	4	2	2	1	3	1	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
345	2	6	2	4	4	7	4	8	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0
400	4	10	5	9	0	6	0	7	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
415	1	11	5	14	6	11	7	12	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
430	4	11	6	18	6	16	4	15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
445	5	14	9	25	3	15	5	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	3	13	13	33	5	20	14	30	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
515	6	18	10	38	2	16	12	35	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
530	5	19	10	42	10	20	12	43	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	1
545	9	23	26	59	5	22	27	65	0	1	0	0	1	1	0	0	0	0	0	1	1	1	1	2
600	4	24	20	66	12	29	30	81	0	0	1	1	1	2	0	0	1	1	1	2	2	3	0	2
615	10	28	31	87	9	36	32	101	3	3	2	3	2	4	4	4	4	5	0	2	6	9	0	2
630	6	29	45	122	7	33	32	121	1	4	1	4	3	7	2	6	5	10	1	2	1	10	0	1
645	14	34	29	125	15	43	46	140	4	8	6	10	2	8	2	8	4	14	1	3	3	12	1	1
700	15	45	24	129	15	46	16	126	0	8	2	11	2	9	2	10	2	15	1	3	1	11	2	3
715	11	46	20	118	21	58	19	113	3	8	2	11	2	9	1	7	2	13	3	6	1	6	1	4
730	17	57	27	100	23	74	25	106	1	8	2	12	2	8	0	5	2	10	2	7	1	6	1	5
745	34	77	57	128	34	93	63	123	2	6	3	9	1	7	2	5	3	9	1	7	6	9	0	4
800	70	132	72	176	61	139	82	189	3	9	2	9	2	7	1	4	1	8	4	10	0	8	0	2
815	32	153	35	191	46	164	43	213	0	6	0	7	1	6	0	3	3	9	1	8	2	9	4	5
830	16	152	25	189	13	154	23	211	2	7	1	6	2	6	0	3	1	8	1	7	1	9	0	4
845	9	127	15	147	19	139	19	167	1	6	0	3	2	7	2	3	2	7	1	7	0	3	2	6
900	17	74	22	97	13	91	13	98	0	3	2	3	2	7	1	3	3	9	0	3	1	4	1	7
915	13	55	17	79	7	52	9	64	1	4	2	5	1	7	1	4	0	6	1	3	1	3	0	3
930	15	54	9	63	26	65	13	54	0	2	0	4	4	9	3	7	1	6	1	3	2	4	1	4
945	17	62	17	65	7	53	17	52	2	3	1	5	1	8	0	5	0	4	4	6	0	4	4	6
1000	16	61	13	56	17	57	9	48	2	5	0	3	1	7	2	6	0	1	1	7	3	6	6	11
1015	16	64	10	49	27	77	11	50	1	5	1	2	2	8	0	5	1	2	0	6	0	5	0	11
1030	13	62	11	51	18	69	13	50	1	6	0	2	2	6	1	3	1	2	3	8	2	5	2	12
1045	15	60	10	44	16	78	14	47	2	6	1	2	2	7	3	6	0	2	0	4	0	5	4	12
1100	13	57	18	49	14	75	12	50	5	9	7	9	0	6	2	6	0	2	0	3	1	3	1	7
1115	14	55	11	50	13	61	20	59	0	8	2	10	2	6	0	6	1	2	3	6	1	4	0	7
1130	17	59	14	53	12	55	15	61	4	11	2	12	1	5	1	6	0	1	0	3	1	3	0	5
1145	15	59	16	59	17	56	16	63	3	12	4	15	1	4	0	3	0	1	1	4	0	3	1	2
1200	17	63	18	59	13	55	13	64	0	7	0	8	2	6	1	2	2	3	3	7	0	2	1	2
1215	32	81	25	73	18	60	16	60	4	11	4	10	1	5	0	2	0	2	0	4	1	2	2	4
1230	20	84	20	79	7	55	7	52	3	10	6	14	0	4	1	2	4	6	0	4	0	1	1	5
1245	17	86	17	80	16	54	19	55	1	8	2	12	1	4	1	3	1	7	1	4	0	1	0	4
1300	13	82	15	77	12	53	22	64	3	11	1	13	1	3	3	5	1	6	2	3	0	1	1	4
1315	21	71	18	70	12	47	21	69	4	11	2	11	2	4	2	7	0	6	0	3	2	2	0	2
1330	6	57	13	63	11	51	14	76	1	9	1	6	0	4	1	7	3	5	3	6	1	3	0	1
1345	12	52	23	69	18	53	17	74	1	9	0	4	0	3	0	6	3	7	4	9	4	7	0	1
1400	16	55	12	66	3	44	14	66	1	7	1	4	2	4	6	9	3	9	3	10	1	8	3	3
1415	23	57	19	67	13	45	24	69	1	4	0	2	1	3	1	8	0	9	0	10	2	8	1	4
1430	15	66	27	81	11	45	32	87	3	6	2	3	1	4	0	7	0	6	3	10	2	9	1	5
1445	28	82	50	108	30	57	52	122	0	5	0	3	3	7	4	11	2	5	1	7	2	7	0	5
1500	76	142	22	118	74	128	34	142	2	6	2	4	1	6	2	7	0	2	2	6	2	8	0	2
1515	38	157	22	121	19	134	18	136	2	7	0	4	1	6	1	7	0	2	0	6	6	12	3	4
1530	24	166	13	107	30	153	15	119	0	4	1	3	2	7	1	8	1	3	0	3	0	10	6	9
1545	20	158	16	73	27	150	21	88	0	4	1	4	3	7	6	10	3	4	7	9	4	12	3	12
1600	17	99	26	77	34	110	18	72	3	5	4	6	1	7	0	8	1	5	5	12	1	11	2	14
1615	34	95	16	71	31	122	23	77	3	6	4	10	1	7	0	7	0	5	0	12	2	7	1	12
1630	27	98	21	79	30	122	13	75	3	9	5	14	2	7	1	7	2	6	2	14	0	7	2	8
1645	37	115	18	81	25	120	20	74	2	11	3	16	2	6	3	4	3	6	4	11	4	7	0	5
1700	37	135	18	73	35	121	21	77	2	10	1	13	2	7	0	4	2	7	1	7	0	6	0	3
1715	79	180	23	80	70	160	22	76	0	7	1	10	1	7	4	8	1	8	0	7	1	5	2	4
1730	24	177	22	81	28	158	19	82	1	5	1	6	2	7	2	9	3	9	0	5	3	8	0	2
1745	30	170	26	89	37	170	24	86	1	4	0	3	1	6	1	7	2	8	0	1	0	4	0	2
1800	20	153	18	89	21	156	15	80	2	4	2	4	1	5	0	7	0	6	0	0	0	4	0	2
1815	17	91	19	85	16	102	16	74	1	5	0	3	0	4	0	3	0	5	0	0	0	3	0	0
1830	22	89	29	92	9	83	14	69	1	5	0	2	0	2	0	1	0	2	0	0	0	0	0	0
1845	16	75	18	84	12	58	10	55	2	6	1	3	1	2	1	1	0	0	0	0	0	0	1	1
1900	13	68	11	77	19	56	11	51	1	5	0	1	0	1	0	1	0	0	0	0	0	0	1	2
1915	9	60	7	65	10	50	1	36	0	4	1	2	1	2	2	3	0	0	0	0	0	0	0	2
1930	12	50	11	47	4	45	2	24	0	3	1	3	0	2	0	3	0	0	0	0	0	0	0	2
1945	12	46	13	42	3	36	6	20	1	2	1	3	1	2	0	2	0	0	1	1	0	0	0	1
2000	20	53	6	37	2	19	2	11	0	1	0	3	1	3	1	3	0	0	0	1	0	0	0	0
2015	9	53	6	36	4	13	9	19	0	1	0	2	0	2	0	1	1	1	1	2	0	0	0	0
2030	6	47	8	33	2	11	8	25	1	2	1	2	0	2	0	1	0	1	0	2	0	0	0	0
2045	5	40	2	22	5	13	2	21	0	1	0	1	1	2	0	1	1	2	0	1	0	0	0	0
2100	2	22	4	20	1	12	3	22	1	2	0	1	0	1	1	1	0	2	0	1	0	0	0	0
2115	8	21	5	19	6	14	3	16	0	2	0	1	0	1	0	1	0	1	0	0	0	0	0	0
2130	4	19	3	14	5	17	3	11	0	1	0	0	0	1	1	2	0	1	0	0	0	0	0	0
2145	4	18	4	16	2	14	6	15	1	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0
2200	2	18	1	13	4	17	2	14	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2215	4	14	2	10	3	14	6	17	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2230	0	10	2	9	3	12	2	16	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2245	3	9	1	6	0	10	4	14	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
2300	4	11	2	7	1	7	0	12	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0
2315	0	7	1	6	1	5	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
2330	0	7	0	4	1	3	6	11	1	1	0	0	0	0	1	1	0	0	0	0	1	3	0	0
2345	2	6	2	5	2	5	0	7	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0	0
TOTAL	1,330	N/A	1,341	N/A	1,250	N/A	1,318	N/A	96	N/A	93	N/A	82	N/A	78	N/A	76	N/A	75	N/A	78	N/A	64	N/A
AM		153		191		164		213		9		12		9		10		15		10		12		7
NOON		86		108		78		122		12		15		8		11		9		10		9		12
PM		180		121		170		142		11		16		7		10		9		14		12		14
EVEN		53		37		19		25		2		3		3		3		2		2		3		0

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B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	16. On Avenue 16 1/2, just west of Road 19 1/2								17. On Road 19, just south of Avenue 17								18. On Avenue 17, just west of Road 19							
Direction	East Bound		West Bound		East Bound		West Bound		North Bound		South Bound		North Bound		South Bound		East Bound		West Bound		East Bound		West Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	1	0	0	0	2	0	1	0	1	0	0	0	1	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	0	0	0	0	0	0	0	0	1	0	2	0	2	0	1	0	1	0	0	0	1	0	0
100	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	0	1
315	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2	0	2	0	1
330	0	0	0	1	0	0	1	1	1	1	0	0	0	0	0	0	0	1	0	2	0	2	0	0
345	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	1	2	0	2	1	2	0	0
400	0	0	0	1	1	1	1	2	0	1	1	1	1	1	2	2	0	2	0	1	0	1	0	0
415	0	0	0	0	0	1	0	2	1	2	0	1	1	2	0	2	0	1	0	0	1	2	0	0
430	1	1	0	0	0	1	0	1	0	1	0	1	0	2	0	2	0	1	0	0	1	3	0	0
445	0	1	0	0	0	1	0	1	0	1	0	1	1	3	1	3	0	0	0	0	0	2	1	1
500	0	1	0	0	0	0	0	0	0	1	1	1	0	2	0	1	1	1	2	2	1	3	2	3
515	0	1	1	1	0	0	0	0	1	1	0	1	0	1	0	1	1	2	4	6	1	3	3	6
530	0	0	0	1	1	1	2	2	1	2	2	3	1	2	2	3	1	3	3	9	0	2	0	6
545	2	2	0	1	0	1	1	3	0	2	1	4	1	2	2	4	0	3	0	9	1	3	0	5
600	1	3	1	2	1	2	0	3	3	5	1	4	1	3	1	5	0	2	4	11	0	2	1	4
615	2	5	0	1	1	3	0	3	5	9	2	6	0	3	3	8	1	2	0	7	1	2	2	3
630	0	5	1	2	0	2	1	2	2	10	4	8	3	5	3	9	1	2	2	6	2	4	3	6
645	0	3	0	2	1	3	0	1	4	14	5	12	2	6	2	9	3	5	3	9	4	7	4	10
700	1	3	0	1	0	2	1	2	4	15	0	11	3	8	2	10	2	7	2	7	3	10	2	11
715	0	1	1	2	2	3	1	3	7	17	3	12	1	9	2	9	3	9	3	10	2	11	3	12
730	1	2	0	1	0	3	0	2	5	20	4	12	15	21	2	8	2	10	1	9	3	12	2	11
745	0	2	1	2	2	4	2	4	4	20	2	9	3	22	3	9	4	11	3	9	2	10	2	9
800	1	2	0	2	0	4	1	4	5	21	1	10	10	29	2	9	2	11	1	8	2	9	4	11
815	1	3	0	1	0	2	0	3	3	17	4	11	5	33	5	12	2	10	3	8	3	10	2	10
830	2	4	1	2	3	5	1	4	5	17	3	10	6	24	1	11	6	14	4	11	1	8	2	10
845	0	4	2	3	2	5	2	4	3	16	4	12	2	23	3	11	3	13	4	12	0	6	0	8
900	0	3	0	3	0	5	1	4	3	14	2	13	4	17	2	11	0	11	1	12	2	6	1	5
915	0	2	1	4	0	5	1	5	0	11	3	12	3	15	3	9	2	11	2	11	3	6	1	4
930	0	0	0	3	1	3	0	4	2	8	1	10	6	15	3	11	3	8	2	9	1	6	2	4
945	0	0	0	1	1	2	1	3	4	9	2	8	4	17	1	9	0	5	0	5	1	7	0	4
1000	0	0	1	2	1	3	1	3	9	15	3	9	4	17	3	10	3	8	2	6	2	7	3	6
1015	0	0	2	3	0	3	0	2	1	16	2	8	4	18	2	9	1	7	0	4	2	6	1	6
1030	1	1	0	3	1	3	0	2	3	17	2	9	3	15	2	8	0	4	1	3	1	6	0	4
1045	0	1	1	4	0	2	2	3	1	14	3	10	3	14	3	10	1	5	1	4	1	6	2	6
1100	0	1	1	4	0	1	1	3	8	13	2	9	3	13	5	12	2	4	1	3	1	5	0	3
1115	1	2	0	2	1	2	0	3	3	15	3	10	3	12	6	16	1	4	1	4	2	5	2	4
1130	0	1	1	3	1	2	1	4	0	12	1	9	3	12	3	17	2	6	3	6	2	6	2	6
1145	1	2	0	2	0	2	0	2	5	16	3	9	5	14	4	18	3	8	3	8	2	7	3	7
1200	0	2	1	2	0	2	1	2	5	13	2	9	5	16	6	19	1	7	1	8	2	8	1	8
1215	0	1	0	2	0	1	0	2	2	12	2	8	2	15	3	16	2	8	3	10	2	8	3	9
1230	0	1	2	3	1	1	0	1	2	14	3	10	2	14	5	18	3	9	2	9	3	9	1	8
1245	0	0	1	4	0	1	0	1	2	11	1	8	5	14	4	18	2	8	3	9	2	9	2	7
1300	2	2	0	3	1	2	0	0	3	9	3	9	6	15	6	18	1	8	2	10	3	10	2	8
1315	0	2	0	3	0	2	0	0	3	10	2	9	0	13	3	18	1	7	1	8	1	9	1	6
1330	2	4	1	2	2	3	1	1	2	10	2	8	3	14	3	16	3	7	4	10	2	8	3	8
1345	0	4	2	3	1	4	1	2	5	13	3	10	2	11	5	17	4	9	2	9	5	11	4	10
1400	1	3	0	3	0	3	0	2	3	13	6	13	2	7	1	12	1	9	0	7	1	9	0	8
1415	0	3	0	3	0	3	0	2	2	12	2	13	1	8	3	12	3	11	4	10	2	10	1	8
1430	1	2	1	3	0	1	1	2	3	13	2	13	3	8	4	13	2	10	1	7	1	9	2	7
1445	0	2	0	1	0	0	1	2	2	10	5	15	1	7	3	11	2	8	1	6	3	7	4	7
1500	1	2	0	1	0	0	0	2	5	12	7	16	5	10	6	16	1	8	2	8	2	8	1	8
1515	0	2	0	1	3	3	1	3	1	11	2	16	3	12	3	16	2	7	2	6	3	9	3	10
1530	0	1	1	1	3	6	2	4	2	10	1	15	3	12	4	16	3	8	4	9	1	9	1	9
1545	1	2	0	1	0	6	0	3	4	12	3	13	3	14	1	14	4	10	2	10	2	8	2	7
1600	0	1	1	2	0	6	1	4	2	9	5	11	2	11	4	12	1	10	0	8	2	8	4	10
1615	3	4	0	2	0	3	0	3	4	12	4	13	5	13	5	14	2	10	1	7	2	7	1	8
1630	0	4	1	2	0	0	0	1	1	11	6	18	6	16	6	16	1	8	1	4	3	9	4	11
1645	0	3	1	3	0	0	0	1	2	9	5	20	3	16	5	20	5	9	7	9	4	11	3	12
1700	0	3	0	2	1	1	1	1	3	10	1	16	4	18	6	22	3	11	6	15	4	13	5	13
1715	1	1	1	3	0	1	0	1	2	8	2	14	3	16	2	19	4	13	3	17	2	13	5	17
1730	0	1	0	2	0	1	0	1	3	10	2	10	2	12	2	15	5	17	5	21	2	12	2	15
1745	0	1	1	2	0	1	0	1	4	12	5	10	5	14	3	13	3	15	3	17	1	9	3	15
1800	1	2	0	2	2	2	2	2	1	10	4	13	4	14	1	8	1	13	0	11	2	7	2	12
1815	1	2	0	1	0	2	1	3	1	9	3	14	1	12	4	10	1	10	1	9	1	6	2	9
1830	0	2	1	2	0	2	1	4	2	8	1	13	2	12	5	13	1	6	3	7	2	6	5	12
1845	0	2	0	1	0	2	1	5	3	7	2	10	2	9	2	12	1	4	3	7	2	7	3	12
1900	0	1	0	1	0	0	0	3	2	8	2	8	1	6	2	13	2	5	1	8	0	5	1	11
1915	0	0	0	1	0	0	0	2	2	9	1	6	1	6	0	9	1	5	2	9	1	5	1	10
1930	0	0	0	0	0	0	0	1	1	8	1	6	0	4	1	5	1	5	1	7	1	4	0	5
1945	0	0	1	1	0	0	0	0	0	5	0	4	0	2	1	4	2	6	1	5	1	3	2	4
2000	0	0	0	1	0	0	0	0	1	4	0	2	1	2	1	3	3	7	2	6	2	5	0	3
2015	0	0	0	1	0	0	0	0	0	2	2	3	1	2	1	4	1	7	1	5	1	5	0	2
2030	0	0	0	1	0	0	0	0	0	1	0	2	2	4	3	6	0	6	0	4	1	5	2	4
2045	0	0	0	0	0	0	0	0	0	1	1	3	0	4	2	7	0	4	0	3	0	4	2	4
2100	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	6	1	2	1	2	2	4	1	5
2115	0	0	0	0	0	0	0	0	0	0	1	2	3	5	0	5	1	2	1	2	1	4	1	6
2130	0	0	0	0	0	0	0	0	0	0	1	3	1	4	1	3	1	3	0	2	0	3	0	4
2145	0	0	0	0	0	0	0	0	0	0	1	3	0	4	0	1	1	4	1	3	0	3	0	2
2200	0	0	0	0	0	0	0	0	1	1	0	3	0	4	0	1	2	5	3	5	1	2	1	2
2215	0	0	0	0	0	0	0	0	1	2	1	3	0	1	0	1	1	5	1	5	1	2	0	1
2230	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	1	0	4	0	5	0	2	0	1
2245	0	0	0	0	0	0	0	0	0	2	1	2	0	0	0	1	1	4	0	4	1	3	0	1
2300	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	1	0	2	0	1	1	3	1	1
2315	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	2	0	1	0	0	0	2	0	1
2330	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	2	1	1	0	2	0	1
2345	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0	1	0	1	1	2	0	1
TOTAL	29	N/A	32	N/A	34	N/A	37	N/A	176	N/A	167	N/A	198	N/A	193	N/A	136	N/A	141	N/A	129	N/A	133	N/A
AM		5		4		5		5		21		13		33		12		14		12		12		12
NOON		4		4		4		4		17		15		18		19		11		10		11		10
PM		4		3		6		5		12		20		18		22		17		21		13		17
EVEN		0		1		0		0		4		3		5		7		7		6		5		6

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	19. On Road 18 1/2, just south of Avenue 17 1/2								20. On Avenue 17 1/2, just west of Road 18 1/2								21. On Avenue 18, just west of Road 18							
Direction	North Bound		South Bound		North Bound		South Bound		East Bound		West Bound		East Bound		West Bound		East Bound		West Bound		East Bound		West Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0
330	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	2	0	0
345	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	0	0
400	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	0	0
415	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0	0	1	1	0	0
430	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
445	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0
500	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	1	0	1	0	0
515	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	1	1	1	0	1	0	0	0	0
530	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	1	1	2	0	1	2	2	0	0
545	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	3	1	2	0	2	1	1
600	0	0	0	0	0	0	0	0	1	2	0	0	1	2	2	3	0	3	0	1	0	2	0	1
615	0	0	0	0	0	0	0	0	0	1	0	0	1	3	1	3	0	2	1	2	1	3	1	2
630	0	0	0	0	0	0	0	0	1	2	3	3	1	3	1	4	2	3	1	3	2	3	0	2
645	1	1	2	2	0	0	0	0	1	3	2	5	0	3	0	4	1	3	1	3	1	4	1	2
700	0	1	0	2	0	0	0	0	0	2	0	5	0	2	0	2	1	4	1	4	1	5	0	2
715	0	1	0	2	0	0	0	0	0	2	1	6	2	3	3	4	1	5	3	6	0	4	4	5
730	0	1	0	2	0	0	0	0	2	3	1	4	0	2	0	3	2	5	2	7	0	2	3	8
745	0	0	0	0	0	0	0	0	0	2	1	3	0	2	1	4	1	5	0	6	1	2	1	8
800	0	0	0	0	0	0	0	0	1	3	2	5	2	4	3	7	1	5	0	5	1	2	0	8
815	1	1	2	2	0	0	0	0	2	5	2	6	0	2	1	5	1	5	0	2	1	3	0	4
830	0	1	0	2	0	0	0	0	0	3	0	5	0	2	0	5	1	4	1	1	2	5	2	3
845	0	1	2	4	0	0	0	0	1	4	1	5	1	3	3	7	0	3	0	1	1	5	2	4
900	0	1	0	4	0	0	0	0	1	4	1	4	1	2	2	6	0	2	1	2	1	5	0	4
915	0	0	0	2	0	0	0	0	0	2	0	2	1	3	1	6	0	1	1	3	2	6	0	4
930	0	0	0	2	0	0	0	0	1	3	0	2	0	3	0	6	1	1	0	2	2	6	0	2
945	0	0	0	0	0	0	0	0	1	3	0	1	2	4	1	4	2	3	0	2	0	5	1	1
1000	0	0	0	0	1	1	2	2	0	2	0	0	0	3	1	3	1	4	4	5	1	5	1	2
1015	0	0	0	0	0	1	2	4	0	2	0	0	1	3	2	4	1	5	0	4	1	4	1	3
1030	0	0	0	0	0	1	0	4	0	1	0	0	0	3	0	4	0	4	2	6	0	2	0	3
1045	0	0	0	0	0	1	0	4	1	1	0	0	1	2	0	3	2	4	0	6	0	2	0	2
1100	0	0	0	0	0	0	0	2	1	2	0	0	1	3	2	4	1	4	0	2	1	2	1	2
1115	0	0	0	0	0	0	0	0	1	3	2	2	0	2	1	3	0	3	0	2	0	1	1	2
1130	0	0	0	0	0	0	0	0	1	4	0	2	0	2	0	3	0	3	0	0	0	1	1	3
1145	0	0	0	0	1	1	2	2	0	3	1	3	0	1	0	3	0	1	0	0	0	1	1	4
1200	0	0	0	0	0	1	0	2	0	2	0	3	1	1	0	1	1	1	0	0	1	1	0	3
1215	0	0	0	0	0	1	0	2	0	1	0	1	1	2	0	0	0	1	0	0	3	4	0	2
1230	0	0	0	0	0	1	0	2	0	0	0	1	1	3	0	0	0	1	0	0	1	5	1	2
1245	0	0	1	1	0	0	0	0	0	0	0	0	1	4	1	1	1	2	1	1	1	6	1	2
1300	0	0	0	1	0	0	0	0	1	1	0	0	0	3	0	1	0	1	0	1	0	5	2	4
1315	0	0	0	1	0	0	0	0	1	2	3	3	0	2	0	1	1	2	0	1	0	2	0	4
1330	0	0	0	1	0	0	0	0	0	2	0	3	0	1	0	1	1	3	1	2	2	3	1	4
1345	0	0	0	0	0	0	0	0	1	3	1	4	1	1	0	0	2	4	0	1	2	4	1	4
1400	0	0	0	0	0	0	0	0	0	2	0	4	0	1	0	0	1	5	1	2	1	5	3	5
1415	0	0	0	0	0	0	0	0	1	2	2	3	1	2	0	0	1	5	1	3	1	6	2	7
1430	0	0	0	0	0	0	0	0	0	2	1	4	0	2	0	0	2	6	0	2	2	6	1	7
1445	0	0	0	0	0	0	0	0	1	2	0	3	1	2	1	1	2	6	1	3	0	4	1	7
1500	0	0	0	0	0	0	0	0	0	2	0	3	0	2	0	1	0	5	2	4	1	4	0	4
1515	0	0	0	0	0	0	0	0	1	2	1	2	0	1	0	1	0	4	1	4	1	4	1	3
1530	0	0	0	0	0	0	0	0	0	2	0	1	1	2	2	3	1	3	1	5	0	2	0	2
1545	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	2	2	3	2	6	2	4	2	3
1600	0	0	0	0	0	0	0	0	1	2	0	1	1	2	0	2	1	4	0	4	1	4	0	3
1615	2	2	1	1	0	0	0	0	2	3	3	3	0	2	0	2	3	7	1	4	1	4	1	3
1630	0	2	0	1	0	0	0	0	1	4	1	4	1	2	0	0	1	7	2	5	2	6	4	7
1645	0	2	0	1	0	0	0	0	1	5	2	6	2	4	3	3	1	6	0	3	2	6	1	6
1700	0	2	0	1	0	0	0	0	1	5	2	8	0	3	1	4	1	6	3	6	1	6	1	7
1715	0	0	0	0	0	0	0	0	1	4	0	5	1	4	0	4	0	3	5	10	1	6	1	7
1730	0	0	0	0	0	0	0	0	1	4	1	5	0	3	0	4	2	4	2	10	1	5	3	6
1745	0	0	0	0	0	0	0	0	0	3	1	4	1	2	0	1	2	5	0	10	0	3	0	5
1800	0	0	0	0	0	0	0	0	0	2	0	2	1	3	0	0	0	4	0	7	1	3	2	6
1815	0	0	0	0	0	0	0	0	1	2	1	3	0	2	0	0	1	5	0	2	1	3	0	5
1830	0	0	0	0	0	0	0	0	0	1	0	2	0	2	0	0	0	3	0	0	1	3	1	3
1845	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0	3	0	3
1900	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	1	0	0	0	2	0	1
1915	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1
1930	0	0	0	0	0	0	0	0	0	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	0	0	2	2	0	0
2030	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0
2045	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	1	1
2100	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	1	0	0	0	2	0	1
2115	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
2130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
2145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
2215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1
2230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
2245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
2315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	4	N/A	8	N/A	2	N/A	6	N/A	36	N/A	38	N/A	35	N/A	34	N/A	51	N/A	45	N/A	57	N/A	54	N/A
AM		1		4		0		0		5		6		4		7		5		7		6		8
NOON		0		1		1		4		4		4		4		4		6		6		6		7
PM		2		1		0		0		5		8		4		4		7		10		6		7
EVEN		0		0		0		0		2		1		1		0		1		1		2		1

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	22. On Road 17 1/2, just south of Avenue 18 1/2								23. On Avenue 18 1/2, just west of Road 17 1/2								24. On Road 17, just south of Avenue 19							
Direction	North Bound		South Bound		North Bound		South Bound		East Bound		West Bound		East Bound		West Bound		North Bound		South Bound		North Bound		South Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0
1245	0	0	0	0	0	0	0	0	3	4	0	4	1	7	2	3	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	4	0	2	0	6	0	3	0	0	0	0	0	0	0	0
115	1	1	0	0	0	0	0	0	0	3	1	3	1	3	0	3	0	0	0	0	0	0	0	0
130	0	1	0	0	0	0	0	0	1	4	1	2	1	3	1	3	0	0	0	0	0	0	0	0
145	0	1	0	0	0	0	0	0	3	4	0	2	0	2	0	1	0	0	0	0	0	0	0	0
200	0	1	0	0	0	0	0	0	0	4	0	2	0	2	0	1	0	0	0	0	0	0	0	0
215	0	0	0	0	0	0	0	0	0	4	1	2	0	1	0	1	0	0	0	0	0	0	0	0
230	0	0	0	0	0	0	0	0	1	4	1	2	0	0	0	0	0	0	0	0	0	0	0	0
245	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
315	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
345	0	0	0	0	0	0	0	0	0	0	2	2	1	2	1	1	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	0	0	1	3	0	2	0	1	0	0	0	0	0	0	0	0
415	0	0	0	0	0	0	0	0	1	1	2	5	0	2	2	3	0	0	0	0	0	0	0	0
430	1	1	0	0	1	1	0	0	0	1	2	7	1	2	2	5	0	0	0	0	0	0	0	0
445	0	1	0	0	0	1	0	0	1	2	6	11	3	4	3	7	0	0	0	0	0	0	0	0
500	0	1	0	0	0	1	0	0	4	6	1	11	1	5	3	10	0	0	0	0	0	0	0	0
515	0	1	0	0	1	2	0	0	0	5	3	12	3	8	6	14	0	0	0	0	1	1	0	0
530	0	0	0	0	0	1	0	0	3	8	8	18	2	9	7	19	0	0	1	1	1	2	0	0
545	0	0	0	0	0	1	0	0	4	11	6	18	7	13	11	27	1	1	1	2	2	4	0	0
600	1	1	0	0	0	1	0	0	4	11	17	34	6	18	18	42	1	2	3	5	2	6	2	2
615	0	1	0	0	0	0	0	0	5	16	9	40	4	19	16	52	2	4	0	5	1	6	1	3
630	0	1	0	0	1	1	0	0	6	19	19	51	5	22	11	56	1	5	2	6	1	6	3	6
645	2	3	2	2	0	1	1	1	6	21	10	55	7	22	13	58	1	5	1	6	1	5	1	7
700	0	2	0	2	0	1	0	1	3	20	14	52	9	25	9	49	2	6	3	6	2	5	0	5
715	1	3	1	3	1	2	0	1	5	20	13	56	2	23	8	41	0	4	3	9	0	4	1	5
730	1	4	0	3	0	1	0	1	7	21	11	48	6	24	5	35	2	5	2	9	1	4	1	3
745	2	4	2	3	3	4	0	0	6	21	9	47	8	25	10	32	1	5	1	9	0	3	0	2
800	2	6	1	4	0	4	1	1	6	24	12	45	4	20	6	29	0	3	3	9	0	1	1	3
815	0	5	0	3	0	3	0	1	6	25	10	42	10	28	5	26	1	4	2	8	1	2	0	2
830	0	4	0	3	0	3	1	2	14	32	8	39	9	31	6	27	1	3	1	7	1	2	0	1
845	0	2	0	1	0	0	1	3	3	29	7	37	8	31	6	23	0	2	0	6	0	2	0	1
900	0	0	0	0	1	1	1	3	7	30	12	37	10	37	9	26	0	2	2	5	1	3	1	1
915	2	2	0	0	0	1	0	3	7	31	15	42	7	34	6	27	1	2	1	4	1	3	0	1
930	3	5	1	1	1	2	0	2	13	30	12	46	8	33	8	29	2	3	3	6	1	3	0	1
945	0	5	0	1	1	3	0	1	7	34	6	45	5	30	8	31	1	4	3	9	0	3	0	1
1000	1	6	0	1	0	2	0	0	16	43	7	40	9	29	17	39	0	4	0	7	1	3	3	3
1015	1	5	0	1	1	3	0	0	4	40	10	35	4	26	8	41	1	4	1	7	0	2	0	3
1030	0	2	1	1	0	2	1	1	13	40	8	31	12	30	16	49	0	2	0	4	1	2	2	5
1045	0	2	0	1	0	1	0	1	5	38	8	33	4	29	3	44	1	2	0	1	1	3	0	5
1100	0	1	1	2	0	1	0	1	10	32	5	31	18	38	5	32	0	2	0	1	1	3	2	4
1115	0	0	0	2	0	0	2	3	5	33	11	32	2	36	3	27	0	1	0	0	0	3	0	4
1130	0	0	1	2	2	2	0	2	4	24	9	33	9	33	8	19	0	1	0	0	1	3	0	2
1145	0	0	0	2	0	2	0	2	10	29	8	33	11	40	8	24	1	1	1	1	1	3	0	2
1200	0	0	0	1	0	2	0	2	3	22	8	36	6	28	3	22	1	2	0	1	1	3	0	0
1215	0	0	1	2	1	3	1	1	21	38	10	35	8	34	14	33	1	3	2	3	2	5	1	1
1230	1	1	0	1	1	2	0	1	7	41	9	35	9	34	10	35	0	3	1	4	2	6	3	4
1245	0	1	0	1	0	2	2	3	6	37	14	41	9	32	6	33	1	3	1	4	2	7	1	5
1300	0	1	0	1	3	5	0	3	9	43	6	39	10	36	10	40	2	4	2	6	1	7	3	8
1315	0	1	0	0	1	5	2	4	4	26	4	33	16	44	10	36	0	3	1	5	2	7	1	8
1330	0	0	2	2	2	6	0	4	6	25	8	32	5	40	4	30	3	6	1	5	1	6	1	6
1345	2	2	0	2	0	6	1	3	10	29	8	26	10	41	3	27	1	6	0	4	1	5	4	9
1400	1	3	1	3	0	3	0	3	7	27	8	28	7	38	4	21	1	5	2	4	0	4	1	7
1415	0	3	0	3	1	3	1	2	9	32	7	31	8	30	8	19	1	6	0	3	0	2	1	7
1430	0	3	2	3	1	2	1	3	11	37	6	29	7	32	14	29	0	3	0	2	1	2	0	6
1445	0	1	0	3	0	2	0	2	6	33	7	28	4	26	7	33	0	2	1	3	2	3	1	3
1500	0	0	1	3	1	3	1	3	3	29	9	29	5	24	6	35	1	2	1	2	1	4	1	3
1515	1	1	1	4	0	2	1	3	7	27	10	32	6	22	8	35	0	1	0	2	0	4	0	2
1530	0	1	0	2	0	1	3	5	8	24	9	35	8	23	8	29	1	2	0	2	1	4	0	2
1545	1	2	1	3	1	2	2	7	16	34	9	37	24	43	8	30	3	5	1	2	0	2	1	2
1600	0	2	0	2	4	5	0	6	10	41	5	33	7	45	2	26	0	4	0	1	3	4	1	2
1615	0	1	1	2	0	5	1	6	12	46	7	30	13	52	13	31	4	8	3	4	1	5	1	3
1630	0	1	2	4	0	5	0	3	18	56	6	27	14	58	7	30	1	8	0	4	2	6	1	4
1645	0	0	0	3	0	4	0	1	30	70	8	26	16	50	7	29	3	8	1	4	0	6	0	3
1700	0	0	1	4	0	0	2	3	18	78	16	37	17	60	17	44	2	10	0	4	3	6	1	3
1715	0	0	1	4	0	0	0	2	15	81	9	39	11	58	8	39	1	7	2	3	1	6	1	3
1730	1	1	0	2	1	1	1	3	10	73	11	44	10	54	10	42	2	8	0	3	0	4	2	4
1745	0	1	0	2	3	4	2	5	2	45	8	44	8	46	15	50	1	6	3	5	1	5	1	5
1800	0	1	0	1	1	5	0	3	14	41	9	37	8	37	3	36	3	7	0	5	0	2	0	4
1815	0	1	0	0	0	5	1	4	9	35	12	40	6	32	3	31	2	8	3	6	0	1	0	3
1830	0	0	0	0	0	4	0	3	4	29	8	37	8	30	11	32	1	7	2	8	1	2	2	3
1845	0	0	0	0	0	1	0	1	2	29	4	33	3	25	7	24	0	6	0	5	0	1	1	3
1900	0	0	0	0	0	0	1	2	3	18	8	32	1	18	5	26	1	4	0	5	1	2	1	4
1915	0	0	0	0	0	0	0	1	7	16	6	26	6	18	4	27	3	5	1	3	0	2	0	4
1930	0	0	0	0	0	0	0	1	1	13	2	20	1	11	2	18	1	5	0	1	0	1	1	3
1945	0	0	0	0	0	0	0	1	3	14	3	19	6	14	2	13	2	7	2	3	2	3	0	2
2000	0	0	0	0	0	0	0	0	3	14	1	12	3	16	2	10	0	6	0	3	0	2	0	1
2015	0	0	0	0	1	1	0	0	0	7	6	12	3	13	4	10	0	3	1	3	0	2	1	2
2030	0	0	0	0	0	1	0	0	1	7	4	14	2	14	1	9	1	3	0	3	0	2	0	1
2045	0	0	0	0	0	1	0	0	5	9	4	15	2	10	7	14	0	1	0	1	0	0	0	1
2100	0	0	0	0	0	1	0	0	7	13	3	17	2	9	5	17	1	2	0	1	0	0	0	1
2115	0	0	0	0	0	0	0	0	0	13	1	12	0	6	3	16	0	2	0	0	0	0	0	0
2130	0	0	0	0	0	0	0	0	3	15	1	9	0	4	2	17	1	2	1	1	0	0	0	0
2145	0	0	0	0	0	0	0	0	1	11	4	9	1	3	2	12	0	2	0	1	0	0	0	0
2200	0	0	0	0	0	0	0	0	2	6	3	9	0	1	0	7	2	3	0	1	0	0	0	0
2215	0	0	0	0	0	0	0	0	1	7	1	9	0	1	1	5	0	3	0	1	0	0	0	0
2230	0	0	0	0	0	0	0	0	0	4	1	9	0	1	3	6	0	2	0	0	0	0	0	0
2245	0	0	0	0	2	2	0	0	1	4	4	9	2	2	4	8	0	2	0	0	1	1	1	1
2300	0	0	0	0	0	2	0	0	0	2	2	8	1	3	1	9	0	0	0	0	0	1	0	1
2315	0	0	0	0	0	2	0	0	0	1	2	9	0	3	1	9	0	0	0	0	0	1	0	1
2330	0	0	0	0	0	2	0	0	0	1	1	9	0	3	2	8	0	0	0	0	0	1	0	1
2345	0	0	0	0	0	0	0	0	0	0	4	9	0	1	2	6	0	0	0	0	0	0	0	0
TOTAL	25	N/A	24	N/A	37	N/A	31	N/A	509	N/A	585	N/A	498	N/A	530	N/A	68	N/A	66	N/A	56	N/A	52	N/A
AM		6		4		4		3		34		56		37		58		6		9		6		7
NOON		6		3		6		4		43		41		44		49		6		7		7		9
PM		2		4		5		7		81		44		60		50		10		8		6		5
EVEN		0		0		2		0		15		17		16		17		6		3		2		2

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B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	25. On Road 16, just south of Avenue 20								26. On Avenue 20, just west of Road 16								27. On Avenue 20 1/2, just east of Road 15 1/2							
Direction	North Bound		South Bound		North Bound		South Bound		East Bound		West Bound		East Bound		West Bound		East Bound		West Bound		East Bound		West Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	0	0	1	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	1	1	0	0	0	2	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	1	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	1	0	1	1	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	0	0	2	3	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	0	0	0	3	1	2	2	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	0	0	1	3	0	2	0	3	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0
245	0	0	0	3	0	1	1	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
300	0	0	1	2	0	1	0	3	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0
315	1	1	0	2	1	1	1	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	2
330	1	2	1	2	3	4	1	3	0	0	1	1	5	6	2	2	0	0	0	0	0	0	0	2
345	1	3	0	2	0	4	0	2	0	0	0	1	0	6	1	3	0	0	0	0	0	0	0	2
400	1	4	1	2	2	6	1	3	0	0	1	2	0	5	0	3	0	0	0	0	0	0	0	2
415	1	4	0	2	0	5	0	2	0	0	0	2	0	5	0	3	0	0	0	0	0	0	0	0
430	0	3	1	2	2	4	1	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
445	1	3	0	2	2	6	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
500	0	2	4	5	1	5	3	4	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0
515	3	4	4	9	0	5	4	8	0	0	0	0	0	1	1	3	0	0	0	0	0	0	0	0
530	0	4	2	10	2	5	4	11	0	0	0	0	0	1	1	4	0	0	0	0	0	0	0	0
545	2	5	3	13	0	3	6	17	1	1	1	1	4	5	5	9	0	0	0	0	0	0	0	0
600	2	7	1	10	1	3	2	16	0	1	1	2	1	5	1	8	0	0	0	0	0	0	0	0
615	3	7	6	12	2	5	5	17	1	2	1	3	1	6	0	7	0	0	0	0	0	0	0	0
630	0	7	3	13	1	4	3	16	2	4	0	3	0	6	0	6	0	0	0	0	0	0	0	0
645	1	6	3	13	5	9	7	17	1	4	2	4	1	3	0	1	0	0	0	0	0	0	0	0
700	2	6	5	17	4	12	8	23	0	4	1	4	4	6	1	1	0	0	0	0	0	0	0	0
715	2	5	5	16	4	14	5	23	0	3	1	4	1	6	0	1	0	0	0	0	0	0	0	0
730	5	10	4	17	7	20	1	21	2	3	3	7	3	9	1	2	0	0	0	0	0	0	0	0
745	7	16	6	20	3	18	4	18	0	2	1	6	1	9	1	3	0	0	0	0	0	0	0	0
800	3	17	5	20	9	23	6	16	4	6	2	7	4	9	1	3	0	0	0	0	0	0	0	0
815	5	20	5	20	4	23	2	13	4	10	6	12	2	10	0	3	0	0	0	0	0	0	0	0
830	6	21	2	18	4	20	1	13	3	11	3	12	1	8	5	7	0	0	0	0	0	0	0	0
845	2	16	4	16	3	20	6	15	3	14	3	14	0	7	4	10	0	0	1	1	0	0	0	0
900	4	17	3	14	4	15	0	9	5	15	5	17	0	3	0	9	0	0	0	1	0	0	0	0
915	11	23	3	12	5	16	7	14	5	16	4	15	4	5	2	11	0	0	0	1	0	0	0	0
930	7	24	7	17	3	15	7	20	4	17	1	13	2	6	2	8	2	2	1	2	0	0	0	0
945	6	28	6	19	6	18	6	20	4	18	0	10	3	9	1	5	0	2	0	1	0	0	0	0
1000	6	30	6	22	7	21	2	22	3	16	2	7	3	12	4	9	1	3	0	1	0	0	0	0
1015	2	21	6	25	2	18	7	22	5	16	2	5	6	14	3	10	0	3	0	1	0	0	0	0
1030	6	20	3	21	6	21	5	20	0	12	1	5	5	17	2	10	0	1	0	0	0	0	0	0
1045	5	19	4	19	9	24	6	20	3	11	5	10	3	17	4	13	0	1	0	0	0	0	0	0
1100	8	21	4	17	11	28	4	22	1	9	0	8	3	17	2	11	0	0	0	0	0	0	0	0
1115	8	27	3	14	5	31	4	19	4	8	1	7	0	11	4	12	1	1	0	0	0	0	0	0
1130	4	25	3	14	5	30	2	16	0	8	7	13	4	10	1	11	1	2	1	1	0	0	0	0
1145	9	29	6	16	4	25	7	17	0	5	5	13	4	11	1	8	0	2	0	1	0	0	0	0
1200	3	24	4	16	7	21	7	20	0	4	3	16	0	8	3	9	0	2	0	1	0	0	0	0
1215	5	21	3	16	2	18	5	21	3	3	1	16	4	12	2	7	1	2	1	2	0	0	0	0
1230	3	20	6	19	7	20	5	24	5	8	1	10	0	8	0	6	1	2	0	1	0	0	0	0
1245	6	17	8	21	8	24	4	21	3	11	4	9	3	7	0	5	0	2	0	1	0	0	0	0
1300	1	15	4	21	6	23	4	18	1	12	0	6	2	9	1	3	0	2	0	1	1	1	0	0
1315	11	21	4	22	2	23	5	18	2	11	1	6	0	5	3	4	0	1	0	0	0	1	0	0
1330	4	22	4	20	6	22	8	21	3	9	1	6	0	5	2	6	0	0	0	0	0	1	1	1
1345	3	19	6	18	2	16	9	26	2	8	1	3	3	5	2	8	0	0	0	0	0	1	0	1
1400	6	24	8	22	4	14	6	28	1	8	4	7	1	4	4	11	1	1	1	1	0	0	0	1
1415	7	20	9	27	4	16	1	24	0	6	6	12	1	5	3	11	0	1	0	1	0	0	1	2
1430	6	22	7	30	6	16	9	25	5	8	4	15	4	9	1	10	0	1	0	1	0	0	0	1
1445	4	23	8	32	1	15	0	16	3	9	1	15	0	6	1	9	2	3	0	1	0	0	0	1
1500	4	21	7	31	5	16	4	14	2	10	6	17	1	6	1	6	0	2	0	0	0	0	0	1
1515	5	19	5	27	6	18	6	19	4	14	0	11	3	8	2	5	0	2	1	1	0	0	0	0
1530	2	15	7	27	10	22	4	14	7	16	0	7	3	7	1	5	0	2	0	1	0	0	0	0
1545	2	13	4	23	1	22	6	20	1	14	1	7	2	9	3	7	0	0	0	1	0	0	0	0
1600	9	18	6	22	5	22	5	21	4	16	1	2	3	11	4	10	0	0	0	1	1	1	1	1
1615	10	23	5	22	7	23	6	21	2	14	6	8	0	8	0	8	0	0	0	0	0	1	1	2
1630	9	30	6	21	8	21	6	23	8	15	6	14	3	8	1	8	0	0	0	0	0	1	0	2
1645	6	34	6	23	7	27	6	23	5	19	2	15	1	7	5	10	0	0	0	0	0	1	0	2
1700	5	30	5	22	5	27	4	22	1	16	1	15	2	6	1	7	0	0	0	0	0	0	0	1
1715	12	32	6	23	13	33	8	24	4	18	2	11	3	9	5	12	0	0	0	0	0	0	0	0
1730	9	32	5	22	9	34	3	21	2	12	5	10	2	8	2	13	0	0	0	0	0	0	0	0
1745	7	33	6	22	8	35	4	19	1	8	2	10	3	10	2	10	0	0	0	0	0	0	0	0
1800	6	34	2	19	2	32	5	20	4	11	1	10	1	9	0	9	0	0	0	0	0	0	0	0
1815	1	23	6	19	5	24	3	15	2	9	1	9	0	6	1	5	0	0	0	0	1	1	0	0
1830	5	19	3	17	3	18	4	16	0	7	1	5	2	6	2	5	0	0	0	0	0	1	0	0
1845	4	16	1	12	6	16	6	18	0	6	1	4	0	3	0	3	0	0	0	0	0	1	0	0
1900	2	12	3	13	3	17	3	16	0	2	0	3	1	3	0	3	0	0	0	0	0	1	0	0
1915	2	13	1	8	5	17	2	15	0	0	3	5	0	3	2	4	0	0	0	0	0	0	0	0
1930	1	9	5	10	0	14	3	14	0	0	0	4	0	1	0	2	0	0	0	0	0	0	1	1
1945	1	6	4	13	0	8	2	10	1	1	0	3	0	1	0	2	0	0	0	0	0	0	0	1
2000	0	4	1	11	1	6	2	9	0	1	1	4	0	0	0	2	0	0	0	0	0	0	0	1
2015	0	2	1	11	2	3	4	11	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2030	2	3	1	7	0	3	3	11	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0
2045	1	3	0	3	1	4	4	13	0	0	1	3	0	0	1	1	0	0	0	0	0	0	0	0
2100	0	3	5	7	2	5	1	12	0	0	0	2	1	1	0	1	0	0	0	0	0	0	0	0
2115	0	3	0	6	0	3	1	9	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0
2130	1	2	0	5	0	3	4	10	0	0	0	1	0	1	1	2	0	0	0	0	0	0	0	0
2145	0	1	2	7	0	2	1	7	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
2200	1	2	1	3	0	0	0	6	0	0	1	1	0	0	2	3	0	0	0	0	0	0	0	0
2215	0	2	0	3	2	2	3	8	0	0	0	1	0	0	1	4	0	0	0	0	0	0	0	0
2230	1	2	1	4	2	4	2	6	0	0	1	2	1	1	0	3	0	0	0	0	0	0	0	0
2245	1	3	0	2	0	4	0	5	1	1	0	2	0	1	0	3	0	0	0	0	0	0	0	0
2300	0	2	2	3	0	4	0	5	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0
2315	0	2	1	4	0	2	0	2	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0
2330	1	2	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2345	0	1	3	6	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	295	N/A	307	N/A	305	N/A	312	N/A	134	N/A	131	N/A	117	N/A	111	N/A	11	N/A	6	N/A	3	N/A	7	N/A
AM		28		20		23		23		18		17		10		11		2		2		0		0
NOON		30		32		31		28		16		16		17		13		3		2		1		2
PM		34		31		35		24		19		17		11		13		2		1		1		2
EVEN		4		11		6		13		1		4		1		4		0		0		0		1

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	28. On Road 15, just south of Avenue 21								29. On Avenue 21, just west of Road 15								30. On Avenue 21 1/2, just west of Road 14 1/2							
Direction	North Bound		South Bound		North Bound		South Bound		East Bound		West Bound		East Bound		West Bound		East Bound		West Bound		East Bound		West Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
315	0	0	0	0	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1
330	0	0	0	0	1	3	1	2	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1
345	0	0	0	0	0	3	0	2	0	0	0	0	1	1	0	1	1	1	0	0	0	1	0	1
400	1	1	0	0	0	3	0	2	1	1	1	1	0	1	0	1	0	1	0	0	0	1	0	0
415	0	1	0	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0
430	0	1	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0	0	0	0
445	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0
615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
630	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0
645	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	1	1
700	0	0	1	2	0	0	2	2	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1
715	0	0	0	2	1	1	0	2	0	0	0	0	1	1	0	0	2	3	2	2	1	2	1	2
730	1	1	0	1	0	1	0	2	1	1	1	1	1	2	1	1	1	4	3	5	1	2	0	2
745	1	2	1	2	0	1	0	2	2	3	0	1	0	2	1	2	1	4	1	6	2	4	0	1
800	0	2	0	1	0	1	0	0	0	3	1	2	1	3	1	3	1	5	0	6	0	4	2	3
815	1	3	1	2	0	0	0	0	1	4	0	2	2	4	1	4	1	4	1	5	1	4	0	2
830	0	2	0	2	0	0	0	0	0	3	0	1	1	4	0	3	0	3	0	2	0	3	0	2
845	1	2	1	2	0	0	0	0	1	2	0	1	0	4	0	2	1	3	1	2	0	1	0	2
900	0	2	1	3	0	0	0	0	0	2	0	0	0	3	0	1	2	4	0	2	0	1	1	1
915	1	2	0	2	0	0	0	0	0	1	0	0	1	2	2	2	0	3	2	3	0	0	0	1
930	0	2	0	2	0	0	0	0	0	1	0	0	0	1	0	2	0	3	0	3	0	0	0	1
945	0	1	0	1	0	0	1	1	1	1	0	0	1	2	1	3	1	3	0	2	0	0	1	2
1000	1	2	0	0	0	0	0	1	0	1	0	0	0	2	0	3	0	1	0	2	0	0	0	1
1015	0	1	0	0	1	1	0	1	1	2	1	1	0	1	0	1	2	3	1	1	0	0	0	1
1030	1	2	1	1	0	1	0	1	0	2	2	3	1	2	0	1	0	3	0	1	0	0	1	2
1045	0	2	0	1	2	3	1	1	1	2	0	3	0	1	2	2	1	3	1	2	0	0	0	1
1100	1	2	1	2	0	3	0	1	0	2	1	4	0	1	0	2	0	3	0	2	1	1	1	2
1115	1	3	0	2	0	2	0	1	0	1	1	4	0	1	0	2	1	2	2	3	0	1	0	2
1130	1	3	0	1	1	3	1	2	0	1	0	2	0	0	0	2	0	2	1	4	1	2	0	1
1145	0	3	1	2	1	2	0	1	0	0	0	2	2	2	1	1	1	2	2	5	1	3	1	2
1200	0	2	0	1	0	2	0	1	1	1	0	1	0	2	0	1	0	2	0	5	2	4	0	1
1215	1	2	1	2	1	3	1	2	1	2	0	0	1	3	1	2	1	2	0	3	0	4	1	2
1230	0	1	0	2	1	3	1	2	0	2	1	1	2	5	0	2	1	3	1	3	1	4	2	4
1245	0	1	1	2	0	2	0	2	1	3	2	3	1	4	1	2	0	2	0	1	0	3	0	3
1300	2	3	1	3	1	3	1	3	1	3	0	3	0	4	3	5	1	3	1	2	1	2	1	4
1315	0	2	0	2	0	2	1	3	0	2	1	4	0	3	0	4	1	3	0	2	0	2	2	5
1330	1	3	1	3	1	2	0	2	1	3	0	3	0	1	0	4	1	3	0	1	1	2	1	4
1345	0	3	3	5	1	3	1	3	2	4	0	1	0	0	1	4	0	3	0	1	1	3	0	4
1400	0	1	0	4	0	2	2	4	0	3	0	1	1	1	0	1	0	2	0	0	0	2	1	4
1415	0	1	0	4	0	2	0	3	1	4	0	0	1	2	2	3	2	3	1	1	1	3	0	2
1430	0	0	0	3	0	1	0	3	0	3	1	1	2	4	1	4	0	2	0	1	2	4	0	1
1445	0	0	0	0	0	0	0	2	0	1	0	1	1	5	0	3	0	2	1	2	1	4	0	1
1500	0	0	0	0	1	1	0	0	1	2	1	2	1	5	1	4	0	2	2	4	0	4	1	1
1515	0	0	0	0	0	1	1	1	2	3	0	2	2	6	2	4	1	1	0	3	1	4	3	4
1530	1	1	0	0	0	1	0	1	0	3	0	1	1	5	0	3	1	2	1	4	2	4	1	5
1545	0	1	1	1	1	2	0	1	1	4	1	2	1	5	0	3	0	2	1	4	0	3	0	5
1600	0	1	1	2	0	1	0	1	0	3	0	1	0	4	0	2	1	3	0	2	1	4	0	4
1615	0	1	0	2	0	1	0	0	0	1	0	1	1	3	0	0	3	5	2	4	0	3	1	2
1630	0	0	0	2	1	2	0	0	1	2	4	5	1	3	1	1	1	5	1	4	1	2	0	1
1645	1	1	0	1	0	1	0	0	1	2	0	4	0	2	0	1	0	5	0	3	0	2	1	2
1700	0	1	0	0	0	1	0	0	1	3	1	5	0	2	0	1	0	4	0	3	0	1	0	2
1715	0	1	1	1	0	1	0	0	0	3	0	5	0	1	0	1	0	1	0	1	0	1	0	1
1730	0	1	0	1	1	1	1	1	0	2	2	3	0	0	0	0	0	0	2	2	0	0	0	1
1745	1	1	0	1	0	1	0	1	0	1	2	5	0	0	0	0	0	0	0	2	0	0	0	0
1800	0	1	0	1	0	1	0	1	0	0	0	4	0	0	1	1	0	0	0	2	1	1	0	0
1815	0	1	0	0	0	1	0	1	0	0	0	4	0	0	0	1	0	0	1	3	1	2	1	1
1830	0	1	0	0	0	0	0	0	0	0	0	2	1	1	1	2	0	0	0	1	1	3	0	1
1845	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	1	0	3	0	1
1900	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	1	0	2	0	1
1915	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	1	2	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
2030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0
2045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0
2100	0	0	0	0	0	0	0	0	1	1	0	0	1	1	2	2	1	2	0	0	0	1	0	0
2115	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0	2	0	0	0	1	0	0
2130	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0	2	0	0	0	0	0	0
2145	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0	1	0	0	0	0	0	0
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
2230	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
2245	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	0	0
2300	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0
2315	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
2330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
2345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	18	N/A	19	N/A	18	N/A	16	N/A	26	N/A	24	N/A	30	N/A	29	N/A	35	N/A	31	N/A	33	N/A	26	N/A
AM		3		3		1		2		4		2		4		4		5		6		4		3
NOON		3		5		3		4		4		4		5		5		3		5		4		5
PM		1		2		2		1		4		5		6		4		5		4		4		5
EVEN		0		0		0		0		1		0		1		2		2		0		2		0

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	31. On Road 14, just south of Avenue 22								32. On Avenue 22, just west of Road 14								33. On Robertson Blvd (SR-233), just north of Avenue 22 1/2							
Direction	North Bound		South Bound		North Bound		South Bound		East Bound		West Bound		East Bound		West Bound		North Bound		South Bouth		North Bound		South Bouth	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	1	0	1
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	2	0	1	0	1
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	1	1	0	1	1	2
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	2	0	1
145	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	2	1	2
200	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	2	0	1	0	2	0	2
215	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	2	1	2
230	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	2
245	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	2	3	0	1	0	0	0	1
300	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	1
315	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	4	1	1	0	0	0	0
330	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0	0	0
345	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	0	0	0	0
400	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	1	1	1	1
415	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	1	5	6
430	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3	3	2	6	2	3	1	7
445	0	0	0	1	1	2	1	1	0	0	0	0	0	0	0	0	5	8	1	6	2	5	1	8
500	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	2	10	5	9	0	4	4	11
515	0	0	1	1	1	2	0	1	0	0	0	0	0	0	0	0	2	12	4	12	3	7	2	8
530	1	1	0	1	0	2	1	2	0	0	0	0	0	0	0	0	1	10	4	14	2	7	9	16
545	1	2	0	1	0	1	1	2	0	0	0	0	0	0	0	0	1	6	2	15	5	10	4	19
600	0	2	2	3	2	3	1	3	0	0	0	0	0	0	0	0	5	9	10	20	10	20	6	21
615	0	2	0	2	0	2	1	4	0	0	0	0	0	0	0	0	5	12	6	22	3	20	12	31
630	0	1	0	2	1	3	1	4	0	0	0	0	0	0	0	0	8	19	10	28	5	23	8	30
645	3	3	2	4	2	5	2	5	0	0	0	0	0	0	1	1	8	26	12	38	13	31	3	29
700	0	3	2	4	2	5	2	6	1	1	1	1	1	1	0	1	14	35	11	39	10	31	13	36
715	3	6	2	6	4	9	0	5	0	1	0	1	0	1	1	2	16	46	19	52	15	43	14	38
730	3	9	3	9	3	11	2	6	2	3	0	1	1	2	0	2	12	50	22	64	14	52	17	47
745	5	11	1	8	4	13	1	5	0	3	0	1	0	2	0	1	23	65	11	63	20	59	14	58
800	2	13	3	9	2	13	1	4	0	2	0	0	0	1	0	1	22	73	25	77	22	71	17	62
815	2	12	2	9	2	11	2	6	0	2	1	1	0	1	0	0	21	78	38	96	29	85	32	80
830	4	13	0	6	3	11	4	8	0	0	3	4	1	1	0	0	29	95	17	91	22	93	14	77
845	3	11	2	7	1	8	1	8	1	1	0	4	1	2	0	0	18	90	12	92	10	83	9	72
900	1	10	1	5	3	9	1	8	0	1	0	4	0	2	0	0	18	86	9	76	16	77	7	62
915	1	9	0	3	1	8	2	8	0	1	0	3	0	2	1	1	14	79	6	44	15	63	12	42
930	2	7	4	7	4	9	1	5	0	1	0	0	0	1	3	4	13	63	19	46	12	53	16	44
945	1	5	2	7	2	10	2	6	0	0	0	0	0	0	0	4	9	54	7	41	16	59	12	47
1000	1	5	2	8	0	7	0	5	0	0	2	2	0	0	0	4	11	47	10	42	12	55	7	47
1015	6	10	0	8	2	8	1	4	0	0	0	2	0	0	0	3	14	47	5	41	9	49	14	49
1030	1	9	2	6	7	11	1	4	0	0	0	2	2	2	1	1	11	45	11	33	9	46	12	45
1045	0	8	3	7	1	10	1	3	0	0	0	2	0	2	0	1	17	53	7	33	23	53	10	43
1100	3	10	3	8	2	12	0	3	2	2	0	0	0	2	0	1	11	53	13	36	11	52	12	48
1115	6	10	2	10	2	12	1	3	0	2	0	0	0	2	2	3	25	64	9	40	19	62	9	43
1130	5	14	0	8	4	9	6	8	0	2	0	0	1	1	1	3	11	64	11	40	18	71	8	39
1145	3	17	2	7	2	10	7	14	0	2	0	0	1	2	0	3	13	60	11	44	20	68	11	40
1200	4	18	4	8	2	10	5	19	0	0	1	1	1	3	0	3	17	66	13	44	32	89	17	45
1215	2	14	3	9	4	12	2	20	1	1	1	2	1	4	1	2	28	69	11	46	15	85	14	50
1230	3	12	1	10	4	12	3	17	0	1	0	2	1	4	1	2	23	81	10	45	13	80	11	53
1245	2	11	2	10	1	11	1	11	0	1	0	2	0	3	0	2	10	78	19	53	13	73	17	59
1300	3	10	1	7	2	11	2	8	0	1	0	1	1	3	0	2	12	73	17	57	19	60	15	57
1315	2	10	3	7	3	10	2	8	0	0	0	0	0	2	0	1	18	63	17	63	18	63	16	59
1330	1	8	2	8	3	9	2	7	0	0	1	1	0	1	0	0	9	49	12	65	14	64	14	62
1345	3	9	1	7	3	11	1	7	0	0	0	1	0	1	0	0	10	49	12	58	12	63	8	53
1400	3	9	2	8	2	11	2	7	0	0	0	1	0	0	0	0	19	56	18	59	5	49	17	55
1415	1	8	1	6	2	10	0	5	0	0	0	1	0	0	0	0	20	58	25	67	19	50	16	55
1430	5	12	5	9	1	8	1	4	1	1	0	0	0	0	0	0	32	81	13	68	17	53	10	51
1445	2	11	4	12	1	6	1	4	0	1	0	0	0	0	0	0	12	83	14	70	16	57	12	55
1500	3	11	0	10	1	5	2	4	2	3	1	1	2	2	1	1	25	89	14	66	17	69	21	59
1515	4	14	1	10	1	4	3	7	0	3	1	2	0	2	1	2	24	93	18	59	20	70	29	72
1530	1	10	1	6	4	7	2	8	0	2	0	2	0	2	0	2	25	86	9	55	41	94	18	80
1545	5	13	7	9	4	10	1	8	1	3	1	3	0	2	0	2	18	92	15	56	27	105	14	82
1600	1	11	2	11	2	11	3	9	0	1	0	2	0	0	1	2	26	93	8	50	23	111	14	75
1615	8	15	1	11	1	11	2	8	0	1	1	2	0	0	1	2	17	86	8	40	22	113	18	64
1630	2	16	1	11	0	7	3	9	0	1	0	2	0	0	0	2	17	78	10	41	21	93	25	71
1645	3	14	4	8	3	6	2	10	1	1	0	1	0	0	0	2	21	81	10	36	20	86	19	76
1700	4	17	2	8	3	7	1	8	0	1	1	2	0	0	0	1	22	77	13	41	25	88	19	81
1715	5	14	2	9	3	9	5	11	0	1	0	1	1	1	0	0	20	80	6	39	20	86	8	71
1730	1	13	1	9	6	15	1	9	1	2	0	1	0	1	0	0	16	79	12	41	18	83	11	57
1745	5	15	1	6	3	15	0	7	1	2	0	1	0	1	0	0	8	66	18	49	30	93	13	51
1800	2	13	2	6	1	13	5	11	0	2	2	2	0	1	1	1	19	63	4	40	11	79	18	50
1815	0	8	2	6	2	12	2	8	0	2	0	2	1	1	0	1	7	50	20	54	12	71	15	57
1830	3	10	1	6	1	7	4	11	0	1	0	2	0	1	0	1	9	43	8	50	6	59	9	55
1845	5	10	1	6	2	6	0	11	0	0	0	2	0	1	0	1	10	45	12	44	11	40	6	48
1900	0	8	2	6	1	6	0	6	0	0	0	0	0	1	0	0	4	30	12	52	3	32	9	39
1915	0	8	0	4	2	6	1	5	0	0	0	0	0	0	0	0	3	26	10	42	10	30	4	28
1930	1	6	0	3	0	5	2	3	0	0	0	0	4	4	1	1	3	20	5	39	5	29	9	28
1945	1	2	0	2	1	4	0	3	0	0	0	0	0	4	0	1	7	17	7	34	5	23	13	35
2000	3	5	0	0	1	4	0	3	0	0	0	0	2	6	1	2	3	16	7	29	4	24	10	36
2015	0	5	2	2	1	3	0	2	2	2	1	1	1	7	0	2	7	20	5	24	6	20	7	39
2030	0	4	1	3	3	6	0	0	0	2	0	1	0	3	0	1	6	23	6	25	7	22	3	33
2045	1	4	0	3	0	5	0	0	0	2	0	1	0	3	0	1	16	32	0	18	2	19	8	28
2100	1	2	1	4	3	7	1	1	0	2	0	1	0	1	0	0	4	33	8	19	7	22	3	21
2115	1	3	0	2	0	6	0	1	0	0	0	0	0	0	0	0	3	29	2	16	2	18	8	22
2130	0	3	2	3	3	6	1	2	0	0	0	0	0	0	0	0	2	25	6	16	2	13	5	24
2145	1	3	0	3	1	7	2	4	1	1	1	1	0	0	0	0	2	11	1	17	0	11	5	21
2200	0	2	2	4	1	5	0	3	0	1	0	1	0	0	0	0	1	8	0	9	1	5	2	20
2215	0	1	0	4	0	5	2	5	0	1	0	1	1	1	1	1	2	7	5	12	2	5	2	14
2230	0	1	0	2	1	3	1	5	0	1	0	1	0	1	0	1	0	5	5	11	0	3	2	11
2245	0	0	1	3	1	3	1	4	0	0	0	0	1	2	0	1	2	5	5	15	2	5	1	7
2300	1	1	1	2	0	2	0	4	1	1	0	0	0	2	0	1	3	7	2	17	4	8	1	6
2315	0	1	0	2	0	2	0	2	0	1	0	0	0	1	0	0	1	6	2	14	2	8	0	4
2330	0	1	0	2	0	1	0	1	0	1	0	0	0	1	1	1	1	7	1	10	0	8	5	7
2345	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	6	1	6	1	7	1	7
TOTAL	150	N/A	115	N/A	144	N/A	113	N/A	18	N/A	19	N/A	25	N/A	21	N/A	935	N/A	794	N/A	953	N/A	842	N/A
AM		13		9		13		8		3		4		2		4		95		96		93		80
NOON		18		12		12		20		2		2		4		4		83		70		89		62
PM		17		11		15		11		3		3		4		2		93		66		113		82
EVEN		5		4		7		5		2		1		7		2		33		29		24		39

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	34. On Avenue 22 1/2, just east of Robertson Blvd (SR-233)								35. On Road 13, just south of Avenue 23 1/2								36. On Avenue 23 1/2, just west of Road 13							
Direction	East Bound		West Bound		East Bound		West Bound		North Bound		South Bound		North Bound		South Bound		East Bound		West Bound		East Bound		West Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
1245	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	1	1	0	1	0	0
100	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	2	0	1	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	1
145	0	0	0	0	0	0	0	0	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	1
200	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	1
215	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	1	0	0	0	0	0	0	0	1
230	1	1	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0
245	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
300	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	0	0
315	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	1	0	0
330	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0
345	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	2	1	1	0	0	0	1	0	0
400	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	1	0	0	0	0	1	1
415	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2	3	0	1	0	0	0	0	0	1
430	0	0	0	0	0	0	0	0	0	0	1	2	0	0	2	5	0	1	1	1	0	0	0	1
445	0	0	0	0	1	1	0	0	0	0	1	2	0	0	0	5	0	0	0	1	0	0	0	1
500	0	0	0	0	0	1	0	0	0	0	1	3	0	0	0	4	1	1	0	1	1	1	0	0
515	1	1	1	1	0	1	1	1	1	1	3	6	0	0	1	3	0	1	1	2	0	1	0	0
530	0	1	0	1	1	2	0	1	0	1	1	6	0	0	1	2	0	1	1	2	1	2	0	0
545	0	1	0	1	1	2	0	1	3	4	5	10	0	0	3	5	0	1	0	2	1	3	2	2
600	0	1	1	2	0	2	2	3	1	5	1	10	3	3	2	7	1	1	0	2	2	4	1	3
615	0	0	1	2	1	3	0	2	2	6	3	10	1	4	1	7	0	1	0	1	1	5	1	4
630	0	0	0	2	0	2	2	4	3	9	3	12	3	7	4	10	1	2	1	1	2	6	1	5
645	1	1	0	2	1	2	1	5	3	9	4	11	4	11	4	11	1	3	2	3	1	6	0	3
700	1	2	0	1	1	3	4	7	5	13	2	12	5	13	2	11	2	4	1	4	1	5	0	2
715	1	3	3	3	0	2	3	10	3	14	3	12	0	12	1	11	1	5	0	4	2	6	0	1
730	1	4	3	6	3	5	4	12	3	14	2	11	4	13	5	12	1	5	0	3	1	5	1	1
745	2	5	1	7	2	6	3	14	3	14	2	9	3	12	3	11	1	5	1	2	1	5	0	1
800	2	6	2	9	1	6	0	10	3	12	1	8	4	11	3	12	2	5	1	2	3	7	3	4
815	1	6	3	9	1	7	2	9	3	12	2	7	3	14	5	16	1	5	0	2	3	8	4	8
830	0	5	1	7	2	6	3	8	3	12	3	8	4	14	3	14	1	5	2	4	1	8	0	7
845	2	5	3	9	1	5	1	6	3	12	3	9	3	14	2	13	1	5	0	3	2	9	1	8
900	1	4	3	10	1	5	5	11	4	13	2	10	4	14	3	13	1	4	2	4	1	7	2	7
915	0	3	2	9	4	8	2	11	4	14	3	11	4	15	3	11	4	7	1	5	2	6	0	3
930	3	6	1	9	2	8	5	13	3	14	3	11	5	16	2	10	2	8	2	5	1	6	1	4
945	2	6	1	7	0	7	2	14	1	12	1	9	3	16	2	10	2	9	1	6	1	5	0	3
1000	2	7	2	6	0	6	0	9	3	11	3	10	2	14	0	7	2	10	0	4	3	7	0	1
1015	1	8	3	7	1	3	1	8	4	11	2	9	3	13	5	9	4	10	1	4	1	6	4	5
1030	2	7	1	7	8	9	1	4	1	9	0	6	3	11	3	10	0	8	2	4	2	7	1	5
1045	3	8	1	7	1	10	2	4	5	13	3	8	4	12	4	12	2	8	2	5	1	7	0	5
1100	1	7	2	7	0	10	1	5	2	12	2	7	2	12	1	13	3	9	0	5	2	6	0	5
1115	3	9	4	8	1	10	2	6	4	12	5	10	4	13	3	11	3	8	2	6	1	6	2	3
1130	2	9	2	9	2	4	1	6	3	14	3	13	3	13	2	10	0	8	2	6	2	6	1	3
1145	3	9	3	11	3	6	0	4	0	9	1	11	4	13	3	9	3	9	1	5	1	6	2	5
1200	2	10	0	9	0	6	3	6	2	9	3	12	3	14	2	10	0	6	3	8	0	4	1	6
1215	3	10	4	9	6	11	0	4	0	5	3	10	3	13	3	10	0	3	3	9	1	4	0	4
1230	2	10	0	7	0	9	2	5	3	5	4	11	3	13	2	10	2	5	2	9	0	2	0	3
1245	1	8	0	4	1	7	3	8	3	8	3	13	3	12	3	10	1	3	0	8	1	2	2	3
1300	2	8	2	6	5	12	2	7	2	8	2	12	3	12	5	13	2	5	0	5	1	3	0	2
1315	1	6	1	3	4	10	3	10	1	9	1	10	4	13	2	12	1	6	1	3	1	3	1	3
1330	2	6	1	4	2	12	2	10	3	9	2	8	2	12	3	13	4	8	2	3	2	5	1	4
1345	1	6	0	4	2	13	1	8	1	7	3	8	1	10	3	13	1	8	2	5	2	6	0	2
1400	4	8	3	5	0	8	2	8	4	9	2	8	1	8	2	10	0	6	1	6	3	8	0	2
1415	1	8	1	5	3	7	2	7	4	12	3	10	1	5	2	10	1	6	0	5	0	7	1	2
1430	3	9	3	7	1	6	1	6	1	10	1	9	2	5	2	9	0	2	1	4	2	7	1	2
1445	0	8	4	11	2	6	1	6	4	13	3	9	2	6	3	9	0	1	1	3	1	6	0	2
1500	4	8	3	11	5	11	2	6	2	11	4	11	3	8	2	9	1	2	0	2	3	6	1	3
1515	2	9	0	10	1	9	1	5	4	11	5	13	2	9	3	10	0	1	3	5	1	7	2	4
1530	1	7	3	10	2	10	2	6	3	13	2	14	3	10	4	12	3	4	0	4	2	7	1	4
1545	4	11	3	9	2	10	0	5	5	14	5	16	4	12	3	12	0	4	3	6	0	6	0	4
1600	4	11	2	8	5	10	1	4	6	18	4	16	4	13	3	13	1	4	2	8	1	4	2	5
1615	3	12	4	12	4	13	1	4	3	17	3	14	3	14	1	11	3	7	1	6	0	3	2	5
1630	2	13	5	14	1	12	2	4	2	16	3	15	2	13	1	8	0	4	4	10	1	2	0	4
1645	3	12	1	12	0	10	1	5	2	13	3	13	2	11	3	8	2	6	0	7	2	4	2	6
1700	3	11	1	11	2	7	3	7	4	11	1	10	3	10	1	6	0	5	2	7	1	4	3	7
1715	1	9	3	10	3	6	1	7	4	12	2	9	4	11	2	7	1	3	2	8	2	6	1	6
1730	0	7	2	7	1	6	2	7	1	11	3	9	2	11	2	8	0	3	2	6	0	5	3	9
1745	3	7	3	9	1	7	1	7	4	13	3	9	4	13	3	8	1	2	0	6	1	4	1	8
1800	3	7	1	9	5	10	2	6	5	14	2	10	3	13	3	10	1	3	0	4	0	3	1	6
1815	2	8	1	7	1	8	1	6	3	13	6	14	2	11	1	9	0	2	0	2	1	2	0	5
1830	2	10	2	7	3	10	1	5	4	16	4	15	2	11	3	10	0	2	0	0	0	2	0	2
1845	1	8	3	7	1	10	1	5	1	13	2	14	0	7	0	7	0	1	0	0	0	1	0	1
1900	0	5	0	6	0	5	1	4	0	8	2	14	0	4	1	5	0	0	0	0	1	2	0	0
1915	0	3	0	5	2	6	2	5	4	9	2	10	1	3	2	6	0	0	1	1	0	1	0	0
1930	0	1	0	3	1	4	1	5	2	7	2	8	2	3	1	4	1	1	0	1	1	2	0	0
1945	1	1	1	1	1	4	3	7	0	6	1	7	0	3	1	5	1	2	0	1	0	2	0	0
2000	2	3	1	2	0	4	0	6	2	8	1	6	1	4	0	4	0	2	0	1	0	1	0	0
2015	1	4	1	3	0	2	1	5	0	4	2	6	1	4	2	4	0	2	1	1	1	2	0	0
2030	0	4	1	4	1	2	2	6	2	4	1	5	2	4	1	4	0	1	0	1	1	2	4	4
2045	0	3	0	3	1	2	2	5	0	4	2	6	2	6	2	5	1	1	0	1	0	2	0	4
2100	1	2	0	2	0	2	2	7	0	2	1	6	0	5	0	5	0	1	1	2	0	2	0	4
2115	0	1	0	1	0	2	0	6	3	5	3	7	2	6	1	4	1	2	0	1	0	1	0	4
2130	3	4	0	0	1	2	1	5	0	3	1	7	1	5	1	4	0	2	0	1	1	1	0	0
2145	0	4	0	0	1	2	1	4	0	3	2	7	0	3	1	3	0	1	0	1	1	2	0	0
2200	1	4	0	0	0	2	0	2	0	3	1	7	1	4	1	4	0	1	0	0	0	2	0	0
2215	0	4	0	0	0	2	0	2	0	0	1	5	0	2	0	3	0	0	0	0	0	2	0	0
2230	0	1	0	0	1	2	0	1	1	1	0	4	1	2	1	3	1	1	0	0	0	1	0	0
2245	1	2	1	1	0	1	0	0	0	1	2	4	0	2	1	3	0	1	0	0	0	0	0	0
2300	0	1	0	1	0	1	0	0	0	1	0	3	0	1	0	2	0	1	0	0	1	1	0	0
2315	0	1	0	1	0	1	0	0	1	2	2	4	0	1	0	2	0	1	0	0	0	1	0	0
2330	0	1	0	1	0	0	0	0	0	1	0	4	0	0	0	1	0	0	0	0	0	1	0	0
2345	0	0	0	0	0	0	0	0	0	1	0	2	0	0	1	1	0	0	0	0	0	1	0	0
TOTAL	107	N/A	105	N/A	111	N/A	108	N/A	171	N/A	180	N/A	165	N/A	163	N/A	73	N/A	66	N/A	79	N/A	59	N/A
AM		6		10		8		14		14		12		16		16		9		6		9		8
NOON		10		11		13		10		14		13		14		13		10		9		8		6
PM		13		14		13		7		18		16		14		13		7		10		7		9
EVEN		4		4		4		7		8		7		6		5		2		2		2		4

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B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	37. On Avenue 24 1/2, between Road 12 & Road 13								38. On Avenue 25, between Road 12 & Road 13								39. On Avenue 26, between Road 12 & Road 13							
Direction	East Bound		West Bound		East Bound		West Bound		East Bound		West Bound		East Bound		West Bound		East Bound		West Bound		East Bound		West Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	1	0	0	0	0	0	0	1	1
200	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	0	0	0	0	0	0	0	1
215	0	0	0	0	0	0	1	1	3	3	0	0	2	4	0	2	0	0	0	0	0	0	0	1
230	0	0	0	0	0	0	0	1	0	3	1	1	0	3	1	2	0	0	0	0	0	0	0	1
245	0	0	0	0	0	0	0	1	1	4	1	2	0	2	0	2	0	0	0	0	0	0	0	0
300	0	0	1	1	0	0	0	1	1	5	0	2	0	2	0	1	0	0	0	0	0	0	0	0
315	0	0	0	1	0	0	0	0	0	2	1	3	1	1	3	4	0	0	0	0	0	0	0	0
330	0	0	0	1	0	0	0	0	0	2	0	2	1	2	2	5	0	0	0	0	0	0	0	0
345	0	0	0	1	0	0	0	0	0	1	5	6	0	2	2	7	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	2	2	0	6	0	2	3	10	0	0	0	0	0	0	0	0
415	0	0	0	0	0	0	0	0	0	2	4	9	0	1	0	7	0	0	0	0	1	1	1	1
430	0	0	0	0	0	0	0	0	2	4	1	10	0	0	4	9	0	0	0	0	0	1	1	2
445	0	0	0	0	0	0	0	0	0	4	4	9	2	2	5	12	1	1	2	2	0	1	1	3
500	0	0	0	0	0	0	0	0	2	4	2	11	4	6	9	18	0	1	0	2	4	5	3	6
515	0	0	0	0	0	0	0	0	0	4	4	11	3	9	11	29	1	2	2	4	0	4	4	9
530	0	0	0	0	0	0	0	0	5	7	8	18	1	10	4	29	2	4	3	7	7	11	5	13
545	0	0	0	0	1	1	1	1	3	10	15	29	4	12	9	33	3	6	2	7	2	13	2	14
600	0	0	0	0	0	1	0	1	1	9	2	29	1	9	9	33	4	10	5	12	3	12	2	13
615	1	1	1	1	0	1	0	1	1	10	8	33	5	11	19	41	2	11	3	13	0	12	3	12
630	1	2	0	1	1	2	0	1	4	9	11	36	5	15	6	43	4	13	3	13	6	11	4	11
645	0	2	0	1	0	1	0	0	9	15	16	37	12	23	6	40	2	12	2	13	4	13	4	13
700	1	3	0	1	0	1	0	0	4	18	4	39	20	42	8	39	4	12	1	9	6	16	3	14
715	0	2	1	1	0	1	0	0	10	27	8	39	9	46	11	31	2	12	3	9	5	21	2	13
730	0	1	0	1	0	0	0	0	6	29	12	40	10	51	10	35	4	12	1	7	5	20	3	12
745	0	1	1	2	1	1	0	0	4	24	7	31	2	41	10	39	5	15	3	8	4	20	2	10
800	1	1	0	2	0	1	0	0	10	30	9	36	16	37	10	41	2	13	2	9	2	16	1	8
815	0	1	0	1	0	1	0	0	6	26	3	31	6	34	11	41	3	14	4	10	4	15	4	10
830	0	1	0	1	0	1	0	0	10	30	11	30	7	31	2	33	3	13	2	11	1	11	3	10
845	0	1	0	0	0	0	0	0	11	37	8	31	8	37	13	36	4	12	3	11	5	12	4	12
900	0	0	1	1	0	0	1	1	15	42	10	32	6	27	6	32	2	12	3	12	4	14	5	16
915	0	0	0	1	1	1	0	1	11	47	12	41	3	24	9	30	3	12	2	10	7	17	5	17
930	0	0	0	1	0	1	0	1	9	46	14	44	6	23	6	34	2	11	1	9	5	21	5	19
945	0	0	1	2	0	1	0	1	7	42	17	53	3	18	10	31	3	10	3	9	6	22	4	19
1000	0	0	0	1	1	2	0	0	7	34	8	51	9	21	8	33	5	13	8	14	5	23	3	17
1015	1	1	0	1	0	1	1	1	9	32	8	47	5	23	4	28	5	15	2	14	4	20	4	16
1030	0	1	1	2	0	1	0	1	6	29	9	42	12	29	9	31	6	19	5	18	1	16	3	14
1045	2	3	1	2	0	1	0	1	4	26	9	34	9	35	4	25	5	21	4	19	0	10	4	14
1100	0	3	0	2	0	0	0	1	9	28	8	34	15	41	8	25	5	21	4	15	2	7	3	14
1115	0	2	0	2	0	0	1	1	3	22	11	37	19	55	10	31	2	18	2	15	3	6	2	12
1130	1	3	0	1	2	2	1	2	10	26	3	31	6	49	13	35	3	15	3	13	0	5	0	9
1145	0	1	0	0	0	2	0	2	22	44	8	30	8	48	4	35	4	14	1	10	4	9	3	8
1200	0	1	1	1	1	3	0	2	8	43	9	31	5	38	6	33	3	12	2	8	0	7	2	7
1215	1	2	1	2	0	3	1	2	5	45	6	26	7	26	5	28	2	12	2	8	2	6	1	6
1230	0	1	1	3	0	1	0	1	14	49	19	42	5	25	6	21	4	13	2	7	1	7	2	8
1245	0	1	0	3	0	1	1	2	7	34	8	42	8	25	4	21	2	11	2	8	2	5	1	6
1300	0	1	0	2	1	1	0	2	8	34	10	43	4	24	6	21	2	10	3	9	3	8	2	6
1315	1	1	1	2	1	2	1	2	5	34	18	55	4	21	2	18	4	12	4	11	2	8	2	7
1330	0	1	0	1	0	2	0	2	9	29	8	44	10	26	11	23	2	10	4	13	0	7	3	8
1345	0	1	1	2	0	2	0	1	8	30	14	50	18	36	7	26	0	8	2	13	0	5	2	9
1400	0	1	0	2	2	3	1	2	4	26	12	52	7	39	6	26	1	7	2	12	0	2	2	9
1415	0	0	1	2	0	2	1	2	11	32	6	40	13	48	8	32	1	4	3	11	1	1	1	8
1430	2	2	1	3	1	3	0	2	13	36	7	39	4	42	13	34	2	4	2	9	0	1	2	7
1445	0	2	1	3	0	3	1	3	10	38	6	31	12	36	17	44	4	8	3	10	1	2	2	7
1500	0	2	0	3	0	1	0	2	16	50	4	23	10	39	3	41	4	11	3	11	3	5	3	8
1515	2	4	1	3	1	2	1	2	7	46	12	29	24	50	12	45	3	13	2	10	2	6	2	9
1530	1	3	0	2	2	3	0	2	11	44	9	31	8	54	8	40	9	20	3	11	5	11	3	10
1545	0	3	0	1	1	4	1	2	17	51	6	31	7	49	15	38	2	18	2	10	4	14	2	10
1600	1	4	0	1	2	6	2	4	17	52	4	31	15	54	12	47	0	14	3	10	0	11	1	8
1615	0	2	2	2	0	5	0	3	14	59	9	28	11	41	3	38	2	13	6	14	2	11	2	8
1630	1	2	0	2	0	3	0	3	19	67	13	32	11	44	12	42	2	6	4	15	3	9	3	8
1645	3	5	2	4	0	2	1	3	12	62	12	38	10	47	7	34	3	7	4	17	2	7	3	9
1700	1	5	1	5	0	0	0	1	14	59	9	43	11	43	10	32	2	9	2	16	3	10	1	9
1715	0	5	1	4	1	1	0	1	16	61	13	47	11	43	6	35	2	9	2	12	2	10	1	8
1730	1	5	0	4	0	1	0	1	25	67	7	41	15	47	5	28	1	8	2	10	1	8	0	5
1745	0	2	1	3	0	1	0	0	11	66	6	35	10	47	8	29	0	5	2	8	0	6	1	3
1800	0	1	0	2	1	2	1	1	11	63	9	35	18	54	14	33	1	4	0	6	1	4	0	2
1815	1	2	0	1	0	1	1	2	5	52	6	28	16	59	7	34	0	2	3	7	1	3	2	3
1830	0	1	1	2	0	1	0	2	5	32	4	25	6	50	6	35	1	2	0	5	0	2	0	3
1845	1	2	0	1	0	1	0	2	2	23	4	23	10	50	8	35	0	2	1	4	1	3	1	3
1900	1	3	1	2	1	1	1	2	1	13	5	19	6	38	4	25	0	1	1	5	0	2	1	4
1915	0	2	0	2	0	1	1	2	3	11	6	19	5	27	3	21	0	1	1	3	0	1	0	2
1930	1	3	1	2	1	2	0	2	2	8	5	20	4	25	2	17	1	1	0	3	1	2	0	2
1945	0	2	0	2	0	2	1	3	8	14	6	22	2	17	4	13	1	2	0	2	0	1	1	2
2000	0	1	0	1	0	1	0	2	3	16	8	25	2	13	8	17	2	4	3	4	1	2	1	2
2015	0	1	0	1	0	1	1	2	3	16	7	26	3	11	9	23	1	5	1	4	1	3	1	3
2030	0	0	0	0	0	0	0	2	0	14	2	23	4	11	1	22	1	5	1	5	2	4	1	4
2045	1	1	1	1	0	0	1	2	1	7	0	17	1	10	4	22	0	4	1	6	0	4	1	4
2100	0	1	0	1	0	0	0	2	0	4	4	13	2	10	6	20	0	2	0	3	0	3	0	3
2115	0	1	0	1	0	0	1	2	2	3	3	9	0	7	5	16	0	1	0	2	0	2	0	2
2130	0	1	0	1	0	0	0	2	1	4	4	11	5	8	5	20	0	0	0	1	0	0	0	1
2145	0	0	0	0	0	0	0	1	0	3	2	13	1	8	2	18	0	0	0	0	0	0	0	0
2200	0	0	0	0	0	0	0	1	1	4	1	10	6	12	0	12	0	0	0	0	0	0	0	0
2215	0	0	0	0	0	0	0	0	0	2	1	8	1	13	1	8	0	0	0	0	0	0	0	0
2230	0	0	0	0	0	0	0	0	1	2	0	4	2	10	3	6	0	0	2	2	0	0	1	1
2245	0	0	0	0	0	0	0	0	0	2	0	2	1	10	2	6	1	1	1	3	1	1	1	2
2300	0	0	0	0	0	0	0	0	1	2	0	1	0	4	1	7	0	1	0	3	0	1	0	2
2315	0	0	0	0	0	0	0	0	0	2	0	0	1	4	1	7	0	1	0	3	0	1	0	2
2330	0	0	0	0	0	0	0	0	0	1	1	1	1	3	0	4	0	1	0	1	0	1	0	1
2345	0	0	0	0	0	0	0	0	0	1	2	3	0	2	0	2	0	0	0	0	0	0	0	0
TOTAL	27	N/A	28	N/A	23	N/A	25	N/A	538	N/A	571	N/A	559	N/A	550	N/A	157	N/A	160	N/A	148	N/A	149	N/A
AM		3		2		2		1		47		53		51		43		15		13		22		19
NOON		3		3		3		3		49		55		55		44		21		19		23		17
PM		5		5		6		4		67		47		59		47		20		17		14		10
EVEN		1		1		1		2		16		26		13		23		5		6		4		4

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	40. On Sansy-Mush Road, between Road 11 & Road 12																							
Direction	East Bound		West Bound		East Bound		West Bound																	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	2	0	1	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	5	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	3	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	1	11	2	8	1	9	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	4	13	2	9	2	8	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	1	9	3	9	1	4	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	1	7	1	8	2	6	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	6	0	6	0	5	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	2	4	0	4	1	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	1	4	1	2	0	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	0	3	0	1	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245	1	4	1	2	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	1	3	0	2	1	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
315	1	3	1	2	1	4	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	0	3	0	2	0	3	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
345	1	3	0	1	0	2	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	1	3	0	1	0	1	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
415	0	2	1	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
430	0	2	0	1	0	0	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
445	0	1	0	1	1	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	0	0	3	4	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
515	2	2	0	3	1	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
530	0	2	0	3	0	3	5	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
545	3	5	1	4	3	5	6	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600	1	6	5	6	9	13	10	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
615	5	9	7	13	8	20	10	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	5	14	7	20	9	29	8	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
645	3	14	6	25	10	36	12	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
700	5	18	6	26	15	42	18	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
715	9	22	8	27	14	48	21	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
730	13	30	9	29	18	57	20	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
745	14	41	12	35	12	59	19	78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
800	15	51	13	42	13	57	24	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	14	56	12	46	8	51	17	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
830	13	56	17	54	20	53	15	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
845	17	59	18	60	21	62	20	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
900	17	61	21	68	18	67	18	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
915	18	65	12	68	23	82	21	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
930	14	66	10	61	16	78	17	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
945	15	64	13	56	17	74	16	72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000	14	61	18	53	15	71	13	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015	16	59	16	57	18	66	22	68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030	15	60	19	66	17	67	15	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045	17	62	13	66	15	65	15	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100	18	66	12	60	17	67	21	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	15	65	15	59	18	67	16	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130	14	64	21	61	24	74	21	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1145	14	61	21	69	19	78	23	81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200	15	58	18	75	26	87	23	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	16	59	14	74	18	87	20	87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	17	62	14	67	23	86	22	88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	13	61	24	70	27	94	16	81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300	18	64	25	77	19	87	22	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315	22	70	11	74	23	92	25	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1330	19	72	25	85	17	86	15	78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345	23	82	14	75	10	69	14	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400	21	85	15	65	18	68	12	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415	17	80	15	69	12	57	15	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430	16	77	16	60	18	58	11	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1445	15	69	14	60	18	66	17	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500	16	64	14	59	16	64	15	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515	9	56	12	56	11	63	11	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530	13	53	16	56	16	61	12	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545	14	52	13	55	11	54	15	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600	17	53	12	53	13	51	11	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615	11	55	14	55	11	51	10	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630	12	54	13	52	12	47	12	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645	17	57	15	54	16	52	15	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700	12	52	18	60	10	49	10	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715	15	56	11	57	12	50	12	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730	15	59	13	57	16	54	11	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745	17	59	14	56	14	52	9	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800	17	64	13	51	7	49	7	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815	11	60	17	57	16	53	12	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830	17	62	16	60	9	46	13	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845	11	56	14	60	14	46	6	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900	9	48	16	63	12	51	10	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1915	10	47	15	61	10	45	11	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1930	9	39	10	55	8	44	13	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	12	40	13	54	7	37	11	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	10	41	9	47	9	34	10	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	9	40	11	43	5	29	9	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2030	8	39	10	43	4	25	7	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2045	7	34	8	38	6	24	4	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100	6	30	7	36	7	22	4	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2115	4	25	8	33	9	26	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2130	3	20	6	29	7	29	3	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2145	2	15	4	25	8	31	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200	3	12	2	20	4	28	3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2215	4	12	1	13	4	23	2	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2230	1	10	0	7	0	16	4	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2245	0	8	3	6	2	10	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300	1	6	2	6	0	6	5	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2315	2	4	2	7	1	3	1	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2330	2	5	1	8	0	3	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2345	1	6	4	9	1	2	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	870	N/A	895	N/A	936	N/A	934	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
AM		66		68		82		84		0		0		0		0		0		0		0		0
NOON		85		85		94		88		0		0		0		0		0		0		0		0
PM		64		63		64		58		0		0		0		0		0		0		0		0
EVEN		41		47		34		45		0		0		0		0		0		0		0		0

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	A. On Avenue 9 1/2, between Road 26 & 26 1/2								B. On Avenue 13 1/2, between Road 22 & 22 1/2								C. On Avenue 19, between Road 16 1/2 & 17 1/2							
Direction	East Bound		West Bound		East Bound		West Bound		East Bound		West Bound		East Bound		West Bound		East Bound		West Bound		East Bound		West Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
445	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
500	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
515	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
530	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
545	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	1	1	0	1
600	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	1	0	0	1	1	2	3	1	2
615	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1	1	0	1	0	3	0	1
630	1	1	0	0	0	0	1	1	0	1	0	1	0	0	0	1	0	1	0	1	0	3	0	1
645	0	1	0	0	1	1	0	1	1	2	3	3	1	1	1	1	0	1	0	1	0	2	0	1
700	0	1	0	0	0	1	0	1	0	1	0	3	0	1	0	1	0	1	0	0	0	0	0	0
715	0	1	0	0	1	2	0	1	0	1	0	3	0	1	0	1	0	0	0	0	0	0	0	0
730	0	0	0	0	0	2	0	0	0	1	0	3	1	2	1	2	0	0	0	0	1	1	1	1
745	0	0	0	0	0	1	0	0	1	1	2	2	1	2	3	4	0	0	1	1	0	1	0	1
800	0	0	0	0	0	1	0	0	0	1	1	3	0	2	0	4	0	0	0	1	0	1	0	1
815	0	0	0	0	0	0	0	0	0	1	0	3	0	2	0	4	0	0	0	1	0	1	1	2
830	0	0	0	0	0	0	0	0	0	1	0	3	0	1	1	4	0	0	0	1	0	0	1	2
845	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
900	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
915	0	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	1	1	1	1	1	1	0	1
930	0	0	0	1	0	0	0	1	1	1	1	2	1	1	0	0	0	1	1	2	0	1	2	2
945	0	0	0	1	0	0	0	0	0	1	1	3	0	1	0	0	0	1	0	2	0	1	0	2
1000	0	0	0	0	0	0	0	0	0	1	0	3	0	1	0	0	0	1	1	3	0	1	0	2
1015	0	0	0	0	1	1	0	0	0	1	0	2	0	1	0	0	0	0	2	4	0	0	1	3
1030	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	1	4	1	1	0	1
1045	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2	0	4	0	1	0	1
1100	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	2	0	3	1	2	0	1
1115	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	2	0	1	0	2	1	1
1130	1	1	0	0	0	0	0	2	0	0	0	0	1	1	1	1	0	1	0	0	1	2	0	1
1145	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	1
1200	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	1	1	0	1	1	2
1215	0	1	0	0	1	1	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1	2	0	1
1230	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	1	0	1	0	1	1	2
1245	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	2	0	1	0	2
1300	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	1	1	2	1	2
1315	0	0	0	0	0	0	0	0	0	0	1	2	1	1	1	1	0	1	1	2	0	1	0	2
1330	0	0	0	0	2	2	0	0	1	1	0	1	1	2	1	2	0	0	0	2	0	1	1	2
1345	0	0	0	0	0	2	0	0	0	1	1	2	0	2	0	2	0	0	0	1	0	1	0	2
1400	0	0	1	1	1	3	0	0	0	1	0	2	1	3	1	3	0	0	0	1	0	0	1	2
1415	0	0	0	1	0	3	0	0	0	1	0	1	0	2	0	2	0	0	1	1	0	0	0	2
1430	1	1	0	1	0	1	0	0	1	1	1	2	0	1	0	1	2	2	0	1	0	0	0	1
1445	0	1	1	2	0	1	1	1	0	1	0	1	0	1	0	1	1	3	0	1	1	1	1	2
1500	0	1	0	1	1	1	2	3	0	1	0	1	2	2	2	2	0	3	0	1	0	1	0	1
1515	1	2	0	1	0	1	0	3	2	3	1	2	1	3	2	4	1	4	1	1	0	1	0	1
1530	0	1	0	1	0	1	1	4	0	2	0	1	0	3	0	4	0	2	0	1	0	1	0	1
1545	0	1	2	2	2	3	1	4	0	2	0	1	0	3	0	4	0	1	1	2	0	0	1	1
1600	1	2	1	3	1	3	0	2	1	3	1	2	1	2	2	4	0	1	0	2	0	0	0	1
1615	2	3	0	3	1	4	1	3	0	1	0	1	0	1	0	2	1	1	0	1	0	0	0	1
1630	0	3	0	3	0	4	0	2	2	3	0	1	2	3	2	4	0	1	0	1	1	1	1	2
1645	1	4	0	1	0	2	1	2	0	3	1	2	0	3	0	4	0	1	0	0	0	1	0	1
1700	0	3	0	0	0	1	1	3	0	2	0	1	0	2	0	2	0	1	0	0	0	1	0	1
1715	0	1	1	1	1	1	0	2	1	3	0	1	2	4	2	4	1	1	1	1	0	1	0	1
1730	1	2	0	1	0	1	0	2	1	2	1	2	0	2	0	2	0	1	1	2	0	0	0	0
1745	1	2	1	2	0	1	0	1	0	2	0	1	0	2	0	2	0	1	0	2	1	1	0	0
1800	0	2	0	2	0	1	0	0	0	2	0	1	0	2	0	2	1	2	0	2	0	1	1	1
1815	0	2	1	2	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	1	0	1
1830	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1
1845	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	0	0	1
1900	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	0	0
1915	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	1	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
2030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	10	N/A	10	N/A	13	N/A	12	N/A	13	N/A	18	N/A	17	N/A	22	N/A	13	N/A	17	N/A	15	N/A	18	N/A
AM		1		1		2		1		2		3		2		4		1		2		3		2
NOON		1		2		3		2		1		3		3		3		3		4		2		3
PM		4		3		4		4		3		2		4		4		4		2		1		2
EVEN		0		0		0		0		0		0		0		0		1		1		0		0

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B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday				4-Nov-09 Wednesday				5-Nov-09 Thursday			
Location	D. On Road 14 1/2, between Avenue 21 & Avenue 22								E. On Avenue 23 (SR 152), between Road 13 & Road 14								F. On Avenue 24, between Road 12 1/2 & Road 13							
Direction	North Bound		South Bound		North Bound		South Bound		East bound		West Bound		East bound		West Bound		East Bound		West Bound		East Bound		West Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	23	0	18	0	10	0	32	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	12	0	18	0	17	0	27	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	14	0	16	0	16	0	18	0	0	0	0	0	0	0	0	0
1245	0	0	0	0	2	2	0	0	20	69	28	80	11	54	31	108	0	0	0	0	0	0	0	0
100	0	0	0	0	0	2	0	0	8	54	26	88	20	64	20	96	1	1	1	1	0	0	0	0
115	0	0	0	0	0	2	0	0	6	48	15	85	10	57	15	84	1	2	0	1	0	0	0	0
130	0	0	0	0	0	2	0	0	8	42	23	92	3	44	32	98	0	2	0	1	0	0	0	0
145	0	0	0	0	0	0	0	0	11	33	22	86	15	48	26	93	0	2	0	1	0	0	0	0
200	0	0	0	0	0	0	0	0	11	36	12	72	8	36	29	102	0	1	0	0	0	0	0	0
215	0	0	0	0	0	0	0	0	9	39	25	82	10	36	46	133	0	0	0	0	0	0	0	0
230	0	0	0	0	0	0	0	0	9	40	37	96	10	43	28	129	0	0	0	0	0	0	0	0
245	0	0	0	0	0	0	0	0	13	42	33	107	13	41	40	143	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	9	40	38	133	14	47	42	156	0	0	0	0	0	0	0	0
315	0	0	0	0	0	0	0	0	15	46	29	137	8	45	34	144	0	0	0	0	2	2	0	0
330	0	0	0	0	0	0	0	0	6	43	38	138	10	45	44	160	0	0	0	0	0	2	0	0
345	0	0	0	0	0	0	0	0	9	39	55	160	11	43	34	154	0	0	0	0	0	2	0	0
400	0	0	0	0	0	0	0	0	14	44	47	169	9	38	45	157	0	0	0	0	0	2	0	0
415	0	0	0	0	0	0	0	0	12	41	57	197	8	38	66	189	0	0	0	0	0	0	0	0
430	0	0	0	0	0	0	0	0	14	49	59	218	16	44	52	197	0	0	0	0	0	0	0	0
445	0	0	0	0	0	0	0	0	12	52	82	245	16	49	106	269	0	0	0	0	0	0	0	0
500	0	0	0	0	0	0	0	0	26	64	66	264	24	64	66	290	0	0	0	0	0	0	0	0
515	0	0	0	0	0	0	0	0	23	75	79	286	25	81	70	294	0	0	0	0	0	0	0	0
530	0	0	0	0	0	0	0	0	35	96	94	321	21	86	97	339	0	0	0	0	0	0	0	0
545	0	0	0	0	1	1	0	0	24	108	117	356	30	100	101	334	0	0	0	0	4	4	1	1
600	0	0	0	0	0	1	1	1	30	112	100	390	28	104	79	347	0	0	0	0	2	6	0	1
615	0	0	0	0	0	1	0	1	53	142	91	402	35	114	91	368	0	0	0	0	0	6	1	2
630	0	0	1	1	0	1	1	2	40	147	88	396	46	139	90	361	0	0	1	1	0	6	0	2
645	0	0	0	1	1	1	1	3	44	167	112	391	37	146	91	351	1	1	1	2	0	2	0	1
700	0	0	0	1	0	1	0	2	52	189	112	403	45	163	102	374	1	2	0	2	0	0	0	1
715	1	1	1	2	0	1	0	2	56	192	94	406	47	175	95	378	2	4	1	3	0	0	0	0
730	1	2	0	1	0	1	0	1	51	203	93	411	58	187	108	396	1	5	0	2	0	0	0	0
745	0	2	0	1	0	0	0	0	77	236	113	412	57	207	113	418	0	4	1	2	3	3	2	2
800	0	2	1	2	0	0	0	0	59	243	116	416	71	233	116	432	2	5	0	2	0	3	0	2
815	0	1	0	1	0	0	0	0	49	236	105	427	75	261	123	460	0	3	0	1	0	3	0	2
830	0	0	0	1	1	1	1	1	58	243	107	441	57	260	123	475	2	4	0	1	1	4	0	2
845	1	1	0	1	1	2	1	2	52	218	123	451	61	264	126	488	2	6	1	1	0	1	0	0
900	0	1	0	0	0	2	0	2	71	230	121	456	70	263	97	469	1	5	1	2	0	1	0	0
915	0	1	0	0	0	2	0	2	66	247	102	453	53	241	118	464	2	7	1	3	3	4	2	2
930	0	1	1	1	0	1	1	2	71	260	149	495	64	248	122	463	1	6	0	3	0	3	0	2
945	1	1	0	1	0	0	0	1	89	297	133	505	66	253	140	477	2	6	2	4	0	3	0	2
1000	0	1	0	1	1	1	1	2	90	316	134	518	93	276	108	488	1	6	0	3	0	3	0	2
1015	1	2	2	3	0	1	1	3	82	332	154	570	73	296	130	500	1	5	0	2	0	0	1	1
1030	0	2	0	2	2	3	0	2	72	333	110	531	73	305	130	508	0	4	1	3	1	1	1	2
1045	0	1	0	2	0	3	0	2	81	325	121	519	97	336	124	492	2	4	0	1	0	1	0	2
1100	0	1	0	2	0	2	0	1	65	300	119	504	77	320	148	532	1	4	1	2	1	2	1	3
1115	0	0	1	1	0	2	1	1	65	283	133	483	99	346	137	539	1	4	0	2	1	3	0	2
1130	0	0	0	1	1	1	0	1	69	280	103	476	88	361	136	545	2	6	1	2	4	6	4	5
1145	0	0	0	1	0	1	0	1	85	284	120	475	81	345	94	515	1	5	1	3	2	8	1	6
1200	0	0	1	2	0	1	1	2	84	303	130	486	58	326	118	485	0	4	2	4	0	7	2	7
1215	0	0	0	1	1	2	0	1	95	333	105	458	50	277	87	435	0	3	0	4	0	6	0	7
1230	0	0	0	1	1	2	1	2	78	342	102	457	45	234	76	375	0	1	0	3	1	3	0	3
1245	0	0	1	2	0	2	0	2	91	348	123	460	81	234	89	370	0	0	0	2	0	1	2	4
1300	1	1	0	1	0	2	0	1	68	332	104	434	78	254	70	322	1	1	2	2	1	2	2	4
1315	0	1	1	2	0	1	0	1	97	334	107	436	89	293	111	346	0	1	0	2	1	3	1	5
1330	0	1	0	2	0	0	1	1	101	357	121	455	65	313	81	351	0	1	0	2	1	3	0	5
1345	0	1	0	1	0	0	0	1	82	348	129	461	89	321	98	360	1	2	0	2	0	3	2	5
1400	1	1	1	2	0	0	1	2	78	358	106	463	105	348	88	378	2	3	4	4	1	3	0	3
1415	0	1	1	2	0	0	0	2	100	361	105	461	83	342	84	351	1	4	1	5	0	2	1	3
1430	1	2	1	3	0	0	0	1	113	373	139	479	95	372	99	369	1	5	0	5	2	3	1	4
1445	1	3	0	3	0	0	1	2	101	392	121	471	88	371	89	360	1	5	3	8	0	3	0	2
1500	0	2	0	2	0	0	1	2	86	400	126	491	87	353	81	353	0	3	2	6	0	2	0	2
1515	0	2	1	2	0	0	0	2	100	400	102	488	106	376	91	360	1	3	0	5	0	2	0	1
1530	0	1	0	1	0	0	0	2	110	397	119	468	102	383	80	341	2	4	3	8	1	1	1	1
1545	2	2	1	2	0	0	1	2	101	397	113	460	107	402	95	347	1	4	3	8	0	1	2	3
1600	1	3	1	3	0	0	0	1	112	423	110	444	111	426	107	373	0	4	0	6	1	2	2	5
1615	1	4	0	2	0	0	0	1	96	419	109	451	109	429	87	369	0	3	0	6	1	3	1	6
1630	0	4	0	2	1	1	1	2	123	432	109	441	106	433	76	365	1	2	0	3	0	2	0	5
1645	0	2	0	1	0	1	0	1	100	431	99	427	97	423	102	372	1	2	1	1	0	2	0	3
1700	1	2	0	0	1	2	0	1	88	407	103	420	119	431	90	355	0	2	0	1	0	1	0	1
1715	0	1	0	0	0	2	0	1	141	452	86	397	93	415	96	364	1	3	2	3	0	0	0	0
1730	0	1	1	1	0	1	0	0	111	440	93	381	126	435	93	381	1	3	1	4	1	1	0	0
1745	0	1	0	1	0	1	0	0	102	442	74	356	129	467	78	357	1	3	0	3	0	1	1	1
1800	0	0	0	1	0	0	1	1	97	451	82	335	93	441	73	340	0	3	0	3	0	1	0	1
1815	0	0	0	1	0	0	0	1	93	403	89	338	85	433	79	323	0	2	0	1	1	2	0	1
1830	0	0	0	0	0	0	0	1	92	384	58	303	65	372	73	303	0	1	1	1	0	1	1	2
1845	0	0	0	0	0	0	0	1	64	346	87	316	87	330	73	298	0	0	0	1	1	2	0	1
1900	0	0	0	0	0	0	0	0	61	310	53	287	60	297	57	282	1	1	2	3	0	2	1	2
1915	0	0	1	1	0	0	0	0	42	259	59	257	33	245	46	249	1	2	0	3	1	2	0	2
1930	0	0	0	1	0	0	0	0	38	205	56	255	57	237	49	225	0	2	0	2	0	2	1	2
1945	1	1	0	1	0	0	0	0	51	192	67	235	59	209	43	195	0	2	0	2	2	3	3	5
2000	0	1	0	1	0	0	0	0	50	181	37	219	60	209	60	198	0	1	1	1	0	3	0	4
2015	0	1	0	0	0	0	0	0	49	188	34	194	53	229	40	192	0	0	0	1	0	2	0	4
2030	0	1	0	0	0	0	0	0	53	203	46	184	45	217	39	182	0	0	0	1	0	2	0	3
2045	0	0	0	0	0	0	0	0	55	207	29	146	28	186	44	183	0	0	2	3	0	0	0	0
2100	0	0	0	0	0	0	0	0	46	203	47	156	36	162	45	168	0	0	0	2	1	1	0	0
2115	0	0	0	0	0	0	0	0	48	202	38	160	24	133	30	158	0	0	0	2	0	1	0	0
2130	0	0	0	0	0	0	0	0	38	187	45	159	36	124	33	152	0	0	0	2	0	1	0	0
2145	0	0	0	0	0	0	0	0	34	166	39	169	26	122	44	152	0	0	0	0	0	1	0	0
2200	0	0	0	0	0	0	0	0	20	140	28	150	34	120	33	140	0	0	0	0	0	0	0	0
2215	0	0	0	0	0	0	0	0	28	120	31	143	31	127	25	135	0	0	0	0	0	0	0	0
2230	0	0	0	0	0	0	0	0	25	107	42	140	31	122	24	126	0	0	0	0	0	0	0	0
2245	0	0	0	0	0	0	0	0	21	94	32	133	24	120	35	117	0	0	0	0	0	0	0	0
2300	0	0	0	0	0	0	0	0	33	107	25	130	29	115	26	110	0	0	0	0	0	0	0	0
2315	0	0	0	0	0	0	0	0	30	109	41	140	22	106	13	98	0	0	0	0	0	0	0	0
2330	0	0	0	0	0	0	0	0	17	101	34	132	17	92	31	105	0	0	0	0	0	0	0	0
2345	0	0	0	0	0	0	0	0	21	101	30	130	21	89	12	82	0	0	0	0	0	0	0	0
TOTAL	15	N/A	18	N/A	14	N/A	18	N/A	5,334	N/A	7,551	N/A	5,160	N/A	7,035	N/A	46	N/A	44	N/A	41	N/A	38	N/A
AM		2		2		2		3		297		505		264		488		7		4		6		2
NOON		3		3		3		3		392		570		372		545		6		8		8		7
PM		4		3		2		2		452		491		467		381		4		8		3		6
EVEN		1		1		0		0		207		219		229		198		1		3		3		4

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	17-Nov-09 Tuesday				18-Nov-09 Wednesday				17-Nov-09 Tuesday				18-Nov-09 Wednesday				17-Nov-09 Tuesday				18-Nov-09 Wednesday			
Location	i. On Road 31, just south of Avenue 7								ii. On Avenue 7, between Road 30 & 31								iii. On Road 30, just north of Avenue 7							
Direction	North Bound		South Bound		North Bound		South Bound		East Bound		West Bound		East Bound		West Bound		North Bound		South Bound		North Bound		South Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	1	0	0	0	4	0	1	0	3	0	3	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	1	0	3	0	1	0	1	0	0	0	0	0	0	0	0	0
1245	1	1	0	0	0	1	0	0	0	7	0	6	2	7	2	7	0	0	0	0	0	0	0	0
100	0	1	0	0	0	0	0	0	2	5	0	5	1	5	0	4	0	0	0	0	0	0	0	0
115	0	1	0	0	0	0	0	0	0	3	0	3	0	4	1	4	0	0	0	0	0	0	0	0
130	0	1	0	0	0	0	0	0	1	3	0	0	0	3	4	7	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	3	1	1	2	3	0	5	0	0	0	0	0	0	0	0
200	0	0	0	0	0	0	0	0	1	2	1	2	1	3	0	5	0	0	0	0	0	0	1	1
215	0	0	0	0	0	0	0	0	1	3	0	2	1	4	2	6	1	1	0	0	0	0	0	1
230	0	0	0	0	0	0	0	0	1	3	1	3	0	4	3	5	0	1	0	0	0	0	0	1
245	0	0	0	0	0	0	0	0	0	3	0	2	2	4	3	8	0	1	1	1	0	0	0	1
300	0	0	0	0	0	0	0	0	0	2	3	4	2	5	5	13	0	1	0	1	0	0	0	0
315	0	0	0	0	0	0	0	0	0	1	3	7	0	4	1	12	0	0	0	1	0	0	1	1
330	0	0	0	0	1	1	0	0	2	2	2	8	1	5	9	18	0	0	0	1	0	0	0	1
345	0	0	0	0	1	2	0	0	3	5	7	15	4	7	6	21	0	0	1	1	0	0	0	1
400	0	0	0	0	0	2	0	0	2	7	9	21	2	7	21	37	0	0	0	1	1	1	2	3
415	0	0	0	0	0	2	0	0	2	9	7	25	3	10	63	99	0	0	1	2	0	1	1	3
430	1	1	0	0	0	1	0	0	3	10	28	51	6	15	39	129	1	1	2	4	0	1	3	6
445	0	1	0	0	2	2	0	0	5	12	49	93	6	17	20	143	0	1	1	4	2	3	3	9
500	0	1	0	0	0	2	0	0	8	18	24	108	8	23	29	151	2	3	1	5	1	3	3	10
515	1	2	0	0	1	3	0	0	9	25	34	135	7	27	26	114	0	3	2	6	3	6	3	12
530	0	1	0	0	1	4	1	1	13	35	22	129	14	35	36	111	2	4	3	7	1	7	3	12
545	1	2	0	0	0	2	0	1	15	45	32	112	14	43	40	131	1	5	2	8	0	5	2	11
600	0	2	0	0	1	3	0	1	12	49	41	129	10	45	27	129	1	4	1	8	0	4	1	9
615	0	1	1	1	0	2	0	1	16	56	43	138	14	52	26	129	1	5	3	9	0	1	0	6
630	0	1	0	1	0	1	0	0	19	62	33	149	21	59	42	135	0	3	1	7	1	1	1	4
645	0	0	0	1	1	2	1	1	21	68	37	154	20	65	23	118	6	8	1	6	0	1	2	4
700	0	0	0	1	0	1	0	1	21	77	37	150	20	75	21	112	2	9	1	6	4	5	7	10
715	0	0	0	0	0	1	0	1	19	80	30	137	23	84	35	121	4	12	1	4	1	6	2	12
730	0	0	0	0	1	2	0	1	22	83	24	128	15	78	19	98	3	15	0	3	0	5	3	14
745	1	1	0	0	0	1	0	0	16	78	38	129	21	79	28	103	2	11	1	3	2	7	2	14
800	0	1	0	0	0	1	0	0	21	78	21	113	17	76	17	99	0	9	1	3	2	5	2	9
815	0	1	0	0	0	1	1	1	24	83	30	113	26	79	26	90	1	6	2	4	0	4	1	8
830	0	1	0	0	0	0	0	1	17	78	29	118	16	80	16	87	1	4	2	6	3	7	4	9
845	0	0	0	0	0	0	1	2	21	83	16	96	26	85	18	77	0	2	5	10	3	8	4	11
900	0	0	0	0	0	0	0	2	27	89	33	108	25	93	26	86	0	2	4	13	2	8	0	9
915	0	0	0	0	0	0	1	2	24	89	32	110	24	91	28	88	0	1	3	14	2	10	1	9
930	0	0	0	0	0	0	0	2	25	97	22	103	21	96	17	89	3	3	0	12	2	9	2	7
945	0	0	1	1	0	0	1	2	22	98	31	118	22	92	17	88	1	4	0	7	1	7	0	3
1000	2	2	1	2	0	0	0	2	21	92	30	115	24	91	28	90	0	4	3	6	0	5	2	5
1015	0	2	0	2	0	0	0	1	22	90	29	112	21	88	15	77	0	4	1	4	1	4	0	4
1030	0	2	0	2	0	0	0	1	24	89	18	108	23	90	22	82	2	3	1	5	0	2	2	4
1045	0	2	0	1	0	0	0	0	25	92	20	97	20	88	30	95	1	3	0	5	1	2	3	7
1100	0	0	0	0	0	0	0	0	27	98	26	93	22	86	31	98	0	3	2	4	1	3	1	6
1115	0	0	0	0	1	1	0	0	24	100	20	84	19	84	16	99	0	3	4	7	4	6	2	8
1130	3	3	0	0	0	1	0	0	18	94	31	97	18	79	15	92	1	2	2	8	4	10	5	11
1145	0	3	0	0	1	2	1	1	21	90	23	100	20	79	25	87	3	4	4	12	1	10	2	10
1200	0	3	0	0	1	3	0	1	21	84	16	90	22	79	22	78	0	4	0	10	4	13	0	9
1215	0	3	0	0	0	2	0	1	22	82	26	96	17	77	20	82	3	7	2	8	0	9	1	8
1230	1	1	3	3	1	3	0	1	21	85	21	86	29	88	30	97	0	6	0	6	1	6	3	6
1245	0	1	0	3	2	4	0	0	27	91	26	89	28	96	31	103	0	3	1	3	2	7	3	7
1300	0	1	0	3	0	3	0	0	29	99	13	86	35	109	34	115	0	3	3	6	6	9	1	8
1315	0	1	0	3	0	3	0	0	32	109	25	85	35	127	28	123	0	0	2	6	1	10	2	9
1330	0	0	0	0	1	3	1	1	35	123	27	91	30	128	22	115	0	0	3	9	0	9	1	7
1345	2	2	0	0	0	1	0	1	33	129	32	97	27	127	26	110	5	5	3	11	3	10	1	5
1400	0	2	0	0	2	3	0	1	26	126	24	108	20	112	31	107	0	5	2	10	5	9	4	8
1415	0	2	0	0	0	3	0	1	24	118	42	125	30	107	37	116	0	5	4	12	3	11	2	8
1430	1	3	0	0	0	2	0	0	33	116	26	124	16	93	34	128	4	9	7	16	2	13	0	7
1445	0	1	0	0	0	2	0	0	27	110	28	120	13	79	19	121	3	7	8	21	1	11	0	6
1500	0	1	0	0	0	0	0	0	21	105	19	115	23	82	32	122	2	9	4	23	0	6	3	5
1515	0	1	0	0	0	0	0	0	17	98	38	111	16	68	22	107	2	11	3	22	1	4	2	5
1530	0	0	0	0	0	0	0	0	16	81	28	113	18	70	43	116	0	7	4	19	1	3	2	7
1545	0	0	0	0	0	0	0	0	15	69	29	114	15	72	39	136	1	5	4	15	0	2	2	9
1600	0	0	1	1	0	0	0	0	17	65	21	116	15	64	28	132	1	4	1	12	0	2	3	9
1615	0	0	0	1	1	1	0	0	16	64	31	109	16	64	20	130	1	3	5	14	0	1	0	7
1630	0	0	0	1	0	1	0	0	18	66	25	106	16	62	22	109	2	5	0	10	0	0	0	5
1645	0	0	0	1	0	1	0	0	21	72	22	99	33	80	14	84	0	4	1	7	0	0	0	3
1700	0	0	0	0	0	1	0	0	20	75	17	95	23	88	21	77	1	4	1	7	0	0	1	1
1715	0	0	0	0	0	0	0	0	19	78	18	82	21	93	13	70	1	4	2	4	0	0	1	2
1730	0	0	1	1	0	0	0	0	18	78	24	81	21	98	15	63	0	2	1	5	0	0	1	3
1745	0	0	0	1	0	0	0	0	19	76	20	79	34	99	21	70	1	3	0	4	1	1	0	3
1800	0	0	0	1	0	0	0	0	19	75	11	73	16	92	10	59	0	2	1	4	1	2	2	4
1815	0	0	0	1	0	0	0	0	15	71	7	62	12	83	8	54	0	1	0	2	0	2	0	3
1830	0	0	0	0	0	0	0	0	14	67	14	52	15	77	11	50	1	2	0	1	0	2	0	2
1845	0	0	0	0	0	0	0	0	7	55	9	41	13	56	16	45	0	1	1	2	3	4	0	2
1900	0	0	0	0	0	0	0	0	7	43	11	41	8	48	14	49	1	2	2	3	1	4	0	0
1915	0	0	0	0	0	0	0	0	9	37	6	40	8	44	7	48	0	2	0	3	0	4	0	0
1930	0	0	0	0	0	0	0	0	10	33	3	29	6	35	7	44	0	1	0	3	0	4	1	1
1945	0	0	0	0	0	0	0	0	8	34	4	24	5	27	8	36	0	1	0	2	1	2	1	2
2000	0	0	0	0	0	0	0	0	5	32	7	20	11	30	6	28	0	0	0	0	0	1	1	3
2015	0	0	0	0	0	0	0	0	7	30	10	24	9	31	8	29	4	4	0	0	0	1	0	3
2030	0	0	0	0	0	0	0	0	7	27	3	24	8	33	8	30	0	4	0	0	0	1	0	2
2045	0	0	0	0	0	0	0	0	8	27	4	24	6	34	4	26	0	4	0	0	0	0	0	1
2100	0	0	0	0	0	0	0	0	9	31	5	22	8	31	3	23	1	5	2	2	0	0	0	0
2115	0	0	0	0	0	0	0	0	5	29	8	20	4	26	1	16	0	1	0	2	0	0	0	0
2130	0	0	0	0	0	0	0	0	8	30	7	24	9	27	4	12	1	2	0	2	0	0	0	0
2145	0	0	0	0	0	0	0	0	5	27	3	23	4	25	3	11	0	2	0	2	1	1	0	0
2200	0	0	0	0	0	0	0	0	6	24	2	20	6	23	0	8	0	1	1	1	0	1	1	1
2215	0	0	0	0	0	0	0	0	7	26	3	15	7	26	4	11	1	2	0	1	0	1	0	1
2230	0	0	0	0	0	0	0	0	5	23	3	11	4	21	0	7	1	2	0	1	0	1	0	1
2245	0	0	0	0	0	0	0	0	9	27	0	8	7	24	1	5	0	2	0	1	0	0	0	1
2300	0	0	0	0	1	1	0	0	8	29	3	9	7	25	1	6	0	2	0	0	0	0	0	0
2315	0	0	0	0	0	1	0	0	6	28	2	8	7	25	3	5	0	1	0	0	0	0	0	0
2330	0	0	0	0	0	1	0	0	5	28	0	5	2	23	0	5	0	0	0	0	0	0	0	0
2345	0	0	0	0	0	1	0	0	3	22	0	5	5	21	1	5	0	0	0	0	0	0	0	0
TOTAL	14	N/A	8	N/A	21	N/A	8	N/A	1,323	N/A	1,646	N/A	1,309	N/A	1,635	N/A	76	N/A	125	N/A	81	N/A	110	N/A
AM	2		1		3		2		98		154		96		135		15		14		10		14	
NOON	3		3		4		2		129		125		128		128		9		21		13		11	
PM	1		1		1		0		105		116		99		136		11		23		6		9	
EVEN	0		0		1		0		32		24		34		30		5		2		1		3	

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	17-Nov-09 Tuesday				18-Nov-09 Wednesday				17-Nov-09 Tuesday				18-Nov-09 Wednesday				17-Nov-09 Tuesday				18-Nov-09 Wednesday			
Location	iv. On Road 29 1/2, between Avenue 7 & Avenue 8								v. On Road 29, between Avenue 7 & Avenue 8								vi. On Road 28 1/2, between Avenue 7 & Avenue 8							
Direction	North Bound		South Bound		North Bound		South Bound		North Bound		South Bound		North Bound		South Bound		North Bound		South Bound		North Bound		South Bound	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
200	0	0	0	0	0	0	3	3	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
215	0	0	0	0	0	0	0	3	0	1	2	2	0	1	0	0	0	0	0	0	0	0	0	0
230	0	0	2	2	0	0	0	3	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
245	0	0	0	2	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
315	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0
345	0	0	0	0	1	1	1	1	0	0	0	1	0	0	5	7	0	0	0	0	2	2	0	0
400	0	0	0	0	1	2	1	2	0	0	2	3	2	2	2	9	0	0	0	0	1	3	1	1
415	0	0	0	0	0	2	1	3	0	0	4	7	2	4	6	13	0	0	0	0	0	3	0	1
430	0	0	1	1	0	2	1	4	2	2	2	8	2	6	1	14	1	1	0	0	0	3	0	1
445	1	1	2	3	1	2	5	8	3	5	3	11	6	12	5	14	2	3	0	0	0	1	1	2
500	1	2	1	4	0	1	2	9	4	9	5	14	2	12	8	20	1	4	0	0	1	1	0	1
515	1	3	3	7	1	2	1	9	3	12	2	12	4	14	0	14	0	4	0	0	2	3	1	2
530	1	4	0	6	0	2	1	9	6	16	7	17	3	15	6	19	0	3	0	0	0	3	0	2
545	0	3	3	7	1	2	1	5	4	17	3	17	6	15	0	14	0	1	1	1	0	3	0	1
600	0	2	2	8	1	3	0	3	3	16	2	14	5	18	2	8	1	1	0	1	1	3	0	1
615	3	4	1	6	1	3	2	4	7	20	5	17	3	17	2	10	2	3	0	1	0	1	0	0
630	0	3	0	6	1	4	2	5	7	21	5	15	3	17	5	9	0	3	0	1	0	1	0	0
645	2	5	1	4	1	4	2	6	6	23	0	12	6	17	6	15	0	3	0	0	0	1	2	2
700	0	5	1	3	3	6	1	7	4	24	5	15	4	16	9	22	0	2	0	0	0	0	0	2
715	3	5	1	3	0	5	4	9	4	21	4	14	6	19	2	22	0	0	0	0	1	1	0	2
730	0	5	2	5	2	6	2	9	7	21	3	12	5	21	7	24	0	0	0	0	3	4	0	2
745	1	4	6	10	1	6	1	8	2	17	1	13	2	17	3	21	0	0	0	0	0	4	0	0
800	4	8	3	12	0	3	0	7	3	16	4	12	7	20	8	20	0	0	0	0	2	6	0	0
815	2	7	1	12	1	4	0	3	0	12	6	14	1	15	2	20	1	1	0	0	0	5	0	0
830	1	8	0	10	0	2	1	2	0	5	3	14	4	14	4	17	0	1	0	0	1	3	0	0
845	1	8	1	5	1	2	1	2	6	9	6	19	4	16	4	18	1	2	6	6	0	3	0	0
900	1	5	2	4	2	4	0	2	1	7	1	16	3	12	2	12	1	3	0	6	0	1	0	0
915	0	3	1	4	0	3	0	2	3	10	2	12	1	12	2	12	1	3	2	8	0	1	0	0
930	2	4	0	4	3	6	0	1	5	15	3	12	4	12	5	13	1	4	0	8	1	1	1	1
945	0	3	0	3	2	7	3	3	3	12	6	12	0	8	1	10	2	5	0	2	1	2	1	2
1000	1	3	0	1	2	7	0	3	6	17	4	15	5	10	2	10	0	4	1	3	1	3	0	2
1015	1	4	1	1	0	7	2	5	1	15	4	17	0	9	4	12	0	3	0	1	0	3	1	3
1030	1	3	1	2	2	6	1	6	4	14	2	16	4	9	1	8	0	2	1	2	0	2	0	2
1045	1	4	1	3	0	4	2	5	2	13	3	13	4	13	3	10	2	2	0	2	1	2	1	2
1100	1	4	2	5	0	2	1	6	4	11	7	16	3	11	5	13	0	2	0	1	0	1	0	2
1115	1	4	1	5	0	2	4	8	6	16	3	15	3	14	3	12	0	2	1	2	0	1	0	1
1130	0	3	0	4	0	0	1	8	2	14	6	19	0	10	2	13	2	4	0	1	0	1	0	1
1145	2	4	0	3	2	2	1	7	1	13	4	20	3	9	5	15	0	2	0	1	1	1	1	1
1200	2	5	1	2	2	4	1	7	4	13	5	18	4	10	0	10	0	2	0	1	0	1	1	2
1215	0	4	1	2	0	4	2	5	2	9	5	20	1	8	4	11	0	2	0	0	1	2	2	4
1230	1	5	1	3	1	5	0	4	5	12	6	20	3	11	4	13	0	0	0	0	2	4	0	4
1245	0	3	2	5	0	3	0	3	4	15	3	19	6	14	6	14	1	1	0	0	1	4	0	3
1300	0	1	2	6	1	2	2	4	0	11	6	20	3	13	5	19	0	1	0	0	1	5	0	2
1315	0	1	1	6	1	3	0	2	2	11	1	16	4	16	6	21	1	2	0	0	0	4	1	1
1330	1	1	3	8	2	4	1	3	4	10	5	15	6	19	6	23	0	2	0	0	0	2	2	3
1345	0	1	3	9	1	5	2	5	5	11	3	15	1	14	3	20	0	1	0	0	1	2	0	3
1400	1	2	2	9	5	9	1	4	3	14	6	15	8	19	5	20	0	1	2	2	0	1	1	4
1415	2	4	3	11	1	9	0	4	2	14	4	18	6	21	2	16	2	2	1	3	1	2	1	4
1430	1	4	0	8	3	10	2	5	12	22	7	20	3	18	5	15	1	3	0	3	1	3	0	2
1445	0	4	1	6	2	11	0	3	0	17	2	19	1	18	4	16	0	3	0	3	1	3	2	4
1500	3	6	1	5	2	8	5	7	3	17	4	17	5	15	5	16	0	3	0	1	0	3	0	3
1515	2	6	0	2	2	9	2	9	7	22	2	15	3	12	5	19	1	2	1	1	0	2	0	2
1530	0	5	0	2	0	6	0	7	1	11	3	11	4	13	2	16	0	1	1	2	0	1	0	2
1545	1	6	1	2	1	5	1	8	9	20	4	13	5	17	2	14	3	4	0	2	0	0	0	0
1600	1	4	0	1	0	3	1	4	2	19	5	14	3	15	0	9	1	5	0	2	0	0	0	0
1615	2	4	2	3	0	1	0	2	4	16	4	16	4	16	4	8	0	4	0	1	0	0	0	0
1630	1	5	0	3	0	1	0	2	1	16	5	18	0	12	2	8	0	4	0	0	0	0	0	0
1645	0	4	0	2	0	0	1	2	1	8	3	17	1	8	1	7	4	5	0	0	0	0	0	0
1700	1	4	0	2	1	1	0	1	0	6	2	14	2	7	1	8	0	4	0	0	0	0	0	0
1715	0	2	1	1	1	2	1	2	0	2	0	10	1	4	0	4	0	4	0	0	0	0	0	0
1730	0	1	0	1	1	3	0	2	1	2	1	6	1	5	0	2	0	4	0	0	0	0	0	0
1745	0	1	0	1	1	4	1	2	0	1	0	3	1	5	6	7	0	0	1	1	0	0	0	0
1800	0	0	0	1	0	3	0	2	0	1	0	1	1	4	1	7	0	0	0	1	1	1	0	0
1815	0	0	0	0	0	2	1	2	0	1	0	1	0	3	2	9	0	0	0	1	0	1	0	0
1830	0	0	0	0	0	1	0	2	2	2	1	1	0	2	1	10	0	0	0	1	0	1	0	0
1845	0	0	1	1	0	0	0	1	1	3	2	3	2	3	1	5	0	0	0	0	0	1	0	0
1900	1	1	1	2	0	0	0	1	1	4	0	3	0	2	0	4	0	0	0	0	0	0	0	0
1915	2	3	0	2	0	0	0	0	2	6	0	3	0	2	0	2	0	0	0	0	0	0	0	0
1930	0	3	0	2	0	0	0	0	1	5	0	2	1	3	0	1	0	0	0	0	0	0	0	0
1945	0	3	0	1	0	0	0	0	0	4	1	1	0	1	1	1	0	0	0	0	0	0	0	0
2000	0	2	0	0	0	0	0	0	0	3	0	1	2	3	0	1	0	0	0	0	0	0	0	0
2015	1	1	0	0	0	0	1	1	1	2	1	2	0	3	0	1	0	0	0	0	0	0	0	0
2030	0	1	1	1	0	0	0	1	0	1	0	2	0	2	0	1	0	0	0	0	0	0	0	0
2045	0	1	0	1	0	0	0	1	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0
2100	0	1	0	1	0	0	0	1	1	2	0	1	0	0	1	1	0	0	0	0	0	0	0	0
2115	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2130	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2145	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
2200	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0
2215	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	0	0	0	0	0	0
2230	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0
2245	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	0	0	0	0	0	0	0	0
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0
2315	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	2	0	0	0	0	0	0	0	0
2330	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0
2345	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
TOTAL	55	N/A	68	N/A	58	N/A	73	N/A	191	N/A	213	N/A	191	N/A	213	N/A	32	N/A	18	N/A	29	N/A	20	N/A
AM		8		12		7		9		24		19		21		24		5		8		6		2
NOON		5		11		11		8		22		20		21		23		4		3		5		4
PM		6		5		9		9		22		18		17		19		5		2		3		3
EVEN		2		1		0		1		3		2		3		3		0		0		0		0

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B.A.Y.M.E.T.R.I.C.S.

Merced - Fresno Traffic Counts

Date	17-Nov-09 Tuesday				18-Nov-09 Wednesday				17-Nov-09 Tuesday				18-Nov-09 Wednesday											
Location	vii. On Road 28, between Avenue 7 & Avenue 8								viii. On Avenue 7, between Road 27 (SR 145) & Road 28															
Direction	North Bound		SouthBound		North Bound		SouthBound		East Bound		West Bound		East Bound		West Bound									
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	2	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0
215	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	4	0	0	0	0	0	0	0	0
230	0	0	0	0	0	1	0	0	0	0	3	3	0	1	0	4	0	0	0	0	0	0	0	0
245	0	0	0	0	0	0	1	1	0	0	0	3	0	1	0	4	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	5	6	1	1	1	4	1	2	0	1	0	0	0	0	0	0	0	0
315	0	0	2	2	0	0	2	8	0	1	0	4	1	2	0	0	0	0	0	0	0	0	0	0
330	0	0	4	6	0	0	1	9	1	2	0	1	0	2	0	0	0	0	0	0	0	0	0	0
345	0	0	3	9	0	0	4	12	0	2	0	1	1	3	2	2	0	0	0	0	0	0	0	0
400	0	0	1	10	0	0	3	10	1	2	0	0	1	3	2	4	0	0	0	0	0	0	0	0
415	1	1	5	13	2	2	4	12	1	3	3	3	2	4	3	7	0	0	0	0	0	0	0	0
430	1	2	5	14	0	2	3	14	1	3	0	3	1	5	2	9	0	0	0	0	0	0	0	0
445	3	5	5	16	3	5	7	17	1	4	2	5	1	5	3	10	0	0	0	0	0	0	0	0
500	2	7	7	22	5	10	4	18	3	6	2	7	2	6	2	10	0	0	0	0	0	0	0	0
515	2	8	4	21	3	11	2	16	3	8	2	6	2	6	6	13	0	0	0	0	0	0	0	0
530	7	14	2	18	6	17	3	16	6	13	1	7	3	8	0	11	0	0	0	0	0	0	0	0
545	4	15	4	17	5	19	7	16	3	15	4	9	6	13	3	11	0	0	0	0	0	0	0	0
600	1	14	6	16	11	25	9	21	9	21	2	9	2	13	4	13	0	0	0	0	0	0	0	0
615	6	18	3	15	2	24	3	22	7	25	1	8	3	14	1	8	0	0	0	0	0	0	0	0
630	4	15	5	18	0	18	2	21	3	22	2	9	1	12	4	12	0	0	0	0	0	0	0	0
645	4	15	1	15	4	17	5	19	2	21	3	8	2	8	2	11	0	0	0	0	0	0	0	0
700	6	20	3	12	3	9	8	18	5	17	9	15	3	9	2	9	0	0	0	0	0	0	0	0
715	4	18	3	12	1	8	7	22	1	11	11	25	4	10	7	15	0	0	0	0	0	0	0	0
730	7	21	9	16	1	9	2	22	7	15	15	38	1	10	3	14	0	0	0	0	0	0	0	0
745	5	22	8	23	1	6	2	19	6	19	6	41	3	11	1	13	0	0	0	0	0	0	0	0
800	6	22	3	23	3	6	3	14	5	19	8	40	0	8	0	11	0	0	0	0	0	0	0	0
815	2	20	4	24	3	8	2	9	1	19	12	41	1	5	0	4	0	0	0	0	0	0	0	0
830	6	19	6	21	4	11	2	9	3	15	3	29	2	6	2	3	0	0	0	0	0	0	0	0
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1015	6	9	3	9	1	6	3	9	5	15	3	22	2	11	1	6	0	0	0	0	0	0	0	0
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2045	0	2	1	2	0	0	0	1	2	7	1	1	0	1	0	1	0	0	0	0	0	0	0	0
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2115	0	1	0	2	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2130	0	0	0	2	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2145	0	0	1	2	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0
2200	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
2215	0	0	0	1	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0
2230	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0
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2315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	215	N/A	263	N/A	143	N/A	224	N/A	272	N/A	331	N/A	139	N/A	127	N/A	0	N/A	0	N/A	0	N/A	0	N/A
AM		22		24		25		22		25		41		14		15		0		0		0		0
NOON		24		25		15		25		29		47		18		17		0		0		0		0
PM		30		24		16		21		58		25		20		18		0		0		0		0
EVEN		4		7		1		1		7		2		2		3		0		0		0		0

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B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday			
	1. On Buhach Rd, just South of Santa Fe Dr								2. On E Bellevue Rd, btw Buhach Rd & Santa Fe Dr								3. On W Avenue 2, West of Santa Fe Dr							
	NB		SB		NB		SB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	1	0	6	0	2	0	4	0	8	0	12	0	9	0	8	0	0	0	6	0	2	0	7	0
1215	3	0	5	0	1	0	3	0	4	0	10	0	9	0	12	0	1	0	7	0	2	0	6	0
1230	0	0	1	0	2	0	0	0	6	0	2	0	7	0	5	0	0	0	5	0	1	0	6	0
1245	0	4	3	15	0	5	2	9	5	23	2	26	4	29	3	28	0	1	4	22	2	7	1	20
100	6	9	0	9	1	4	0	5	2	17	6	20	2	22	5	25	1	2	2	18	3	8	5	18
115	2	8	0	4	2	5	2	4	1	14	3	13	0	13	2	15	4	5	6	17	1	7	2	14
130	2	10	2	5	4	7	2	6	4	12	2	13	2	8	4	14	1	6	0	12	1	7	2	10
145	0	10	0	2	1	8	1	5	3	10	2	13	4	8	3	14	1	7	1	9	0	5	2	11
200	5	9	2	4	0	7	0	5	1	9	1	8	3	9	2	11	3	9	0	7	6	8	1	7
215	0	7	2	6	2	7	0	3	1	9	1	6	1	10	0	9	3	8	3	4	1	8	1	6
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245	4	10	2	6	1	6	3	5	2	4	3	5	1	6	3	5	0	7	0	4	0	9	3	7
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2045	9	50	37	66	7	37	14	57	21	130	51	168	37	153	47	200	13	71	29	114	13	70	39	164
2100	12	55	22	78	12	37	22	68	24	128	35	167	29	147	37	192	8	58	33	127	21	67	33	149
2115	7	43	5	68	7	30	5	49	21	102	43	167	29	135	46	173	5	45	33	124	13	59	35	153
2130	9	37	12	76	9	35	12	53	32	98	44	173	27	122	36	166	6	32	44	139	13	60	31	138
2145	5	33	10	49	5	33	10	49	25	102	30	152	37	122	33	152	16	35	26	136	13	60	22	121
2200	9	30	4	31	9	30	4	31	15	93	14	131	11	104	14	129	16	43	16	119	12	51	11	99
2215	5	28	5	31	5	28	5	31	21	93	22	110	22	97	12	95	9	47	19	105	7	45	16	80
2230	6	25	5	24	6	25	5	24	13	74	16	82	14	84	9	68	6	47	13	74	9	41	15	64
2245	4	24	4	18	4	24	4	18	6	55	13	65	13	60	7	42	4	35	10	58	7	35	5	47
2300	3	18	7	21	3	18	7	21	6	46	9	60	11	60	6	34	7	26	6	48	2	25	7	43
2315	3	16	0	16	3	16	0	16	14	39	7	45	10	48	8	30	3	20	7	36	6	24	8	35
2330	2	12	4	15	2	12	4	15	8	34	8	37	10	44	3	24	4	18	2	25	6	21	5	25
2345	2	10	2	13	2	10	2	13	7	35	6	30	4	35	7	24	3	17	2	17	4	18	9	29
TOTAL	1,850	N/A	1,916	N/A	2,006	N/A	1,999	N/A	3,721	N/A	3,803	N/A	3,863	N/A	3,713	N/A	2,570	N/A	2,673	N/A	2,612	N/A	2,745	N/A
AM		185		139		197		130		289		152		289		159		308		191		313		192
NOON		155		152		165		175		293		306		309		307		195		214		181		225
PM		153		192		165		237		289		400		292		379		216		264		237		265
EVEN		56		78		56		68		145		200		179		213		81		139		108		165

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday			
	4. On Belcher Av, West of Franklin Rd								5a. On Gerard Av, East of SR-99								5b. On Gerard Av, West of SR-99							
	EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	4	0	8	0	4	0	3	0
1215	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6	0	4	0	5	0	5	0
1230	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	5	0	4	0
1245	1	1	0	1	0	2	0	1	0	0	0	1	0	0	0	0	1	13	2	16	4	18	6	18
100	0	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	9	0	8	1	15	6	21
115	0	1	0	1	2	3	0	0	0	0	0	0	0	0	0	0	4	7	5	9	3	13	3	19
130	0	1	0	0	0	3	1	1	0	0	0	0	0	0	0	0	3	8	2	9	2	10	0	15
145	0	0	0	0	1	4	0	1	0	0	1	1	0	0	0	0	4	11	2	9	1	7	2	11
200	2	2	0	0	0	3	1	2	0	0	0	1	1	1	0	0	2	13	2	11	1	7	3	8
215	0	2	1	1	0	1	0	2	0	0	0	1	0	1	0	0	1	10	1	7	2	6	1	6
230	0	2	0	1	0	1	0	1	0	0	0	1	0	1	0	0	1	8	2	7	1	5	0	6
245	0	2	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	4	2	7	0	4	2	6
300	0	0	0	1	0	0	0	0	1	1	1	1	0	0	0	0	1	3	2	7	0	3	1	4
315	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	3	2	8	1	2	3	6
330	1	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	6	12	0	1	2	8
345	0	1	0	0	1	1	0	0	0	1	0	1	0	0	0	0	1	3	1	11	0	1	0	6
400	1	2	3	3	3	4	4	4	0	0	0	0	0	0	0	0	1	3	3	12	1	2	3	8
415	2	4	0	3	2	6	0	4	0	0	0	0	0	0	0	0	2	4	5	15	1	2	1	6
430	1	4	0	3	0	6	1	5	0	0	0	0	0	0	0	0	0	4	5	14	0	2	4	8
445	0	4	0	3	0	5	0	5	0	0	0	0	0	0	0	0	1	4	1	14	1	3	4	12
500	1	4	1	1	0	2	0	1	0	0	0	0	0	0	0	0	0	3	8	19	1	3	4	13
515	0	2	0	1	1	1	0	1	0	0	1	1	0	0	0	0	0	1	4	18	3	5	11	23
530	2	3	3	4	3	4	2	2	0	0	0	1	0	0	0	0	3	4	11	24	2	7	11	30
545	4	7	1	5	1	5	0	2	2	2	2	3	4	4	1	1	3	6	18	41	3	9	14	40
600	1	7	2	6	0	5	1	3	3	5	2	5	4	8	2	3	5	11	19	52	7	15	14	50
615	0	7	2	8	1	5	3	6	1	6	1	5	3	11	3	6	4	15	10	58	10	22	12	51
630	2	7	2	7	3	5	2	6	2	8	4	9	3	14	10	16	10	22	14	61	1	21	7	47
645	2	5	4	10	5	9	1	7	3	9	6	13	1	11	0	15	9	28	23	66	6	24	22	55
700	10	14	4	12	8	17	3	9	0	6	4	15	1	8	4	17	15	38	28	75	6	23	29	70
715	3	17	6	16	9	25	13	19	5	10	5	19	2	7	6	20	21	55	27	92	28	41	25	83
730	27	42	29	43	16	38	16	33	3	11	21	36	0	4	0	10	30	75	37	115	31	71	34	110
745	24	64	6	45	26	59	9	41	0	8	2	32	1	4	2	12	66	132	72	164	73	138	67	155
800	15	69	4	45	18	69	11	49	4	12	9	37	2	5	0	8	46	163	81	217	42	174	75	201
815	12	78	8	47	14	74	6	42	1	8	2	34	2	5	3	5	23	165	45	235	30	176	53	229
830	11	62	8	26	7	65	9	35	0	5	1	14	2	7	0	5	24	159	29	227	29	174	31	226
845	9	47	1	21	5	44	8	34	1	6	5	17	0	6	3	6	24	117	24	179	29	130	32	191
900	9	41	5	22	7	33	4	27	3	5	2	10	3	7	5	11	13	84	39	137	22	110	42	158
915	12	41	7	21	4	23	2	23	0	4	3	11	3	8	2	10	10	71	22	114	23	103	21	126
930	10	40	2	15	4	20	4	18	1	5	3	13	4	10	3	13	17	64	25	110	19	93	28	123
945	4	35	4	18	5	20	7	17	3	7	3	11	3	13	4	14	20	60	30	116	21	85	37	128
1000	8	34	11	24	11	24	8	21	1	5	0	9	1	11	3	12	19	66	28	105	18	81	20	106
1015	8	30	4	21	4	24	4	23	2	7	1	7	1	9	2	12	15	71	22	105	25	83	22	107
1030	5	25	2	21	8	28	3	22	1	7	0	4	10	15	2	11	21	75	24	104	17	81	31	110
1045	10	31	5	22	6	29	2	17	3	7	4	5	7	19	5	12	24	79	26	100	20	80	27	100
1100	10	33	6	17	6	24	3	12	0	6	1	6	4	22	2	11	12	72	21	93	27	89	27	107
1115	6	31	8	21	4	24	2	10	0	4	3	8	3	24	2	11	27	84	22	93	25	89	28	113
1130	4	30	10	29	2	18	6	13	0	3	4	12	0	14	7	16	18	81	26	95	15	87	32	114
1145	10	30	6	30	8	20	4	15	2	2	1	9	3	10	12	23	17	74	30	99	23	90	20	107
1200	6	26	3	27	8	22	5	17	2	4	5	13	2	8	0	21	21	83	41	119	32	95	39	119
1215	14	34	8	27	12	30	13	28	0	4	1	11	3	8	5	24	29	85	20	117	25	95	30	121
1230	7	37	5	22	8	36	4	26	5	9	4	11	4	12	5	22	20	87	26	117	33	113	27	116
1245	14	41	6	22	11	39	4	26	1	8	3	13	4	13	3	13	18	88	33	120	42	132	25	121
1300	10	45	10	29	6	37	6	27	0	6	4	12	0	11	2	15	26	93	28	107	47	147	38	120
1315	4	35	7	28	8	33	9	23	7	13	2	13	4	12	2	12	25	89	28	115	46	168	91	181
1330	7	35	8	31	9	34	4	23	4	12	14	23	1	9	5	12	47	116	20	109	39	174	33	187
1345	12	33	3	28	9	32	7	26	0	11	2	22	1	6	4	13	38	136	39	115	26	158	33	195
1400	5	28	5	23	6	32	5	25	1	12	8	26	7	13	5	16	60	170	37	124	35	146	39	196
1415	7	31	8	24	7	31	7	23	1	6	2	26	6	15	9	23	51	196	60	156	26	126	38	143
1430	9	33	11	27	10	32	4	23	2	4	2	14	0	14	8	26	42	191	42	178	27	114	31	141
1445	17	38	12	36	20	43	15	31	4	8	1	13	0	13	5	27	34	187	28	167	31	119	44	152
1500	13	46	9	40	16	53	6	32	6	13	9	14	1	7	3	25	29	156	54	184	24	108	29	142
1515	7	46	12	44	15	61	9	34	6	18	6	18	1	2	4	20	41	146	39	163	29	111	47	151
1530	11	48	7	40	9	60	7	37	2	18	2	18	1	3	1	13	42	146	40	161	39	123	29	149
1545	10	41	9	37	12	52	9	31	2	16	3	20	3	6	2	10	47	159	35	168	47	139	24	129
1600	10	38	5	33	12	48	10	35	1	11	0	11	0	5	6	13	36	166	21	135	37	152	27	127
1615	3	34	10	31	11	44	12	38	3	8	5	10	1	5	7	16	39	164	28	124	37	160	31	111
1630	9	32	11	35	11	46	6	37	0	6	2	10	2	6	4	19	46	168	38	122	27	148	34	116
1645	11	33	14	40	13	47	5	33	4	8	1	8	0	3	1	18	42	163	34	121	31	132	42	134
1700	10	33	7	42	10	45	14	37	1	8	2	10	1	4	2	14	35	162	34	134	44	139	29	136
1715	13	43	7	39	14	48	10	35	3	8	4	9	3	6	6	13	45	168	37	143	45	147	42	147
1730	4	38	7	35	6	43	8	37	2	10	3	10	0	4	1	10	57	179	29	134	49	169	30	143
1745	4	31	8	29	10	40	9	41	1	7	1	10	1	5	0	9	26	163	32	132	47	185	40	141
1800	6	27	4	26	10	40	4	31	0	6	0	8	1	5	1	8	31	159	31	129	38	179	35	147
1815	5	19	2	21	9	35	10	31	0	3	0	4	0	2	2	4	40	154	30	122	45	179	29	134
1830	6	21	2	16	7	36	6	29	1	2	3	4	1	3	2	5	37	134	22	115	29	159	27	131
1845	5	22	1	9	6	32	8	28	0	1	2	5	3	5	2	7	33	141	27	110	37	149	26	117
1900	7	23	5	10	4	26	4	28	0	1	0	5	0	4	1	7	29	139	21	100	29	140	36	118
1915	2	20	4	12	9	26	6	24	1	2	1	6	2	6	2	7	22	121	16	86	29	124	18	107
1930	7	21	6	16	9	28	6	24	0	1	0	3	0	5	0	5	30	114	36	100	28	123	26	106
1945	4	20	2	17	4	26	5	21	0	1	2	3	2	4	4	7	36	117	17	90	29	115	23	103
2000	2	15	5	17	6	28	10	27	0	1	0	3	1	5	2	8	26	114	15	84	43	129	28	95
2015	2	15	0	13	4	23	4	25	1	1	0	2	0	3	1	7	28	120	21	89	33	133	32	109
2030	2	10	5	12	6	20	2	21	1	2	1	3	1	4	3	10	28	118	16	69	37	142	23	106
2045	6	12	6	16	1	17	3	19	0	2	0	1	0	2	1	7	20	102	24	76	20	133	24	107
2100	5	15	7	18	5	16	9	18	0	2	3	4	0	1	3	8	39	115	21	82	31	121	30	109
2115	4	17	3	21	3	15	5	19	3	4	1	5	0	1	0	7	15	102	15	76	28	116	22	99
2130	2	17	3	19	3	12	4	21	1	4	1	5	1	1	3	7	18	92	15	75	25	104	20	96
2145	2	13	2	15	1	12	2	20	0	4	0	5	0	1	1	7	23	95	18	69	23	107	17	89
2200	1	9	3	11	3	10	1	12	0	4	1	3	0	1	0	4	18	74	9	57	20	96	11	70
2215	0	5	1	9	4	11	2	9	0	1	0	2	1	2	2	6	16	75	8	50	19	87	8	56
2230	2	5	2	8	2	10	2	7	0	0	0	1	0	1	0	3	13	70	12	47	15	77	8	44
2245	0	3	1	7	0	9	0	5	0	0	0	1	0	1	0	2	9	56	10	39	7	61	7	34
2300	1	3	1	5	0	6	2	6	0	0	1	1	0	1	1	3	6	44	7	37	12	53	14	37
2315	1	4	1	5	1	3	2	6	0	0	0	1	0	0	0	1	4	32	5	34	4	38	4	33
2330	0	2	3	6	0	1	1	5	1	1	1	2	0	0	0	1	13	32	3	25	8	31	2	27
2345	2	4	1	6	0	1	2	7	0	1	0	2	0	0	0	1	5	28	4	19	3	27	4	24
TOTAL	518	N/A	418	N/A	548	N/A	429	N/A	109	N/A	196	N/A	127	N/A	204	N/A	1,966	N/A	2,048	N/A	2,046	N/A	2,175	N/A
AM		78		47		74		49		12		37		14		20		165		235		176		229
NOON		45		36		43		31		13		26		24		27		196		178		174		196
PM		48		44		61		41		18		20		7		25		179		184		185		151
EVEN		17		21		28		27		4		5		5		10		120		89		142		109

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B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday			
	6. On E Mission Av, West of Railroad								7. On Healy Rd, West of Railroad								8. On Lingard Rd, West of Railroad							
	EB		WB		EB		WB		NB		SB		NB		SB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	2	0	4	0	2	0	3	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
1215	5	0	4	0	8	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	2	0	3	0	4	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	10	19	7	18	14	28	7	26	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
100	4	21	2	16	1	27	5	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
115	1	17	4	16	5	24	2	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
130	5	20	3	16	12	32	5	19	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1
145	15	25	0	9	12	30	1	13	0	0	1	1	0	0	0	0	0	0	1	1	0	1	0	1
200	3	24	0	7	7	36	9	17	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0
215	3	26	3	6	11	42	2	17	0	0	0	1	0	0	1	2	0	0	0	1	0	1	0	0
230	5	26	0	3	3	33	0	12	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	0
245	6	17	7	10	4	25	1	12	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
300	3	17	5	15	3	21	1	4	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1
315	2	16	0	12	0	10	2	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
330	2	13	1	13	1	8	2	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
345	9	16	0	6	12	16	4	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
400	4	17	5	6	4	17	7	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
415	10	25	4	10	9	26	6	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
430	5	28	2	11	5	30	4	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
445	9	28	14	25	7	25	16	33	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
500	3	27	11	31	3	24	10	36	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
515	6	23	13	40	13	28	7	37	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
530	9	27	8	46	21	44	10	43	0	0	0	0	0	0	0	0	0	0	1	2	0	0	2	2
545	30	48	15	47	14	51	25	52	0	0	0	0	1	1	0	0	2	2	3	4	1	1	0	2
600	12	57	24	60	8	56	30	72	0	0	1	1	0	1	0	0	1	3	1	5	4	5	2	4
615	11	62	11	58	10	53	19	84	0	0	0	1	0	1	0	0	1	4	1	6	2	7	2	6
630	11	64	20	70	16	48	20	94	0	0	1	2	0	1	1	1	5	9	2	7	2	9	2	6
645	12	46	45	100	23	57	44	113	0	0	1	3	0	0	0	1	2	9	5	9	1	9	8	14
700	14	48	43	119	23	72	39	122	1	1	0	2	1	1	0	1	1	9	2	10	4	9	3	15
715	16	53	19	127	18	80	14	117	1	2	2	4	0	1	2	3	1	9	0	9	3	10	1	14
730	27	69	42	149	27	91	31	128	2	4	1	4	0	1	0	2	0	4	2	9	3	11	3	15
745	22	79	31	135	26	94	30	114	1	5	0	3	1	2	1	3	2	4	6	10	1	11	2	9
800	44	109	33	125	26	97	47	122	0	4	0	3	0	1	0	3	2	5	4	12	2	9	2	8
815	26	119	34	140	26	105	31	139	1	4	0	1	2	3	0	1	1	5	3	15	1	7	0	7
830	29	121	34	132	24	102	31	139	0	2	0	0	1	4	2	3	3	8	4	17	4	8	4	8
845	21	120	16	117	23	99	27	136	3	4	0	0	0	3	0	2	0	6	3	14	3	10	5	11
900	9	85	16	100	29	102	19	108	1	5	0	0	4	7	0	2	1	5	4	14	4	12	2	11
915	23	82	8	74	24	100	27	104	2	6	0	0	1	6	3	5	1	5	3	14	0	11	3	14
930	22	75	9	49	22	98	19	92	0	6	0	0	0	5	0	3	1	3	1	11	0	7	3	13
945	19	73	13	46	13	88	22	87	0	3	0	0	0	5	1	4	1	4	3	11	1	5	2	10
1000	14	78	18	48	17	76	21	89	0	2	0	0	1	2	1	5	2	5	4	11	1	2	2	10
1015	18	73	16	56	24	76	19	81	0	0	2	2	2	3	0	2	0	4	3	11	0	2	2	9
1030	20	71	21	68	16	70	28	90	0	0	0	2	1	4	1	3	3	6	5	15	2	4	3	9
1045	23	75	23	78	21	78	29	97	1	1	1	3	2	6	1	3	2	7	5	17	0	3	2	9
1100	19	80	17	77	21	82	19	95	0	1	0	3	0	5	0	2	4	9	1	14	0	2	5	12
1115	16	78	14	75	18	76	10	86	0	1	0	1	0	3	1	3	1	10	2	13	0	2	1	11
1130	21	79	12	66	10	70	16	74	1	2	0	1	0	2	0	2	1	8	0	8	2	2	3	11
1145	18	74	23	66	27	76	21	66	2	3	1	1	1	1	1	2	1	7	1	4	1	3	1	10
1200	20	75	31	80	27	82	13	60	1	4	1	2	0	1	0	2	3	6	5	8	2	5	2	7
1215	26	85	28	94	35	99	22	72	0	4	0	2	1	2	0	1	1	6	1	7	2	7	4	10
1230	24	88	22	104	16	105	23	79	0	3	2	4	2	4	1	2	0	5	4	11	3	8	3	10
1245	22	92	25	106	27	105	33	91	2	3	0	3	1	4	1	2	4	8	3	13	1	8	2	11
1300	21	93	35	110	38	116	30	108	0	2	0	2	1	5	0	2	1	6	5	13	0	6	3	12
1315	23	90	20	102	20	101	29	115	5	7	0	2	1	5	2	4	2	7	2	14	3	7	2	10
1330	13	79	27	107	26	111	22	114	1	8	1	1	1	4	1	4	3	10	3	13	2	6	6	13
1345	18	75	24	106	23	107	16	97	0	6	3	4	1	4	2	5	1	7	3	13	1	6	1	12
1400	19	73	30	101	29	98	19	86	0	6	1	5	1	4	2	7	2	8	4	12	1	7	5	14
1415	25	75	22	103	23	101	19	76	0	1	0	5	2	5	1	6	0	6	1	11	3	7	2	14
1430	17	79	18	94	21	96	31	85	1	1	2	6	1	5	0	5	1	4	5	13	2	7	1	9
1445	23	84	20	90	21	94	22	91	0	1	0	3	0	4	1	4	1	4	3	13	1	7	2	10
1500	24	89	27	87	15	80	23	95	0	1	1	3	0	3	0	2	3	5	6	15	2	8	3	8
1515	28	92	20	85	31	88	22	98	1	2	1	4	3	4	0	1	1	6	3	17	1	6	1	7
1530	22	97	29	96	30	97	28	95	1	2	1	3	0	3	1	2	1	6	3	15	8	12	1	7
1545	38	112	29	105	49	125	27	100	0	2	1	4	0	3	2	3	0	5	1	13	1	12	6	11
1600	25	113	19	97	29	139	25	102	0	2	0	3	1	4	1	4	1	3	3	10	3	13	3	11
1615	37	122	32	109	35	143	21	101	1	2	1	3	0	1	0	4	1	3	2	9	4	16	1	11
1630	33	133	19	99	29	142	30	103	1	2	0	2	2	3	1	4	2	4	1	7	1	9	2	12
1645	23	118	16	86	30	123	18	94	0	2	2	3	0	3	1	3	4	8	4	10	1	9	3	9
1700	32	125	24	91	28	122	14	83	0	2	0	3	1	3	0	2	2	9	3	10	2	8	1	7
1715	38	126	13	72	44	131	23	85	1	2	0	2	0	3	1	3	3	11	2	10	0	4	3	9
1730	26	119	18	71	31	133	18	73	0	1	1	3	0	1	0	2	4	13	4	13	0	3	3	10
1745	21	117	12	67	36	139	12	67	0	1	1	2	0	1	2	3	4	13	2	11	4	6	3	10
1800	21	106	20	63	17	128	21	74	0	1	1	3	0	0	0	3	1	12	3	11	4	8	6	15
1815	25	93	18	68	19	103	15	66	0	0	0	3	2	2	0	2	6	15	2	11	2	10	1	13
1830	19	86	8	58	13	85	19	67	2	2	0	2	1	3	0	2	2	13	4	11	2	12	3	13
1845	16	81	12	58	20	69	21	76	1	3	0	1	0	3	1	1	4	13	6	15	2	10	6	16
1900	12	72	19	57	11	63	12	67	0	3	0	0	1	4	0	1	0	12	3	15	1	7	1	11
1915	11	58	8	47	16	60	14	66	1	4	0	0	0	2	0	1	1	7	2	15	2	7	2	12
1930	5	44	9	48	7	54	14	61	0	2	0	0	0	1	0	1	2	7	0	11	2	7	3	12
1945	14	42	21	57	8	42	14	54	0	1	0	0	1	2	0	0	3	6	4	9	4	9	1	7
2000	6	36	13	51	12	43	4	46	0	1	0	0	2	3	1	1	1	7	0	6	1	9	0	6
2015	8	33	6	49	8	35	13	45	0	0	0	0	0	3	1	2	0	6	0	4	0	7	1	5
2030	8	36	4	44	7	35	19	50	1	1	0	0	1	4	2	4	1	5	2	6	1	6	0	2
2045	10	32	8	31	9	36	5	41	0	1	1	1	0	3	0	4	0	2	1	3	1	3	0	1
2100	7	33	7	25	8	32	9	46	2	3	0	1	1	2	0	3	0	1	3	6	0	2	2	3
2115	3	28	12	31	9	33	6	39	0	3	1	2	0	2	0	2	1	2	2	8	0	2	1	3
2130	8	28	9	36	2	28	9	29	0	2	0	2	0	1	0	0	0	1	2	8	2	3	0	3
2145	9	27	5	33	6	25	9	33	1	3	0	1	1	2	0	0	0	1	0	7	1	3	0	3
2200	7	27	7	33	4	21	12	36	0	1	0	1	0	1	0	0	0	1	1	5	1	4	0	1
2215	10	34	5	26	3	15	7	37	0	1	0	0	0	1	0	0	1	1	0	3	0	4	0	0
2230	9	35	4	21	5	18	6	34	0	1	0	0	0	1	1	1	2	3	1	2	0	2	1	1
2245	3	29	2	18	5	17	5	30	0	0	0	0	0	0	0	1	0	3	0	2	1	2	4	5
2300	5	27	6	17	6	19	5	23	0	0	0	0	1	1	0	1	0	3	0	1	1	2	1	6
2315	0	17	6	18	5	21	1	17	0	0	0	0	0	1	0	1	0	2	0	1	2	4	0	6
2330	4	12	4	18	3	19	6	17	0	0	0	0	0	1	0	0	0	0	0	0	1	5	1	6
2345	10	19	9	25	8	22	7	19	0	0	0	0	0	1	0	0	1	1	0	0	0	4	0	2
TOTAL	1,448	N/A	1,439	N/A	1,571	N/A	1,551	N/A	41	N/A	33	N/A	48	N/A	43	N/A	111	N/A	180	N/A	122	N/A	164	N/A
AM		121		149		105		139		6		4		7		5		9		17		12		15
NOON		93		110		116		115		8		6		6		7		10		17		8		14
PM		133		109		143		103		4		4		4		4		15		17		16		16
EVEN		36		51		43		50		3		2		4		4		7		8		9		6

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday			
	10. On Le Grand Rd, East of RR (btw SR-99 & Arboleda Rd)								11. On Ranch Rd, West of RR (near Arboleda /Ranch)								12. On Athlone, btwSandy Mush Rd & Le Grand Rd							
	EB		WB		EB		WB		EB		WB		EB		WB		NB		SB		NB		SB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
1215	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
1245	0	1	3	6	2	4	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
100	1	1	3	6	0	4	1	4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
115	1	2	1	7	0	3	2	4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
130	0	2	3	10	0	2	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	2	1	8	0	0	3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	0	1	0	5	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
230	0	0	0	1	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1
245	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	1
300	0	0	1	2	1	2	2	2	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1
315	1	1	7	9	0	2	0	2	0	0	0	0	0	0	0	0	1	2	0	0	1	2	0	0
330	0	1	0	9	0	1	2	4	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0
345	0	1	0	8	1	2	5	9	0	0	0	0	0	0	0	0	0	1	1	1	1	2	1	1
400	0	1	3	10	0	1	0	7	0	0	0	0	0	0	0	0	0	1	1	2	0	2	0	1
415	0	0	3	6	0	1	0	7	0	0	0	0	0	0	0	0	1	1	2	4	1	2	6	7
430	1	1	3	9	2	3	7	12	0	0	0	0	0	0	0	0	0	1	2	6	2	4	4	11
445	2	3	6	15	1	3	5	12	0	0	0	0	0	0	0	0	0	1	3	8	10	13	2	12
500	3	6	2	14	3	6	3	15	0	0	0	0	0	0	0	0	5	6	2	9	3	16	3	15
515	0	6	4	15	0	6	2	17	0	0	0	0	0	0	0	0	1	6	6	13	1	16	1	10
530	4	9	8	20	3	7	8	18	0	0	0	0	0	0	0	0	3	9	0	11	1	15	8	14
545	5	12	4	18	4	10	4	17	0	0	0	0	0	0	0	0	3	12	1	9	1	6	2	14
600	7	16	2	18	6	13	7	21	1	1	0	0	0	0	0	0	0	7	2	9	2	5	6	17
615	11	27	7	21	6	19	10	29	0	1	2	2	0	0	0	0	3	9	2	5	5	9	1	17
630	4	27	8	21	5	21	7	28	1	2	0	2	0	0	0	0	0	6	3	8	4	12	0	9
645	3	25	13	30	5	22	17	41	0	2	0	2	0	0	0	0	1	4	3	10	6	17	6	13
700	9	27	11	39	6	22	11	45	0	1	1	3	0	0	0	0	6	10	1	9	3	18	2	9
715	5	21	10	42	7	23	15	50	2	3	1	2	0	0	0	0	5	12	2	9	4	17	1	9
730	9	26	11	45	16	34	19	62	1	3	1	3	0	0	0	0	4	16	4	10	2	15	4	13
745	19	42	22	54	12	41	18	63	1	4	0	3	0	0	0	0	1	16	2	9	2	11	3	10
800	14	47	27	70	10	45	23	75	1	5	2	4	0	0	0	0	2	12	1	9	8	16	0	8
815	4	46	20	80	15	53	18	78	0	3	0	3	0	0	0	0	0	7	2	9	1	13	1	8
830	6	43	14	83	9	46	13	72	0	2	0	2	0	0	0	0	0	3	1	6	6	17	2	6
845	3	27	19	80	8	42	15	69	0	1	0	2	0	0	0	0	4	6	3	7	9	24	4	7
900	10	23	18	71	9	41	15	61	0	0	0	0	0	0	0	0	3	7	1	7	0	16	0	7
915	5	24	13	64	6	32	13	56	0	0	0	0	0	0	0	0	4	11	0	5	2	17	3	9
930	12	30	21	71	7	30	10	53	0	0	0	0	0	0	0	0	0	11	3	7	4	15	7	14
945	12	39	7	59	10	32	17	55	0	0	0	0	0	0	0	0	0	7	0	4	0	6	3	13
1000	6	35	7	48	8	31	17	57	0	0	0	0	0	0	0	0	0	4	2	5	6	12	2	15
1015	8	38	10	45	9	34	13	57	0	0	0	0	0	0	0	0	1	1	3	8	2	12	2	14
1030	8	34	13	37	4	31	18	65	0	0	1	1	0	0	0	0	4	5	2	7	4	12	2	9
1045	6	28	12	42	6	27	14	62	3	3	1	2	0	0	0	0	0	5	3	10	2	14	2	8
1100	6	28	7	42	7	26	17	62	1	4	0	2	0	0	0	0	1	6	3	11	4	12	4	10
1115	6	26	11	43	5	22	8	57	1	5	0	2	0	0	0	0	1	6	0	8	6	16	1	9
1130	6	24	9	39	4	22	10	49	0	5	0	1	0	0	0	0	5	7	0	6	4	16	1	8
1145	6	24	6	33	13	29	16	51	0	2	0	0	0	0	1	1	1	8	0	3	3	17	3	9
1200	6	24	6	32	2	24	14	48	2	3	1	1	1	1	0	1	4	11	0	0	6	19	2	7
1215	7	25	10	31	12	31	14	54	0	2	0	1	0	1	0	1	0	10	2	2	1	14	1	7
1230	5	24	15	37	6	33	12	56	0	2	0	1	0	1	0	1	2	7	0	2	2	12	1	7
1245	4	22	8	39	8	28	8	48	2	4	0	1	1	2	1	1	2	8	2	4	2	11	5	9
1300	8	24	10	43	7	33	17	51	2	4	1	1	0	1	4	5	1	5	0	4	4	9	3	10
1315	8	25	15	48	8	29	11	48	0	4	0	1	0	1	0	5	2	7	3	5	3	11	3	12
1330	3	23	9	42	8	31	13	49	0	4	0	1	0	1	1	6	4	9	3	8	2	11	2	13
1345	5	24	12	46	9	32	9	50	1	3	0	1	3	3	0	5	1	8	0	6	9	18	4	12
1400	5	21	4	40	14	39	9	42	4	5	0	0	0	3	1	2	4	11	4	10	3	17	2	11
1415	11	24	20	45	7	38	15	46	0	5	0	0	0	3	0	2	2	11	0	7	2	16	1	9
1430	11	32	16	52	5	35	7	40	0	5	0	0	2	5	0	1	5	12	0	4	7	21	1	8
1445	5	32	8	48	9	35	13	44	2	6	0	0	1	3	1	2	1	12	1	5	7	19	3	7
1500	11	38	11	55	14	35	20	55	0	2	1	1	0	3	0	1	5	13	2	3	5	21	3	8
1515	5	32	16	51	15	43	9	49	0	2	0	1	0	3	1	2	8	19	3	6	7	26	4	11
1530	13	34	32	67	6	44	17	59	0	2	0	1	0	1	1	3	7	21	3	9	4	23	0	10
1545	14	43	16	75	13	48	11	57	2	2	1	2	4	4	1	3	5	25	1	9	1	17	1	8
1600	15	47	13	77	9	43	35	72	1	3	1	2	0	4	0	3	6	26	2	9	1	13	1	6
1615	9	51	13	74	8	36	16	79	0	3	0	2	0	4	0	2	9	27	0	6	3	9	1	3
1630	9	47	17	59	15	45	14	76	0	3	0	2	0	4	0	1	0	20	0	3	4	9	1	4
1645	11	44	13	56	13	45	16	81	1	2	1	2	0	0	1	1	4	19	0	2	5	13	0	3
1700	16	45	24	67	14	50	17	63	3	4	2	3	0	0	0	1	9	22	1	1	1	13	4	6
1715	9	45	15	69	9	51	19	66	0	4	0	3	0	0	1	2	5	18	1	2	3	13	0	5
1730	12	48	13	65	15	51	8	60	0	4	1	4	0	0	0	2	4	22	0	2	0	9	1	5
1745	13	50	21	73	7	45	7	51	0	3	3	6	0	0	0	1	1	19	1	3	2	6	0	5
1800	13	47	16	65	8	39	10	44	1	1	0	4	0	0	0	1	1	11	3	5	3	8	0	1
1815	7	45	10	60	8	38	4	29	0	1	0	4	0	0	0	0	0	6	0	4	1	6	1	2
1830	10	43	13	60	6	29	5	26	0	1	0	3	0	0	0	0	0	2	0	4	2	8	0	1
1845	5	35	19	58	4	26	4	23	0	1	0	0	0	0	0	0	2	3	0	3	2	8	1	2
1900	10	32	11	53	5	23	2	15	1	1	0	0	0	0	0	0	0	2	0	0	1	6	0	2
1915	3	28	7	50	11	26	7	18	0	1	0	0	0	0	0	0	1	3	0	0	1	6	0	1
1930	5	23	6	43	9	29	3	16	1	2	1	1	0	0	0	0	1	4	1	1	2	6	0	1
1945	4	22	5	29	4	29	6	18	0	2	0	1	0	0	0	0	0	2	0	1	1	5	0	0
2000	3	15	8	26	2	26	6	22	0	1	0	1	0	0	0	0	2	4	1	2	0	4	0	0
2015	6	18	3	22	3	18	2	17	0	1	0	1	0	0	0	0	0	3	0	2	1	4	0	0
2030	4	17	4	20	3	12	1	15	0	0	0	0	0	0	0	0	0	2	1	2	0	2	0	0
2045	6	19	4	19	4	12	8	17	0	0	0	0	0	0	0	0	0	2	0	2	4	5	0	0
2100	4	20	4	15	4	14	1	12	2	2	1	1	0	0	0	0	0	0	2	3	1	6	0	0
2115	4	18	5	17	4	15	4	14	0	2	0	1	0	0	0	0	2	2	0	3	1	6	0	0
2130	4	18	5	18	3	15	1	14	0	2	0	1	0	0	0	0	2	4	1	3	4	10	0	0
2145	4	16	3	17	1	12	4	10	0	2	0	1	0	0	0	0	0	4	0	3	0	6	1	1
2200	1	13	6	19	2	10	1	10	0	0	0	0	0	0	0	0	0	4	0	1	1	6	0	1
2215	2	11	2	16	4	10	1	7	0	0	0	0	0	0	0	0	0	2	0	1	0	5	2	3
2230	1	8	3	14	4	11	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4
2245	3	7	4	15	2	12	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3
2300	2	8	2	11	5	15	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
2315	2	8	0	9	5	16	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2330	0	7	2	8	2	14	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2345	3	7	0	4	1	13	1	4	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
TOTAL	525	N/A	833	N/A	550	N/A	795	N/A	37	N/A	23	N/A	12	N/A	14	N/A	165	N/A	99	N/A	221	N/A	139	N/A
AM		47		83		53		78		5		4		0		0		16		10		24		17
NOON		38		52		39		65		6		2		5		6		12		11		21		15
PM		51		77		51		81		4		6		4		3		27		9		26		11
EVEN		20		26		26		22		2		1		0		0		4		3		10		4

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B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday				5/12/2010 Wednesday				5/13/2010 Thursday			
	13. On Sandy Mush Rd, btw Plainburg Rd & Athlone Rd								14. On Avenue 27, West of RR (btn Road 14 & SR-99)								15. On S Orchard Dr, North of Mission Av							
	EB		WB		EB		WB		EB		WB		EB		WB		NB		SB		NB		SB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0
1215	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
1230	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	1	4	1	1	0	0	1	2	0	0	0	0	0	2	0	0	0	1	0	1	2	2	0	0
100	0	3	0	1	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0
115	0	3	0	1	0	0	0	1	0	0	0	0	1	1	1	1	0	0	0	0	0	2	0	0
130	0	1	0	1	0	0	0	1	0	0	0	0	0	1	1	2	0	0	0	0	0	2	0	0
145	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	2	0	0	0	0	0	0	0	0
200	0	0	0	0	0	0	0	0	3	4	0	0	3	4	0	2	0	0	0	0	0	0	0	0
215	1	1	0	0	0	0	0	0	0	4	0	0	0	3	0	1	0	0	0	0	0	0	0	0
230	0	1	0	0	1	1	0	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0
245	1	2	1	1	2	3	2	2	0	3	0	0	1	4	0	0	0	0	0	0	1	1	0	0
300	0	2	1	2	0	3	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
315	0	1	0	2	0	3	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
330	0	1	0	2	1	3	1	3	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0
345	0	0	0	1	0	1	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
400	0	0	0	0	0	1	0	1	1	2	1	2	0	0	1	1	0	0	0	0	1	1	0	0
415	2	2	0	0	0	1	1	2	3	5	1	3	2	2	1	2	1	1	1	1	0	1	0	0
430	0	2	0	0	0	0	0	1	0	4	1	4	1	3	1	3	1	2	0	1	0	1	1	1
445	1	3	0	0	1	1	1	2	0	4	3	6	1	4	3	6	0	2	0	1	0	1	1	2
500	0	3	3	3	0	1	2	4	3	6	1	6	0	4	2	7	0	2	1	2	0	0	0	2
515	3	4	7	10	2	3	4	7	0	3	1	6	2	4	1	7	0	1	0	1	0	0	2	4
530	0	4	5	15	2	5	5	12	3	6	2	7	1	4	6	12	1	1	0	1	0	0	0	3
545	1	4	6	21	2	6	4	15	1	7	5	9	0	3	6	15	1	2	0	1	0	0	0	2
600	1	5	4	22	0	6	10	23	0	4	4	12	4	7	2	15	0	2	0	0	0	0	1	3
615	0	2	4	19	0	4	7	26	3	7	4	15	1	6	4	18	0	2	1	1	0	0	3	4
630	2	4	5	19	1	3	3	24	0	4	3	16	4	9	1	13	1	2	1	2	0	0	0	4
645	5	8	4	17	3	4	3	23	1	4	0	11	1	10	1	8	0	1	2	4	1	1	3	7
700	1	8	3	16	1	5	4	17	1	5	0	7	3	9	5	11	0	1	0	4	0	1	2	8
715	3	11	1	13	1	6	1	11	4	6	4	7	5	13	6	13	3	4	2	5	0	1	0	5
730	3	12	2	10	4	9	5	13	3	9	3	7	6	15	4	16	4	7	3	7	0	1	1	6
745	2	9	6	12	2	8	2	12	4	12	4	11	3	17	1	16	3	10	0	5	1	1	0	3
800	6	14	6	15	7	14	14	22	5	16	4	15	7	21	3	14	1	11	0	5	0	1	1	2
815	2	13	4	18	2	15	2	23	2	14	0	11	12	28	9	17	3	11	1	4	1	2	3	5
830	1	11	1	17	3	14	4	22	1	12	6	14	0	22	0	13	1	8	1	2	0	2	1	5
845	2	11	1	12	6	18	3	23	4	12	2	12	0	19	0	12	1	6	2	4	0	1	0	5
900	1	6	4	10	2	13	3	12	6	13	0	8	1	13	1	10	1	6	0	4	0	1	1	5
915	13	17	3	9	1	12	4	14	2	13	0	8	0	1	0	1	1	4	2	5	2	2	2	4
930	2	18	2	10	13	22	3	13	2	14	3	5	4	5	0	1	2	5	1	5	1	3	0	3
945	1	17	4	13	3	19	3	13	3	13	7	10	0	5	0	1	1	5	0	3	0	3	1	4
1000	2	18	1	10	2	19	0	10	2	9	1	11	1	5	2	2	0	4	0	3	0	3	0	3
1015	2	7	4	11	2	20	0	6	4	11	1	12	6	11	2	4	1	4	2	3	2	3	0	1
1030	2	7	1	10	1	8	2	5	2	11	2	11	5	12	1	5	1	3	0	2	1	3	2	3
1045	3	9	2	8	3	8	3	5	3	11	1	5	0	12	0	5	1	3	2	4	0	3	3	5
1100	1	8	4	11	3	9	1	6	2	11	2	6	6	17	4	7	0	3	1	5	0	3	0	5
1115	5	11	0	7	1	8	1	7	6	13	4	9	6	17	2	7	1	3	1	4	1	2	0	5
1130	5	14	1	7	5	12	1	6	1	12	8	15	3	15	0	6	1	3	1	5	0	1	2	5
1145	9	20	3	8	7	16	3	6	4	13	4	18	4	19	0	6	1	3	0	3	2	3	0	2
1200	3	22	2	6	4	17	0	5	5	16	8	24	5	18	0	2	2	5	1	3	2	5	0	2
1215	7	24	1	7	28	44	1	5	8	18	2	22	3	15	1	1	2	6	1	3	2	6	1	3
1230	0	19	4	10	6	45	3	7	1	18	4	18	4	16	1	2	0	5	0	2	0	6	1	2
1245	4	14	4	11	4	42	1	5	7	21	12	26	0	12	0	2	1	5	0	2	2	6	1	3
1300	2	13	3	12	1	39	4	9	4	20	4	22	0	7	0	2	0	3	1	2	1	5	0	3
1315	3	9	2	13	5	16	1	9	12	24	7	27	1	5	1	2	4	5	2	3	0	3	2	4
1330	3	12	1	10	0	10	4	10	8	31	7	30	6	7	5	6	0	5	2	5	1	4	1	4
1345	1	9	3	9	3	9	4	13	2	26	11	29	4	11	3	9	0	4	2	7	3	5	4	7
1400	2	9	1	7	10	18	0	9	14	36	10	35	6	17	3	12	2	6	3	9	0	4	2	9
1415	2	8	2	7	2	15	3	11	13	37	3	31	4	20	5	16	4	6	0	7	1	5	1	8
1430	1	6	2	8	5	20	0	7	7	36	13	37	0	14	1	12	0	6	0	5	0	4	1	8
1445	2	7	2	7	5	22	2	5	9	43	12	38	1	11	1	10	3	9	2	5	0	1	1	5
1500	4	9	0	6	6	18	1	6	10	39	9	37	2	7	0	7	0	7	0	2	0	1	0	3
1515	3	10	2	6	4	20	1	4	5	31	11	45	2	5	3	5	1	4	1	3	2	2	0	2
1530	3	12	1	5	3	18	0	4	5	29	6	38	0	5	0	4	1	5	1	4	0	2	0	1
1545	6	16	2	5	2	15	1	3	5	25	5	31	5	9	2	5	0	2	1	3	0	2	2	2
1600	8	20	4	9	3	12	2	4	8	23	3	25	1	8	2	7	0	2	1	4	1	3	3	5
1615	5	22	3	10	10	18	2	5	3	21	3	17	3	9	0	4	0	1	0	3	2	3	1	6
1630	2	21	2	11	4	19	5	10	3	19	2	13	1	10	0	4	1	1	1	3	1	4	3	9
1645	7	22	3	12	7	24	2	11	3	17	4	12	3	8	0	2	1	2	1	3	0	4	1	8
1700	7	21	0	8	10	31	1	10	3	12	2	11	2	9	0	0	2	4	1	3	0	3	1	6
1715	12	28	0	5	7	28	1	9	5	14	1	9	2	8	4	4	3	7	1	4	0	1	2	7
1730	1	27	2	5	7	31	1	5	3	14	3	10	1	8	3	7	2	8	2	5	4	4	2	6
1745	3	23	1	3	4	28	1	4	2	13	3	9	2	7	2	9	1	8	1	5	2	6	1	6
1800	5	21	2	5	4	22	4	7	3	13	2	9	2	7	1	10	0	6	3	7	1	7	0	5
1815	5	14	0	5	4	19	1	7	3	11	0	8	2	7	1	7	2	5	2	8	1	8	0	3
1830	2	15	2	5	1	13	5	11	1	9	2	7	2	8	1	5	2	5	1	7	1	5	0	1
1845	0	12	2	6	3	12	6	16	1	8	2	6	0	6	0	3	3	7	1	7	1	4	1	1
1900	1	8	3	7	4	12	3	15	4	9	4	8	0	4	2	4	1	8	0	4	0	3	1	2
1915	1	4	1	8	0	8	0	14	2	8	0	8	0	2	0	3	1	7	0	2	1	3	1	3
1930	1	3	2	8	1	8	1	10	2	9	0	6	0	0	0	2	0	5	3	4	1	3	0	3
1945	2	5	3	9	0	5	1	5	0	8	0	4	1	1	0	2	1	3	1	4	2	4	1	3
2000	0	4	0	6	0	1	0	2	0	4	0	0	2	3	2	2	0	2	0	4	1	5	3	5
2015	2	5	2	7	1	2	0	2	0	2	0	0	1	4	1	3	0	1	0	4	0	4	0	4
2030	2	6	1	6	3	4	1	2	0	0	0	0	0	4	2	5	1	2	1	2	1	4	1	5
2045	0	4	2	5	0	4	1	2	0	0	0	0	2	5	0	5	0	1	1	2	0	2	1	5
2100	0	4	0	5	0	4	1	3	0	0	0	0	0	3	1	4	0	1	1	3	0	1	0	2
2115	1	3	0	3	0	3	1	4	0	0	1	1	1	3	0	3	0	1	3	6	0	1	0	2
2130	1	2	0	2	0	0	2	5	1	1	1	2	1	4	0	1	0	0	0	5	0	0	1	2
2145	0	2	2	2	2	2	0	4	2	3	1	3	0	2	3	4	0	0	0	4	0	0	0	1
2200	0	2	1	3	1	3	0	3	0	3	0	3	0	2	0	3	0	0	2	5	1	1	0	1
2215	0	1	0	3	1	4	0	2	1	4	0	2	0	1	0	3	0	0	0	2	0	1	1	2
2230	1	1	0	3	5	9	1	1	1	4	0	1	1	1	1	4	0	0	0	2	1	2	0	1
2245	2	3	0	1	0	7	1	2	3	5	1	1	0	1	0	1	0	0	1	3	0	2	2	3
2300	0	3	0	0	0	6	1	3	0	5	0	1	1	2	0	1	0	0	2	3	0	1	1	4
2315	0	3	0	0	1	6	0	3	0	4	0	1	0	2	2	3	1	1	1	4	0	1	0	3
2330	0	2	0	0	1	2	0	2	0	3	0	1	0	1	0	2	0	1	0	4	0	0	0	3
2345	0	0	0	0	0	2	0	1	0	0	0	0	0	1	0	2	0	1	0	3	0	0	0	1
TOTAL	204	N/A	164	N/A	256	N/A	175	N/A	250	N/A	242	N/A	170	N/A	125	N/A	75	N/A	74	N/A	52	N/A	75	N/A
AM		18		22		22		26		16		16		28		18		11		7		3		8
NOON		24		13		45		13		43		38		20		16		9		9		6		9
PM		28		12		31		16		39		45		10		10		8		8		8		9
EVEN		6		7		9		5		5		3		5		5		2		6		5		5

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B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/12/2010 Wednesday				5/13/2010 Thursday				5/12/2010 Wednesday				5/13/2010 Thursday				5/12/2010 Wednesday				5/13/2010 Thursday			
	16. On S Arboleda Dr, North of Mission Av								17. On S Arboleda Dr, South of Mariposa Way								18. On Whealan Rd, North of Mission Av							
	NB		SB		NB		SB		NB		SB		NB		SB		NB		SB		NB		SB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	1	0	2	0	2	0	0	0	1	0	2	0	0	0	0	0	0	0	2	0	3	0	0	0
1215	2	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	3	0	1	0	1	0	1	0
1230	0	0	1	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	2	0	3	0	0	0
1245	1	4	1	5	0	3	1	1	1	4	1	5	1	1	1	1	3	6	0	5	1	8	1	2
100	0	3	0	3	0	1	0	1	0	3	0	3	0	1	0	1	2	8	3	6	0	5	1	3
115	1	2	1	3	0	0	1	2	0	2	0	3	0	1	0	1	0	5	2	7	0	4	1	3
130	1	3	0	2	0	0	0	2	0	1	0	1	0	1	0	1	1	6	2	7	1	2	2	5
145	0	2	1	2	0	0	2	3	0	0	0	0	1	1	0	0	2	5	0	7	2	3	0	4
200	0	2	0	2	1	1	0	3	0	0	0	0	0	1	0	0	1	4	0	4	0	3	0	3
215	0	1	2	3	0	1	2	4	0	0	0	0	1	2	1	1	0	4	0	2	0	3	0	2
230	1	1	1	4	0	1	0	4	0	0	0	0	0	2	1	2	0	3	0	0	0	2	0	0
245	0	1	0	3	0	1	1	3	0	0	0	0	1	2	0	2	0	1	0	0	0	0	0	0
300	0	1	0	3	1	1	0	3	0	0	0	0	0	2	1	3	0	0	0	0	0	0	1	1
315	0	1	0	1	0	1	0	1	1	1	0	0	0	1	0	2	1	1	0	0	1	1	1	2
330	1	1	0	0	0	1	0	1	1	2	0	0	0	1	0	1	1	2	0	0	0	1	0	2
345	0	1	0	0	1	2	1	1	0	2	1	1	0	0	3	4	0	2	0	0	0	1	0	2
400	0	1	0	0	0	1	3	4	0	2	1	2	0	0	1	4	0	2	0	0	1	2	0	1
415	0	1	1	1	0	1	1	5	0	1	1	3	0	0	0	4	0	1	0	0	0	1	0	0
430	0	0	2	3	0	1	1	6	0	0	0	3	0	0	0	4	0	0	0	0	0	1	0	0
445	2	2	1	4	0	0	3	8	2	2	0	2	1	1	3	4	0	0	0	0	0	1	0	0
500	1	3	3	7	6	6	3	8	1	3	1	2	2	3	2	5	0	0	0	0	0	0	0	0
515	0	3	2	8	1	7	1	8	2	5	1	2	4	7	1	6	0	0	0	0	0	0	0	0
530	3	6	1	7	3	10	7	14	0	5	7	9	0	7	4	10	0	0	0	0	0	0	0	0
545	5	9	7	13	4	14	8	19	7	10	4	13	2	8	3	10	0	0	0	0	0	0	0	0
600	18	26	6	16	12	20	7	23	7	16	5	17	4	10	5	13	0	0	0	0	0	0	0	0
615	4	30	9	23	10	29	5	27	6	20	4	20	10	16	4	16	0	0	0	0	0	0	0	0
630	12	39	11	33	13	39	10	30	6	26	8	21	7	23	7	19	0	0	0	0	0	0	0	0
645	15	49	15	41	21	56	8	30	13	32	4	21	9	30	5	21	0	0	0	0	0	0	0	0
700	15	46	17	52	15	59	22	45	5	30	8	24	4	30	6	22	0	0	0	0	1	1	0	0
715	14	56	11	54	12	61	19	59	11	35	10	30	8	28	15	33	0	0	0	0	0	1	0	0
730	23	67	14	57	15	63	15	64	9	38	11	33	10	31	11	37	1	1	0	0	0	1	0	0
745	14	66	14	56	25	67	21	77	13	38	21	50	14	36	13	45	0	1	0	0	1	2	0	0
800	12	63	18	57	9	61	21	76	12	45	8	50	6	38	7	46	0	1	0	0	0	1	0	0
815	11	60	23	69	17	66	15	72	9	43	10	50	8	38	8	39	0	1	0	0	1	2	0	0
830	11	48	15	70	14	65	14	71	14	48	18	57	17	45	6	34	1	1	0	0	0	2	0	0
845	17	51	20	76	5	45	8	58	11	46	5	41	5	36	12	33	0	1	0	0	0	1	1	1
900	13	52	9	67	12	48	3	40	9	43	16	49	8	38	7	33	1	2	0	0	0	1	0	1
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930	8	56	9	52	8	36	11	35	12	43	14	43	3	23	8	38	0	2	0	0	0	1	0	1
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1100	15	41	13	57	9	29	12	48	7	32	9	34	6	35	7	26	2	5	0	2	1	5	1	3
1115	9	41	10	49	9	34	20	59	13	37	10	37	2	24	4	23	0	4	1	3	3	7	0	2
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1345	4	33	17	69	10	32	14	56	8	42	6	34	13	32	11	43	0	2	1	3	4	6	0	9
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1615	14	59	18	89	22	57	20	88	15	55	11	53	10	52	9	50	6	17	2	7	1	4	2	8
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2100	6	19	2	28	5	23	5	24	5	19	0	11	2	13	4	11	2	5	3	8	1	4	1	4
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2130	2	21	8	33	5	20	5	22	3	16	7	18	1	9	3	13	1	6	0	7	4	8	0	2
2145	3	20	1	23	2	17	4	21	5	18	0	12	1	7	4	14	1	5	0	4	3	10	0	1
2200	4	18	4	25	1	13	5	21	2	15	2	14	1	6	2	12	0	3	2	3	1	10	2	2
2215	2	11	3	16	2	10	3	17	3	13	2	11	1	4	2	11	2	4	0	2	0	8	0	2
2230	5	14	6	14	5	10	3	15	4	14	2	6	2	5	2	10	1	4	0	2	1	5	1	3
2245	4	15	5	18	1	9	0	11	3	12	3	9	1	5	2	8	2	5	1	3	0	2	3	6
2300	1	12	1	15	3	11	2	8	0	10	0	7	5	9	0	6	2	7	1	2	1	2	2	6
2315	3	13	2	14	3	12	5	10	3	10	0	5	0	8	1	5	4	9	0	2	0	2	1	7
2330	1	9	1	9	3	10	1	8	1	7	0	3	0	6	1	4	2	10	0	2	0	1	1	7
2345	0	5	0	4	0	9	1	9	0	4	1	1	1	6	0	2	1	9	1	2	4	5	0	4
TOTAL	759	N/A	954	N/A	700	N/A	917	N/A	663	N/A	579	N/A	514	N/A	484	N/A	102	N/A	71	N/A	107	N/A	80	N/A
AM		67		76		67		77		48		57		45		46		3		0		2		1
NOON		45		70		42		65		56		42		39		43		5		7		13		9
PM		79		95		71		90		56		57		59		53		20		10		13		12
EVEN		35		36		25		46		28		18		20		14		10		9		10		7

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/12/2010 Wednesday				5/13/2010 Thursday				5/12/2010 Wednesday				5/13/2010 Thursday				5/12/2010 Wednesday				5/13/2010 Thursday			
	19. On Whealan Rd, South of Mariposa Way								20. On Plainburg Rd, North of Mission Av								21. On Plainburg Rd, South of Mariposa Way							
	NB		SB		NB		SB		NB		SB		NB		SB		NB		SB		NB		SB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
1215	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	2	0	0	0	0	0	0	1	2	0	0	0	0	0	2	1	2	0	0	0	0	0	2
100	0	1	0	0	0	0	0	0	0	1	0	0	1	1	0	0	1	3	0	0	1	1	0	0
115	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0	0	1	3	0	0	1	2	0	0
130	0	0	0	0	0	0	0	0	0	2	1	1	1	2	0	0	0	3	1	1	0	2	0	0
145	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	2	1	2	0	2	0	0
200	1	1	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	2	0	1	0	0
215	0	1	0	0	0	0	0	0	2	2	0	1	1	2	3	3	1	1	1	3	0	0	0	0
230	0	1	0	0	0	0	0	0	1	3	3	3	0	1	1	4	0	1	0	2	0	0	4	4
245	0	1	0	0	0	0	0	0	3	6	0	3	1	2	0	4	3	4	2	3	1	1	1	5
300	0	0	0	0	0	0	0	0	0	6	0	3	1	3	0	4	0	4	0	3	0	1	0	5
315	0	0	0	0	0	0	0	0	0	4	1	4	0	2	0	1	1	4	1	3	0	1	0	5
330	0	0	0	0	0	0	0	0	0	3	1	2	0	2	0	0	0	4	1	4	0	1	0	1
345	0	0	0	0	0	0	0	0	0	0	1	3	0	1	1	1	0	1	1	3	0	0	1	1
400	0	0	0	0	0	0	0	0	1	1	6	9	0	0	0	1	0	1	5	8	0	0	0	1
415	0	0	0	0	0	0	0	0	0	1	0	8	0	0	3	4	0	0	1	8	0	0	3	4
430	0	0	0	0	0	0	0	0	0	1	2	9	0	0	0	4	0	0	2	9	0	0	0	4
445	0	0	0	0	0	0	0	0	1	2	1	9	3	3	4	7	0	0	1	9	4	4	3	6
500	0	0	0	0	0	0	0	0	0	1	7	10	0	3	9	16	0	0	4	8	1	5	5	11
515	0	0	0	0	0	0	0	0	2	3	9	19	1	4	15	28	1	1	8	15	1	6	15	23
530	0	0	0	0	0	0	0	0	1	4	16	33	5	9	12	40	0	1	15	28	5	11	11	34
545	0	0	0	0	0	0	0	0	3	6	24	56	1	7	22	58	6	7	21	48	3	10	21	52
600	1	1	0	0	2	2	1	1	0	6	8	57	1	8	8	57	2	9	8	52	3	12	7	54
615	0	1	3	3	2	4	3	4	6	10	12	60	3	10	7	49	3	11	9	53	3	14	8	47
630	2	3	0	3	1	5	0	4	8	17	13	57	7	12	12	49	12	23	10	48	11	20	9	45
645	0	3	0	3	0	5	0	4	14	28	15	48	6	17	16	43	15	32	19	46	16	33	19	43
700	1	3	0	3	0	3	0	3	10	38	6	46	13	29	8	43	14	44	8	46	11	41	15	51
715	1	4	1	1	2	3	0	0	2	34	8	42	6	32	10	46	4	45	7	44	11	49	14	57
730	5	7	2	3	2	4	1	1	9	35	4	33	7	32	4	38	11	44	1	35	9	47	5	53
745	1	8	0	3	3	7	1	2	4	25	11	29	8	34	8	30	9	38	10	26	12	43	8	42
800	0	7	1	4	1	8	2	4	12	27	18	41	10	31	8	30	16	40	17	35	9	41	9	36
815	1	7	3	6	1	7	1	5	8	33	5	38	7	32	8	28	9	45	12	40	13	43	11	33
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845	0	4	0	4	1	4	1	6	12	38	6	41	6	31	7	32	15	53	13	59	11	43	11	44
900	4	8	0	3	1	4	2	6	5	31	7	30	6	27	8	32	9	46	5	47	10	44	10	45
915	4	11	1	1	3	6	0	5	4	27	11	36	4	24	5	29	9	46	11	46	4	35	3	37
930	0	8	0	1	2	7	1	4	6	27	6	30	7	23	4	24	6	39	8	37	9	34	9	33
945	2	10	2	3	0	6	1	4	8	23	3	27	5	22	6	23	13	37	6	30	5	28	7	29
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1045	3	8	1	4	0	7	3	9	1	20	4	27	5	22	6	26	5	32	2	27	8	43	6	32
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1145	0	1	0	1	0	7	0	1	11	33	11	34	7	29	9	32	10	36	7	35	12	32	9	28
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1400	2	5	0	1	0	4	2	3	5	21	7	25	7	26	4	32	12	42	3	30	15	46	7	40
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1830	2	10	0	2	0	14	1	7	17	49	13	48	7	45	2	16	14	48	14	48	6	46	2	26
1845	2	9	2	3	2	10	2	7	8	41	4	39	4	36	10	19	9	39	6	39	3	37	10	27
1900	1	7	0	3	0	4	0	4	8	41	7	32	9	32	5	23	10	42	5	31	6	29	5	27
1915	1	6	2	4	0	2	0	3	8	41	3	27	3	23	5	22	7	40	6	31	1	16	4	21
1930	0	4	0	4	0	2	0	2	4	28	3	17	10	26	4	24	8	34	2	19	10	20	1	20
1945	1	3	0	2	0	0	2	2	6	26	3	16	3	25	10	24	6	31	3	16	4	21	11	21
2000	3	5	0	2	1	1	1	3	2	20	2	11	3	19	5	24	10	31	5	16	4	19	1	17
2015	1	5	0	0	0	1	0	3	5	17	2	10	4	20	3	22	3	27	1	11	3	21	4	17
2030	4	9	2	2	4	5	1	4	6	19	3	10	3	13	4	22	6	25	1	10	2	13	2	18
2045	0	8	1	3	1	6	1	3	6	19	3	10	2	12	1	13	6	25	5	12	3	12	3	10
2100	2	7	2	5	3	8	0	2	3	20	2	10	5	14	3	11	3	18	2	9	5	13	3	12
2115	0	6	0	5	2	10	0	2	3	18	6	14	3	13	2	10	4	19	3	11	2	12	3	11
2130	1	3	0	3	0	6	0	1	3	15	2	13	5	15	5	11	0	13	3	13	5	15	5	14
2145	1	4	0	2	1	6	0	0	2	11	3	13	5	18	4	14	2	9	3	11	6	18	4	15
2200	0	2	0	0	0	3	0	0	1	9	2	13	3	16	0	11	1	7	3	12	3	16	0	12
2215	0	2	0	0	2	3	0	0	1	7	4	11	3	16	2	11	3	6	3	12	4	18	1	10
2230	2	3	1	1	0	3	0	0	6	10	2	11	6	17	2	8	7	13	2	11	7	20	2	7
2245	1	3	0	1	1	3	0	0	0	8	0	8	3	15	2	6	0	11	0	8	2	16	0	3
2300	1	4	1	2	0	3	0	0	2	9	1	7	0	12	0	6	1	11	0	5	1	14	1	4
2315	2	6	0	2	1	2	0	0	1	9	1	4	1	10	0	4	1	9	0	2	1	11	0	3
2330	0	4	0	1	0	2	0	0	3	6	0	2	1	5	1	3	2	4	0	0	3	7	0	1
2345	0	3	0	1	0	1	0	0	0	6	1	3	1	3	0	1	0	4	2	2	0	5	0	1
TOTAL	111	N/A	56	N/A	105	N/A	60	N/A	540	N/A	556	N/A	496	N/A	532	N/A	670	N/A	615	N/A	626	N/A	615	N/A
AM		11		6		8		6		38		60		34		57		53		59		49		57
NOON		9		5		10		9		35		38		33		39		42		38		47		45
PM		12		10		16		7		70		48		68		43		87		56		82		54
EVEN		9		5		10		4		20		14		20		24		31		16		21		18

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B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/12/2010 Wednesday				5/13/2010 Thursday				5/12/2010 Wednesday				5/13/2010 Thursday				5/12/2010 Wednesday				5/13/2010 Thursday			
	22. On Burchell Av, South of Mariposa Way								23. On Savana Rd, West of Santa Fe Dr								24. On S Cunningham Rd, East/North of Santa Fe Dr							
	NB		SB		NB		SB		EB		WB		EB		WB		NB		SB		NB		SB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
1245	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	3	0	0
100	0	0	0	1	1	2	1	1	0	0	0	0	0	1	0	0	0	0	0	1	0	3	0	0
115	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
130	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
200	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	1	0	0	0	1
230	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	0	1	2	2	0	1
245	1	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	2	0	1	0	2	0	0
300	0	1	0	0	0	1	0	0	0	1	0	0	1	1	0	0	0	2	0	1	0	2	0	0
315	0	1	0	0	1	2	0	0	0	1	0	0	0	1	0	0	1	1	0	0	0	2	2	2
330	1	2	1	1	0	2	0	0	0	0	0	0	0	1	0	0	1	2	2	2	0	0	3	5
345	6	7	9	10	0	1	0	0	1	1	0	0	0	1	0	0	0	2	2	4	0	0	0	5
400	3	10	7	17	2	3	2	2	0	1	0	0	0	0	0	0	0	2	0	4	0	0	0	5
415	4	14	7	24	3	5	7	9	0	1	0	0	0	0	0	0	0	1	0	4	0	0	0	3
430	7	20	10	33	0	5	10	19	0	1	0	0	0	0	0	0	1	1	0	2	2	2	0	0
445	13	27	4	28	8	13	4	23	0	0	0	0	0	0	0	0	1	2	4	4	3	5	0	0
500	2	26	2	23	6	17	14	35	0	0	0	0	1	1	0	0	0	2	1	5	0	5	0	0
515	6	28	5	21	6	20	6	34	0	0	0	0	0	1	0	0	0	2	2	7	3	8	2	2
530	3	24	10	21	4	24	3	27	1	1	0	0	1	2	0	0	1	2	4	11	2	8	5	7
545	9	20	13	30	7	23	4	27	0	1	0	0	0	2	0	0	5	6	6	13	7	12	8	15
600	9	27	4	32	3	20	11	24	1	2	1	1	0	1	1	1	3	9	1	13	2	14	5	20
615	6	27	4	31	10	24	13	31	1	3	4	5	0	1	1	2	0	9	3	14	1	12	6	24
630	4	28	5	26	9	29	3	31	1	3	1	6	1	1	0	2	3	11	9	19	1	11	12	31
645	3	22	6	19	4	26	5	32	2	5	1	7	0	1	3	5	4	10	11	24	3	7	7	30
700	1	14	4	19	1	24	8	29	2	6	5	11	1	2	0	4	11	18	13	36	4	9	8	33
715	5	13	7	22	2	16	6	22	2	7	3	10	0	2	7	10	5	23	7	40	4	12	12	39
730	6	15	7	24	2	9	3	22	3	9	0	9	4	5	1	11	0	20	14	45	4	15	10	37
745	10	22	7	25	1	6	5	22	0	7	0	8	0	5	0	8	3	19	12	46	5	17	13	43
800	5	26	11	32	2	7	3	17	0	5	4	7	5	9	1	9	9	17	10	43	7	20	14	49
815	8	29	4	29	5	10	2	13	5	8	1	5	2	11	2	4	3	15	7	43	4	20	13	50
830	2	25	1	23	0	8	2	12	2	7	1	6	2	9	3	6	3	18	8	37	5	21	10	50
845	5	20	5	21	3	10	2	9	3	10	3	9	2	11	0	6	13	28	9	34	0	16	7	44
900	3	18	4	14	2	10	6	12	2	12	3	8	0	6	0	5	6	25	6	30	8	17	5	35
915	11	21	2	12	7	12	2	12	2	9	1	8	3	7	2	5	1	23	6	29	2	15	9	31
930	5	24	2	13	3	15	4	14	0	7	1	8	1	6	1	3	2	22	7	28	7	17	5	26
945	5	24	7	15	7	19	5	17	2	6	3	8	2	6	1	4	0	9	15	34	9	26	11	30
1000	4	25	3	14	3	20	3	14	2	6	6	11	1	7	1	5	2	5	8	36	3	21	7	32
1015	1	15	3	15	3	16	3	15	3	7	1	11	1	5	2	5	3	7	5	35	2	21	7	30
1030	2	12	1	14	0	13	1	12	1	8	3	13	0	4	4	8	9	14	7	35	1	15	6	31
1045	4	11	6	13	3	9	4	11	0	6	0	10	1	3	1	8	1	15	14	34	2	8	2	22
1100	7	14	7	17	4	10	3	11	0	4	0	4	1	3	1	8	1	14	10	36	0	5	11	26
1115	3	16	1	15	2	9	1	9	1	2	0	3	0	2	2	8	9	20	6	37	6	9	8	27
1130	7	21	3	17	2	11	3	11	1	2	3	3	0	2	1	5	1	12	6	36	7	15	6	27
1145	5	22	4	15	3	11	2	9	2	4	4	7	3	4	1	5	3	14	3	25	6	19	3	28
1200	3	18	4	12	4	11	8	14	1	5	0	7	3	6	0	4	0	13	0	15	2	21	4	21
1215	8	23	5	16	4	13	5	18	1	5	1	8	2	8	1	3	0	4	0	9	4	19	5	18
1230	5	21	8	21	6	17	10	25	0	4	0	5	1	9	0	2	0	3	0	3	6	18	6	18
1245	3	19	6	23	13	27	2	25	4	6	0	1	0	6	0	1	3	3	8	8	4	16	11	26
1300	13	29	4	23	3	26	3	20	2	7	5	6	1	4	0	1	4	7	3	11	6	20	7	29
1315	2	23	7	25	8	30	5	20	1	7	2	7	1	3	1	1	5	12	1	12	7	23	3	27
1330	1	19	7	24	10	34	12	22	2	9	1	8	0	2	1	2	3	15	7	19	6	23	13	34
1345	14	30	4	22	7	28	3	23	2	7	5	13	1	3	1	3	2	14	7	18	6	25	9	32
1400	8	25	9	27	16	41	6	26	2	7	1	9	5	7	1	4	4	14	6	21	10	29	5	30
1415	4	27	5	25	3	36	6	27	4	10	2	9	2	8	2	5	11	20	5	25	4	26	3	30
1430	7	33	8	26	6	32	5	20	4	12	1	9	1	9	4	8	6	23	1	19	10	30	8	25
1445	5	24	6	28	6	31	3	20	3	13	2	6	3	11	6	13	5	26	6	18	10	34	4	20
1500	2	18	3	22	6	21	6	20	7	18	5	10	4	10	1	13	6	28	11	23	3	27	6	21
1515	8	22	3	20	4	22	6	20	0	14	0	8	2	10	1	12	12	29	12	30	11	34	5	23
1530	15	30	10	22	7	23	4	19	1	11	2	9	2	11	3	11	7	30	10	39	11	35	8	23
1545	5	30	3	19	4	21	4	20	1	9	0	7	8	16	1	6	6	31	7	40	7	32	6	25
1600	9	37	6	22	2	17	5	19	4	6	4	6	1	13	2	7	8	33	11	40	9	38	8	27
1615	5	34	10	29	6	19	7	20	8	14	1	7	1	12	2	8	11	32	9	37	12	39	6	28
1630	6	25	4	23	7	19	1	17	1	14	3	8	2	12	1	6	4	29	9	36	17	45	12	32
1645	4	24	1	21	2	17	3	16	1	14	6	14	3	7	2	7	6	29	6	35	4	42	12	38
1700	2	17	2	17	1	16	1	12	3	13	0	10	2	8	2	7	6	27	7	31	5	38	6	36
1715	3	15	4	11	0	10	4	9	4	9	0	9	3	10	4	9	12	28	9	31	10	36	9	39
1730	1	10	2	9	0	3	1	9	1	9	1	7	3	11	1	9	6	30	6	28	8	27	9	36
1745	1	7	2	10	2	3	0	6	2	10	2	3	3	11	2	9	6	30	9	31	5	28	8	32
1800	2	7	2	10	2	4	2	7	6	13	2	5	2	11	1	8	11	35	6	30	12	35	7	33
1815	0	4	0	6	2	6	3	6	2	11	1	6	2	10	0	4	2	25	13	34	8	33	5	29
1830	3	6	0	4	3	9	1	6	2	12	1	6	2	9	3	6	7	26	6	34	8	33	13	33
1845	1	6	1	3	2	9	1	7	2	12	0	4	0	6	0	4	5	25	1	26	4	32	5	30
1900	2	6	1	2	5	12	1	6	4	10	4	6	1	5	3	6	6	20	11	31	2	22	3	26
1915	2	8	0	2	3	13	0	3	0	8	1	6	0	3	0	6	4	22	4	22	2	16	7	28
1930	2	7	2	4	5	15	1	3	1	7	0	5	2	3	0	3	4	19	1	17	2	10	2	17
1945	1	7	0	3	3	16	5	7	1	6	1	6	1	4	2	5	7	21	5	21	4	10	2	14
2000	2	7	1	3	1	12	1	7	1	3	2	4	1	4	1	3	4	19	1	11	3	11	1	12
2015	0	5	3	6	1	10	0	7	0	3	0	3	1	5	0	3	2	17	1	8	2	11	2	7
2030	3	6	0	4	3	8	0	6	0	2	0	3	1	4	0	3	6	19	4	11	3	12	3	8
2045	3	8	1	5	0	5	0	1	0	1	0	2	0	3	1	2	4	16	3	9	2	10	4	10
2100	3	9	2	6	1	5	0	0	0	0	1	1	0	2	0	1	1	13	1	9	1	8	3	12
2115	0	9	2	5	0	4	1	1	0	0	0	1	1	2	1	2	3	14	4	12	1	7	2	12
2130	0	6	0	5	0	1	0	1	0	0	0	1	0	1	0	2	4	12	0	8	3	7	4	13
2145	0	3	0	4	1	2	1	2	0	0	0	1	0	1	1	2	1	9	0	5	4	9	1	10
2200	1	1	0	2	1	2	1	3	1	1	1	1	0	1	0	2	2	10	4	8	1	9	2	9
2215	0	1	1	1	1	3	0	2	0	1	0	1	0	0	0	1	1	8	0	4	2	10	1	8
2230	1	2	0	1	0	3	0	2	0	1	0	1	0	0	0	1	2	6	1	5	3	10	0	4
2245	0	2	0	1	1	3	0	1	0	1	0	1	0	0	0	0	2	7	0	5	3	9	0	3
2300	1	2	0	1	0	2	2	2	0	0	0	0	0	0	0	0	0	5	1	2	1	9	0	1
2315	0	2	0	0	0	1	0	2	0	0	1	1	0	0	0	0	0	4	1	3	1	8	1	1
2330	0	1	1	1	0	1	0	2	0	0	0	1	1	1	0	0	0	2	1	3	1	6	0	1
2345	0	1	0	1	1	1	0	2	0	0	0	1	0	1	0	0	0	0	0	3	0	3	0	1
TOTAL	339	N/A	317	N/A	284	N/A	281	N/A	120	N/A	108	N/A	103	N/A	88	N/A	318	N/A	439	N/A	365	N/A	459	N/A
AM		29		32		29		32		12		11		11		11		28		46		26		50
NOON		33		28		41		27		13		13		11		13		26		37		34		34
PM		37		29		23		20		18		14		16		13		35		40		45		39
EVEN		9		6		12		7		3		4		5		3		19		12		12		13

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B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/12/2010 Wednesday				5/13/2010 Thursday				5/11/2010 Tuesday				5/12/2010 Wednesday				5/12/2010 Wednesday				5/13/2010 Thursday			
	25. On Le Grand Rd, East of Santa Fe Dr								26. On Fresno Rd, North of Santa Fe Dr								27. On S Ispen Av, btw Santa Fe Dr and Le Grand Rd							
	EB		WB		EB		WB		NB		SB		NB		SB		NB		SB		NB		SB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	1	0	3	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	1	1	7	5	9	4	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	4	2	8	10	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	2	1	9	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	1	0	8	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	3	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	5	5	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	2	7	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
230	1	8	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
245	1	9	3	4	3	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0
300	1	5	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
315	0	3	0	3	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
330	0	2	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2
345	0	1	0	0	3	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
400	2	2	0	0	0	5	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
415	1	3	0	0	1	4	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
430	0	3	2	2	0	4	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
445	1	4	0	2	0	1	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
500	3	5	4	6	1	2	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	3	3
515	3	7	2	8	4	5	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	3
530	6	13	1	7	5	10	4	4	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	3
545	8	20	7	14	15	25	4	8	1	2	1	1	0	0	0	0	0	0	0	0	0	1	0	3
600	0	17	7	17	5	29	5	13	0	1	0	1	2	2	0	0	0	0	1	1	0	0	0	0
615	3	17	4	19	5	30	7	20	1	2	0	1	0	2	1	1	0	0	0	1	0	0	0	0
630	8	19	6	24	3	28	6	22	5	7	0	1	0	2	1	2	1	1	1	2	0	0	1	1
645	9	20	10	27	9	22	13	31	0	6	0	0	0	2	0	2	1	2	1	3	0	0	1	2
700	9	29	1	21	9	26	8	34	0	6	0	0	1	1	0	2	0	2	0	2	1	1	0	2
715	6	32	9	26	7	28	8	35	0	5	0	0	1	2	0	1	1	3	0	2	1	2	0	2
730	8	32	8	28	8	33	9	38	0	0	0	0	0	2	0	0	0	2	2	3	0	2	0	1
745	7	30	23	41	14	38	24	49	2	2	0	0	0	2	0	0	1	2	0	2	0	2	1	1
800	18	39	23	63	10	39	13	54	0	2	2	2	0	1	0	0	0	2	0	2	0	1	0	1
815	11	44	22	76	7	39	8	54	0	2	0	2	0	0	0	0	1	2	0	2	0	0	0	1
830	12	48	10	78	9	40	6	51	0	2	0	2	0	0	1	1	0	2	1	1	1	1	2	3
845	8	49	20	75	6	32	6	33	0	0	0	2	0	0	0	1	0	1	0	1	0	1	0	2
900	6	37	9	61	14	36	13	33	0	0	0	0	5	5	0	1	0	1	0	1	1	2	1	3
915	5	31	9	48	9	38	12	37	0	0	1	1	0	5	0	1	0	0	0	1	0	2	0	3
930	8	27	17	55	2	31	14	45	1	1	0	1	0	5	0	0	2	2	0	0	1	2	2	3
945	4	23	15	50	3	28	10	49	0	1	0	1	0	5	0	0	0	2	0	0	2	4	0	3
1000	3	20	8	49	0	14	9	45	0	1	0	1	0	0	0	0	0	2	2	2	1	4	0	2
1015	5	20	14	54	10	15	11	44	0	1	0	0	1	1	0	0	0	2	0	2	0	4	2	4
1030	5	17	11	48	3	16	4	34	3	3	2	2	0	1	1	1	0	0	1	3	0	3	2	4
1045	2	15	7	40	6	19	15	39	0	3	0	2	0	1	0	1	1	1	0	3	0	1	1	5
1100	1	13	3	35	5	24	20	50	0	3	0	2	0	1	0	1	1	2	0	1	0	0	1	6
1115	4	12	14	35	12	26	9	48	0	3	0	2	0	0	0	1	0	2	0	1	0	0	0	4
1130	6	13	18	42	5	28	14	58	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
1145	13	24	14	49	5	27	14	57	0	0	0	0	1	1	0	0	0	1	2	2	1	1	0	1
1200	3	26	5	51	3	25	10	47	0	0	0	0	0	1	0	0	0	0	0	2	0	1	0	0
1215	7	29	16	53	9	22	6	44	0	0	0	0	0	1	0	0	0	0	1	3	0	1	0	0
1230	7	30	12	47	11	28	6	36	0	0	0	0	0	1	0	0	0	0	0	3	0	1	0	0
1245	13	30	12	45	3	26	14	36	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0
1300	7	34	7	47	7	30	12	38	0	0	0	0	0	0	0	0	1	1	2	5	1	1	0	0
1315	2	29	8	39	8	29	6	38	2	2	2	2	1	1	0	0	0	1	0	4	0	1	0	0
1330	7	29	7	34	3	21	7	39	1	3	0	2	1	2	0	0	0	1	0	4	0	1	0	0
1345	3	19	17	39	9	27	16	41	0	3	0	2	0	2	0	0	1	2	0	2	0	1	0	0
1400	5	17	16	48	6	26	10	39	1	4	0	2	0	2	1	1	0	1	0	0	0	0	0	0
1415	2	17	9	49	4	22	6	39	0	2	0	0	0	1	0	1	1	2	1	1	2	2	0	0
1430	5	15	10	52	5	24	11	43	0	1	0	0	0	0	1	2	0	2	0	1	0	2	0	0
1445	12	24	10	45	10	25	14	41	0	1	0	0	1	1	0	2	0	1	0	1	0	2	0	0
1500	11	30	16	45	6	25	20	51	1	1	0	0	0	1	0	1	1	2	1	2	0	2	0	0
1515	6	34	9	45	11	32	17	62	0	1	0	0	0	1	0	1	0	1	2	3	0	0	1	1
1530	4	33	9	44	3	30	14	65	0	1	0	0	0	1	0	0	1	2	0	3	0	0	2	3
1545	2	23	19	53	14	34	28	79	0	1	0	0	0	0	0	0	0	2	0	3	0	0	0	3
1600	10	22	17	54	4	32	13	72	0	0	0	0	0	0	1	1	1	2	0	2	1	1	1	4
1615	9	25	20	65	5	26	12	67	1	1	0	0	0	0	1	2	0	2	0	0	0	1	0	3
1630	10	31	15	71	11	34	10	63	1	2	0	0	0	0	0	2	0	1	0	0	1	2	0	1
1645	17	46	18	70	12	32	24	59	0	2	0	0	1	1	1	3	0	1	1	1	0	2	0	1
1700	6	42	16	69	5	33	18	64	0	2	0	0	0	1	0	2	0	0	0	1	1	2	3	3
1715	10	43	16	65	9	37	14	66	0	1	0	0	0	1	0	1	0	0	0	1	0	2	0	3
1730	4	37	10	60	1	27	17	73	0	0	0	0	0	1	0	1	0	0	0	1	0	1	0	3
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1800	13	39	23	64	8	26	9	47	0	0	0	0	0	0	0	0	0	0	1	1	1	1	3	4
1815	7	36	14	62	8	25	15	48	0	0	0	0	0	0	0	0	0	0	1	2	0	1	0	4
1830	8	40	16	68	5	29	8	39	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	5
1845	2	30	13	66	2	23	13	45	0	0	0	0	1	1	0	0	1	1	0	2	0	1	0	4
1900	11	28	8	51	6	21	11	47	0	0	2	2	1	2	1	1	0	1	1	2	1	1	0	1
1915	9	30	17	54	7	20	9	41	0	0	0	2	0	2	0	1	0	1	0	1	1	2	0	1
1930	7	29	7	45	3	18	5	38	0	0	0	2	0	2	0	1	0	1	0	1	2	4	0	0
1945	7	34	4	36	3	19	7	32	0	0	0	2	0	1	0	1	0	0	0	1	0	4	0	0
2000	2	25	11	39	6	19	5	26	0	0	0	0	0	0	0	0	1	1	0	0	0	3	0	0
2015	0	16	10	32	2	14	3	20	0	0	0	0	0	0	1	1	0	1	0	0	0	2	0	0
2030	5	14	2	27	1	12	11	26	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
2045	6	13	15	38	4	13	7	26	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
2100	4	15	10	37	4	11	8	29	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
2115	6	21	6	33	0	9	7	33	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
2130	11	27	2	33	3	11	21	43	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
2145	5	26	4	22	1	8	3	39	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
2200	1	23	3	15	0	4	8	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2215	0	17	4	13	3	7	7	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2230	2	8	10	21	2	6	6	24	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
2245	1	4	2	19	3	8	4	25	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
2300	0	3	0	16	0	8	1	18	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
2315	3	6	2	14	2	7	1	12	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
2330	0	4	0	4	2	7	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2345	0	3	2	4	1	5	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	480	N/A	803	N/A	456	N/A	775	N/A	21	N/A	10	N/A	17	N/A	11	N/A	20	N/A	25	N/A	22	N/A	31	N/A
AM		49		78		40		54		7		2		5		2		3		3		4		3
NOON		34		54		30		58		4		2		2		2		2		5		4		6
PM		46		71		37		79		2		2		2		3		2		3		4		5
EVEN		27		39		19		43		0		0		0		1		1		0		3		0

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B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/12/2010 Wednesday				5/13/2010 Thursday				5/12/2010 Wednesday				5/13/2010 Thursday				5/11/2010 Tuesday				5/12/2010 Wednesday			
	28. On Buchana Hollow Rd, West of Santa Fe Dr								29. On White Rock Rd, North or South of Santa Fe Dr								30. On Avenue 26, West of Santa Fe Dr							
	EB		WB		EB		WB		NB		SB		NB		SB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
1215	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3	5	1	1	0	0	0	0
100	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	4	0	1	0	0	0	0
115	7	7	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0
130	0	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	1	1	0	0
145	5	12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
200	0	12	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0
215	0	5	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0	0
230	0	5	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
245	0	0	0	2	0	0	0	0	0	0	4	4	0	0	4	4	0	1	0	1	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	1	2	0	0	1	1	0	0
315	0	0	0	0	2	2	0	0	0	0	0	4	0	0	0	4	0	1	0	0	1	2	0	0
330	0	0	1	1	1	3	1	1	0	0	0	4	3	3	1	5	1	2	0	0	0	2	0	0
345	0	0	0	1	8	11	2	3	0	0	0	0	0	3	0	1	0	2	0	0	1	3	0	0
400	0	0	0	1	0	11	0	3	0	0	0	0	0	3	0	1	0	1	0	0	0	2	0	0
415	0	0	2	3	0	9	0	3	0	0	1	1	0	3	1	2	0	1	1	1	0	1	1	1
430	0	0	0	2	0	8	0	2	1	1	1	2	0	0	0	1	0	0	0	1	0	1	1	2
445	2	2	0	2	1	1	0	0	1	2	0	2	0	0	0	1	1	1	3	4	0	0	0	2
500	0	2	0	2	0	1	0	0	1	3	0	2	1	1	0	1	0	1	1	5	1	1	2	4
515	0	2	0	0	1	2	0	0	0	3	0	1	0	1	0	0	2	3	1	5	1	2	2	5
530	1	3	0	0	0	2	0	0	0	2	0	0	0	1	0	0	2	5	5	10	2	4	4	8
545	1	2	1	1	1	2	0	0	2	3	2	2	2	3	0	0	4	8	2	9	5	9	3	11
600	0	2	2	3	2	4	0	0	0	2	1	3	0	2	3	3	8	16	5	13	1	9	5	14
615	1	3	0	3	0	3	1	1	1	3	0	3	0	2	0	3	7	21	5	17	4	12	7	19
630	1	3	0	3	1	4	0	1	2	5	1	4	4	6	0	3	2	21	7	19	5	15	4	19
645	1	3	0	2	2	5	9	10	1	4	1	3	1	5	0	3	5	22	10	27	9	19	11	27
700	1	4	0	0	1	4	0	10	1	5	1	3	2	7	3	3	8	22	7	29	7	25	6	28
715	4	7	0	0	1	5	0	9	0	4	1	4	2	9	2	5	11	26	10	34	10	31	10	31
730	4	10	1	1	2	6	0	9	1	3	0	3	1	6	1	6	10	34	13	40	9	35	11	38
745	3	12	0	1	0	4	0	0	2	4	1	3	4	9	2	8	3	32	9	39	9	35	10	37
800	7	18	4	5	1	4	1	1	4	7	3	5	2	9	2	7	13	37	9	41	11	39	13	44
815	1	15	0	5	0	3	4	5	0	7	1	5	2	9	0	5	8	34	5	36	3	32	6	40
830	1	12	1	5	3	4	3	8	1	7	1	6	2	10	2	6	2	26	6	29	6	29	6	35
845	0	9	2	7	0	4	0	8	4	9	0	5	1	7	0	4	7	30	4	24	6	26	8	33
900	3	5	1	4	4	7	2	9	3	8	2	4	0	5	0	2	6	23	5	20	5	20	11	31
915	1	5	2	6	2	9	0	5	0	8	0	3	2	5	0	2	13	28	4	19	8	25	3	28
930	1	5	0	5	0	6	1	3	4	11	2	4	2	5	3	3	2	28	10	23	6	25	6	28
945	0	5	0	3	1	7	6	9	2	9	0	4	4	8	2	5	2	23	7	26	5	24	9	29
1000	2	4	5	7	1	4	1	8	2	8	4	6	5	13	2	7	1	18	6	27	11	30	11	29
1015	3	6	2	7	0	2	0	8	0	8	1	7	2	13	5	12	5	10	9	32	4	26	8	34
1030	0	5	1	8	0	2	2	9	4	8	2	7	0	11	0	9	7	15	7	29	7	27	4	32
1045	2	7	1	9	2	3	0	3	0	6	0	7	3	10	1	8	8	21	7	29	10	32	9	32
1100	1	6	1	5	1	3	2	4	1	5	0	3	1	6	1	7	6	26	2	25	8	29	9	30
1115	1	4	4	7	1	4	0	4	2	7	0	2	1	5	2	4	10	31	4	20	5	30	4	26
1130	2	6	1	7	0	4	0	2	2	5	0	0	1	6	1	5	2	26	3	16	6	29	6	28
1145	2	6	0	6	1	3	3	5	1	6	0	0	1	4	1	5	7	25	5	14	8	27	7	26
1200	0	5	0	5	1	3	1	4	0	5	2	2	2	5	1	5	7	26	7	19	8	27	7	24
1215	1	5	4	5	0	2	1	5	3	6	3	5	2	6	4	7	5	21	1	16	4	26	6	26
1230	2	5	2	6	1	3	1	6	6	10	2	7	1	6	5	11	5	24	0	13	5	25	5	25
1245	10	13	0	6	0	2	0	3	0	9	1	8	3	8	1	11	6	23	2	10	8	25	9	27
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1315	0	15	0	2	2	5	1	2	6	14	1	6	1	5	0	9	6	24	8	12	7	28	6	24
1330	2	15	0	0	0	4	4	5	0	8	0	4	2	6	1	5	8	27	7	19	2	25	5	24
1345	2	7	2	2	0	4	0	5	2	10	1	4	6	9	0	4	8	29	5	22	10	27	5	20
1400	2	6	1	3	0	2	0	5	7	15	3	5	1	10	1	2	4	26	5	25	10	29	2	18
1415	0	6	1	4	2	2	0	4	1	10	1	5	1	10	2	4	4	24	1	18	3	25	6	18
1430	0	4	1	5	3	5	0	0	2	12	1	6	0	8	0	3	7	23	4	15	7	30	5	18
1445	3	5	2	5	2	7	0	0	0	10	3	8	2	4	2	5	8	23	3	13	4	24	8	21
1500	1	4	1	5	1	8	0	0	6	9	5	10	1	4	1	5	9	28	7	15	12	26	2	21
1515	1	5	2	6	1	7	2	2	3	11	1	10	7	10	1	4	13	37	6	20	14	37	2	17
1530	2	7	1	6	2	6	0	2	4	13	4	13	5	15	4	8	8	38	13	29	11	41	6	18
1545	0	4	0	4	1	5	0	2	6	19	2	12	5	18	0	6	11	41	15	41	12	49	16	26
1600	0	3	1	4	2	6	2	4	4	17	2	9	3	20	3	8	13	45	17	51	10	47	13	37
1615	1	3	2	4	3	8	0	2	5	19	2	10	4	17	4	11	7	39	16	61	9	42	4	39
1630	1	2	0	3	1	7	2	4	2	17	1	7	3	15	8	15	9	40	8	56	9	40	14	47
1645	0	2	0	3	0	6	1	5	3	14	2	7	6	16	4	19	9	38	3	44	5	33	8	39
1700	0	2	0	2	0	4	4	7	0	10	1	6	3	16	4	20	6	31	3	30	8	31	12	38
1715	0	1	3	3	1	2	1	8	0	5	5	9	4	16	0	16	9	33	7	21	7	29	10	44
1730	0	0	1	4	0	1	0	6	5	8	3	11	0	13	5	13	6	30	7	20	19	39	6	36
1745	0	0	1	5	1	2	1	6	5	10	0	9	1	8	4	13	8	29	8	25	4	38	6	34
1800	0	0	1	6	3	5	0	2	0	10	2	10	4	9	1	10	7	30	3	25	6	36	5	27
1815	1	1	0	3	2	6	1	2	1	11	0	5	3	8	1	11	11	32	5	23	9	38	2	19
1830	2	3	1	3	2	8	1	3	0	6	4	6	4	12	4	10	8	34	3	19	4	23	6	19
1845	0	3	0	2	0	7	0	2	1	2	1	7	7	18	1	7	5	31	6	17	13	32	2	15
1900	1	4	0	1	0	4	0	2	2	4	1	6	0	14	0	6	4	28	1	15	3	29	4	14
1915	0	3	1	2	0	2	0	1	1	4	1	7	0	11	0	5	3	20	1	11	1	21	1	13
1930	1	2	0	1	0	0	0	0	1	5	5	8	2	9	1	2	8	20	5	13	10	27	2	9
1945	0	2	0	1	8	8	1	1	1	5	3	10	2	4	2	3	4	19	4	11	5	19	6	13
2000	1	2	0	1	0	8	2	3	2	5	1	10	0	4	1	4	5	20	1	11	1	17	3	12
2015	2	4	0	0	4	12	1	4	2	6	0	9	1	5	0	4	7	24	2	12	4	20	2	13
2030	1	4	0	0	0	12	2	6	1	6	1	5	1	4	1	4	4	20	5	12	3	13	5	16
2045	1	5	0	0	5	9	0	5	0	5	0	2	2	4	1	3	2	18	5	13	1	9	1	11
2100	1	5	1	1	0	9	0	3	1	4	1	2	4	8	0	2	2	15	2	14	5	13	2	10
2115	0	3	0	1	2	7	0	2	3	5	1	3	0	7	0	2	1	9	2	14	2	11	2	10
2130	0	2	0	1	1	8	0	0	0	4	0	2	1	7	1	2	5	10	2	11	2	10	0	5
2145	0	1	0	1	0	3	0	0	1	5	0	2	0	5	0	1	1	9	0	6	2	11	6	10
2200	0	0	0	0	0	3	0	0	0	4	1	2	0	1	2	3	2	9	0	4	2	8	2	10
2215	0	0	1	1	0	1	1	1	0	1	4	5	0	1	1	4	0	8	1	3	3	9	2	10
2230	0	0	0	1	1	1	1	2	0	1	0	5	0	0	0	3	0	3	0	1	2	9	3	13
2245	0	0	0	1	0	1	0	2	0	0	0	5	1	1	0	3	0	2	1	2	2	9	1	8
2300	0	0	2	3	1	2	0	2	0	0	0	4	0	1	0	1	1	1	0	2	1	8	1	7
2315	0	0	5	7	0	2	1	2	0	0	0	0	0	1	0	0	1	2	2	3	1	6	1	6
2330	0	0	3	10	0	1	0	1	0	0	1	1	0	1	0	0	0	2	0	3	0	4	1	4
2345	0	0	0	10	0	1	0	1	0	0	0	1	0	0	0	0	0	2	0	2	0	2	0	3
TOTAL	100	N/A	75	N/A	96	N/A	70	N/A	132	N/A	105	N/A	144	N/A	115	N/A	434	N/A	380	N/A	454	N/A	424	N/A
AM		18		7		9		10		11		6		10		8		37		41		39		44
NOON		16		9		7		9		15		8		13		13		31		32		32		34
PM		7		6		8		8		19		13		20		20		45		61		49		47
EVEN		5		10		12		6		6		10		8		4		24		14		20		16

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B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday			
	31. On Road 22, North / East of Santa Fe Dr								32. On Avenue 24, West of Santa Fe Dr								33. On Road 24, North of Avenue 21							
	NB		SB		NB		SB		EB		WB		EB		WB		NB		SB		NB		SB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0
1245	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	2	2	0	0	2	4
100	1	1	0	0	0	0	1	1	0	0	0	1	0	1	2	3	1	2	0	2	0	0	0	4
115	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	3	0	2	0	2	0	0	0	4
130	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	3	0	1	0	2	0	0	0	2
145	2	3	0	0	0	0	1	2	0	0	0	0	0	0	0	2	0	1	0	0	1	1	0	0
200	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0
215	0	2	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	2	0	2	0	0
230	0	2	0	1	1	1	0	1	0	0	0	0	1	1	0	0	0	0	0	2	1	3	2	2
245	0	0	0	1	0	1	0	0	0	0	2	2	0	1	0	0	0	0	0	2	2	4	10	12
300	0	0	0	1	0	1	0	0	0	0	0	2	0	1	0	0	0	0	0	2	0	3	0	12
315	0	0	0	0	1	2	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	3	4	16
330	1	1	0	0	0	1	1	1	0	0	0	2	0	0	0	0	0	0	0	0	1	3	1	15
345	0	1	0	0	0	1	1	2	0	0	1	1	0	0	1	1	0	0	0	0	2	3	1	6
400	1	2	0	0	0	1	0	2	0	0	0	1	0	0	0	1	5	5	0	0	3	6	4	10
415	0	2	1	1	0	0	0	2	0	0	0	1	0	0	2	3	0	5	0	0	0	6	0	6
430	2	3	0	1	0	0	0	1	0	0	1	2	0	0	0	3	2	7	0	0	1	6	1	6
445	3	6	0	1	0	0	2	2	2	2	2	3	0	0	1	3	1	8	2	2	1	5	0	5
500	0	5	1	2	0	0	0	2	0	2	0	3	0	0	1	4	3	6	2	4	1	3	2	3
515	0	5	1	2	0	0	2	4	1	3	0	3	0	0	3	5	2	8	1	5	1	4	0	3
530	6	9	2	4	5	5	1	5	0	3	4	6	0	0	2	7	2	8	2	7	3	6	0	2
545	3	9	5	9	3	8	10	13	1	2	6	10	1	1	8	14	8	15	1	6	6	11	0	2
600	6	15	8	16	4	12	8	21	7	9	11	21	3	4	9	22	6	18	2	6	3	13	3	3
615	7	22	8	23	4	16	1	20	0	8	2	23	6	10	5	24	5	21	1	6	8	20	2	5
630	3	19	8	29	10	21	6	25	2	10	4	23	2	12	4	26	15	34	1	5	16	33	1	6
645	10	26	8	32	5	23	12	27	8	17	3	20	8	19	5	23	28	54	3	7	26	53	5	11
700	4	24	9	33	6	25	13	32	1	11	9	18	3	19	13	27	14	62	7	12	13	63	4	12
715	1	18	6	31	3	24	7	38	1	12	6	22	5	18	5	27	2	59	5	16	3	58	7	17
730	0	15	17	40	2	16	15	47	5	15	4	22	3	19	5	28	9	53	3	18	4	46	3	19
745	4	9	6	38	4	15	13	48	4	11	14	33	3	14	15	38	12	37	16	31	11	31	9	23
800	1	6	11	40	3	12	16	51	3	13	11	35	2	13	11	36	4	27	7	31	9	27	9	28
815	4	9	9	43	4	13	6	50	6	18	9	38	4	12	10	41	8	33	2	28	8	32	7	28
830	5	14	4	30	7	18	6	41	2	15	6	40	5	14	3	39	6	30	2	27	3	31	11	36
845	3	13	3	27	0	14	3	31	3	14	2	28	4	15	10	34	3	21	5	16	3	23	7	34
900	8	20	5	21	12	23	2	17	6	17	2	19	3	16	1	24	3	20	8	17	7	21	3	28
915	6	22	3	15	7	26	4	15	0	11	4	14	4	16	2	16	0	12	8	23	3	16	2	23
930	5	22	3	14	3	22	3	12	2	11	3	11	5	16	4	17	4	10	1	22	3	16	4	16
945	6	25	2	13	5	27	1	10	0	8	2	11	3	15	1	8	5	12	4	21	2	15	0	9
1000	6	23	6	14	3	18	9	17	4	6	0	9	2	14	3	10	7	16	0	13	1	9	6	12
1015	0	17	4	15	10	21	7	20	1	7	2	7	5	15	4	12	2	18	5	10	7	13	2	12
1030	3	15	11	23	12	30	5	22	4	9	3	7	2	12	7	15	4	18	3	12	4	14	2	10
1045	8	17	7	28	3	28	7	28	4	13	2	7	4	13	4	18	6	19	5	13	4	16	2	12
1100	4	15	3	25	8	33	5	24	1	10	3	10	2	13	4	19	2	14	5	18	6	21	5	11
1115	6	21	5	26	2	25	6	23	3	12	0	8	3	11	4	19	0	12	4	17	2	16	1	10
1130	3	21	5	20	5	18	3	21	4	12	6	11	2	11	1	13	4	12	6	20	3	15	1	9
1145	4	17	1	14	3	18	7	21	1	9	5	14	3	10	2	11	8	14	6	21	4	15	3	10
1200	7	20	5	16	11	21	1	17	5	13	3	14	2	10	10	17	6	18	4	20	6	15	3	8
1215	9	23	5	16	3	22	2	13	5	15	5	19	6	13	4	17	3	21	0	16	1	14	5	12
1230	7	27	5	16	3	20	5	15	6	17	4	17	4	15	4	20	3	20	2	12	4	15	1	12
1245	2	25	8	23	8	25	6	14	4	20	1	13	4	16	2	20	5	17	3	9	0	11	2	11
1300	4	22	7	25	5	19	6	19	1	16	2	12	4	18	4	14	1	12	4	9	6	11	1	9
1315	8	21	8	28	4	20	6	23	3	14	6	13	8	20	1	11	5	14	0	9	5	15	3	7
1330	3	17	6	29	5	22	7	25	3	11	5	14	5	21	7	14	8	19	2	9	2	13	1	7
1345	6	21	2	23	9	23	2	21	2	9	10	23	3	20	7	19	5	19	1	7	8	21	6	11
1400	4	21	5	21	4	22	6	21	2	10	1	22	6	22	2	17	3	21	7	10	7	22	5	15
1415	1	14	6	19	6	24	3	18	10	17	7	23	10	24	4	20	6	22	6	16	4	21	7	19
1430	4	15	6	19	5	24	1	12	8	22	4	22	6	25	9	22	0	14	6	20	7	26	5	23
1445	6	15	5	22	2	17	8	18	6	26	3	15	0	22	6	21	6	15	3	22	8	26	13	30
1500	8	19	11	28	5	18	6	18	6	30	8	22	3	19	2	21	4	16	10	25	2	21	8	33
1515	9	27	7	29	6	18	7	22	5	25	7	22	8	17	3	20	0	10	4	23	5	22	3	29
1530	6	29	10	33	9	22	6	27	7	24	7	25	4	15	3	14	10	20	4	21	3	18	3	27
1545	13	36	13	41	14	34	6	25	3	21	9	31	8	23	9	17	5	19	26	44	6	16	15	29
1600	10	38	5	35	14	43	4	23	13	28	4	27	11	31	3	18	3	18	11	45	2	16	2	23
1615	11	40	6	34	13	50	10	26	11	34	4	24	15	38	3	18	2	20	12	53	6	17	12	32
1630	12	46	3	27	10	51	8	28	10	37	8	25	6	40	3	18	1	11	3	52	5	19	6	35
1645	12	45	7	21	8	45	2	24	11	45	2	18	14	46	6	15	7	13	16	42	4	17	13	33
1700	6	41	5	21	11	42	4	24	7	39	3	17	8	43	7	19	2	12	8	39	5	20	6	37
1715	8	38	6	21	6	35	9	23	3	31	9	22	7	35	8	24	6	16	8	35	8	22	6	31
1730	5	31	6	24	4	29	8	23	2	23	3	17	4	33	10	31	3	18	7	39	7	24	17	42
1745	5	24	6	23	6	27	4	25	5	17	4	19	6	25	1	26	4	15	5	28	2	22	13	42
1800	1	19	3	21	3	19	2	23	1	11	2	18	3	20	7	26	1	14	6	26	5	22	7	43
1815	1	12	4	19	4	17	2	16	2	10	1	10	5	18	4	22	1	9	6	24	0	14	12	49
1830	4	11	2	15	3	16	0	8	0	8	3	10	2	16	3	15	6	12	1	18	3	10	7	39
1845	6	12	4	13	2	12	8	12	5	8	3	9	3	13	4	18	1	9	7	20	1	9	0	26
1900	2	13	1	11	2	11	3	13	0	7	1	8	3	13	10	21	2	10	1	15	3	7	1	20
1915	3	15	1	8	3	10	3	14	1	6	1	8	2	10	4	21	4	13	1	10	1	8	3	11
1930	3	14	0	6	0	7	3	17	6	12	3	8	3	11	3	21	1	8	0	9	0	5	3	7
1945	0	8	2	4	1	6	1	10	3	10	0	5	2	10	2	19	2	9	3	5	4	8	0	7
2000	2	8	1	4	1	5	1	8	1	11	2	6	5	12	1	10	3	10	0	4	2	7	0	6
2015	3	8	1	4	2	4	2	7	4	14	1	6	1	11	0	6	2	8	2	5	2	8	1	4
2030	3	8	1	5	2	6	2	6	1	9	2	5	0	8	4	7	0	7	0	5	1	9	4	5
2045	0	8	1	4	4	9	1	6	4	10	4	9	1	7	1	6	4	9	0	2	4	9	0	5
2100	3	9	2	5	0	8	1	6	3	12	1	8	3	5	1	6	1	7	1	3	1	8	0	5
2115	0	6	0	4	1	7	1	5	1	9	2	9	0	4	3	9	2	7	3	4	2	8	2	6
2130	1	4	1	4	1	6	5	8	0	8	0	7	1	5	2	7	2	9	0	4	2	9	1	3
2145	1	5	1	4	2	4	4	11	1	5	0	3	2	6	6	12	4	9	2	6	0	5	0	3
2200	2	4	1	3	1	5	1	11	1	3	1	3	4	7	0	11	2	10	1	6	3	7	0	3
2215	1	5	0	3	8	12	1	11	3	5	0	1	0	7	0	8	2	10	3	6	2	7	3	4
2230	2	6	2	4	3	14	1	7	0	5	0	1	1	7	0	6	1	9	1	7	1	6	2	5
2245	1	6	0	3	1	13	0	3	1	5	0	1	0	5	0	0	3	8	5	10	3	9	1	6
2300	0	4	0	2	2	14	1	3	0	4	0	0	0	1	0	0	3	9	3	12	2	8	0	6
2315	2	5	0	2	0	6	0	2	1	2	1	1	0	1	0	0	1	8	3	12	0	6	1	4
2330	0	3	1	1	1	4	0	1	0	2	0	1	0	0	0	0	0	7	0	11	0	5	0	2
2345	0	2	0	1	0	3	1	2	0	1	1	2	0	0	1	1	0	4	4	10	0	2	4	5
TOTAL	333	N/A	345	N/A	353	N/A	355	N/A	253	N/A	278	N/A	282	N/A	327	N/A	328	N/A	326	N/A	332	N/A	336	N/A
AM		26		43		27		51		18		40		19		41		62		31		63		36
NOON		27		29		33		28		26		23		25		22		22		22		26		30
PM		46		41		51		28		45		31		46		31		20		53		24		49
EVEN		9		5		14		11		14		9		12		12		10		12		9		6

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B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday			
	34. On Road 22/Avenue 20, near Av 21, North of Av 21 1/2								35. On Avenue 20 1/2, West of Santa Fe Dr								36. On Raymond Rd/Road 28 1/2, North/East of Santa Fe Dr							
	NB		SB		NB		SB		EB		WB		EB		WB		NB		SB		NB		SB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	1	0	0	0	1	0	0	0	5	0	1	0	8	0	5	0	10	0	4	0
1215	0	0	1	0	0	0	0	0	1	0	1	0	2	0	0	0	2	0	0	0	7	0	1	0
1230	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	5	0	1	0	3	0	3	0
1245	0	1	0	1	1	2	0	0	0	3	1	3	4	11	0	1	1	16	0	6	3	23	1	9
100	0	1	0	1	0	1	0	0	0	2	0	3	3	9	2	2	5	13	0	1	3	16	1	6
115	0	1	0	0	1	2	0	0	0	1	0	2	1	8	0	2	3	14	2	3	4	13	0	5
130	1	1	0	0	0	2	1	1	0	0	0	1	0	8	1	3	1	10	1	3	3	13	3	5
145	1	2	0	0	1	2	1	2	0	0	0	0	0	4	0	3	2	11	0	3	4	14	1	5
200	0	2	0	0	3	5	0	2	0	0	0	0	0	1	0	1	1	7	1	4	1	12	1	5
215	3	5	0	0	0	4	0	2	2	2	1	1	0	0	1	2	1	5	1	3	0	8	3	8
230	3	7	1	1	4	8	1	2	1	3	0	1	0	0	1	2	0	4	2	4	2	7	3	8
245	0	6	0	1	4	11	0	1	2	5	2	3	1	1	0	2	1	3	1	5	0	3	0	7
300	4	10	1	2	2	10	0	1	0	5	0	3	0	1	0	2	2	4	2	6	1	3	0	6
315	3	10	0	2	3	13	0	1	3	6	3	5	1	2	2	3	1	4	0	5	0	3	1	4
330	3	10	1	2	2	11	1	1	0	5	0	5	0	2	1	3	1	5	5	8	2	3	5	6
345	2	12	0	2	3	10	3	4	2	5	2	5	1	2	1	4	0	4	0	7	2	5	2	8
400	4	12	1	2	5	13	2	6	1	6	2	7	2	4	0	4	1	3	7	12	1	5	7	15
415	3	12	1	3	54	64	2	8	2	5	1	5	0	3	1	3	0	2	6	18	0	5	4	18
430	20	29	1	3	81	143	5	12	0	5	0	5	0	3	1	3	4	5	10	23	2	5	4	17
445	48	75	3	6	29	169	10	19	3	6	0	3	1	3	0	2	2	7	8	31	3	6	13	28
500	60	131	8	13	29	193	32	49	2	7	3	4	2	3	4	6	4	10	17	41	3	8	14	35
515	48	176	15	27	33	172	9	56	2	7	6	9	3	6	6	11	11	21	14	49	12	20	15	46
530	36	192	28	54	80	171	0	51	8	15	13	22	6	12	9	19	15	32	15	54	12	30	15	57
545	44	188	6	57	82	224	3	44	5	17	9	31	8	19	13	32	18	48	17	63	18	45	19	63
600	93	221	1	50	54	249	7	19	7	22	9	37	8	25	17	45	10	54	22	68	6	48	17	66
615	52	225	3	38	90	306	11	21	5	25	11	42	5	27	11	50	12	55	29	83	13	49	26	77
630	68	257	3	13	147	373	3	24	3	20	10	39	6	27	15	56	14	54	26	94	13	50	30	92
645	93	306	15	22	84	375	4	25	12	27	24	54	3	22	14	57	7	43	39	116	12	44	31	104
700	124	337	2	23	36	357	1	19	3	23	10	55	7	21	10	50	9	42	42	136	11	49	41	128
715	79	364	8	28	24	291	10	18	7	25	13	57	5	21	9	48	15	45	52	159	8	44	53	155
730	40	336	7	32	16	160	5	20	9	31	19	66	5	20	7	40	19	50	75	208	16	47	75	200
745	29	272	3	20	19	95	7	23	9	28	10	52	4	21	20	46	25	68	73	242	21	56	76	245
800	27	175	5	23	12	71	7	29	13	38	24	66	6	20	14	50	27	86	51	251	24	69	51	255
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900	14	52	2	18	10	52	11	35	3	22	13	53	8	26	10	43	17	88	23	128	13	91	25	119
915	17	58	6	20	9	52	14	41	4	21	13	51	8	27	16	48	23	83	21	110	15	74	29	123
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1045	17	58	9	41	7	53	11	48	10	23	10	34	8	30	5	37	22	72	35	131	22	83	28	121
1100	19	60	17	44	9	50	12	50	4	25	13	41	14	41	10	38	26	78	25	131	21	79	31	124
1115	14	65	22	55	18	52	8	52	9	28	11	45	8	37	11	36	19	85	27	128	18	78	17	111
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1145	10	65	7	59	17	54	10	49	4	24	8	39	12	38	7	34	17	83	29	113	33	95	25	102
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1215	31	71	13	40	48	117	19	57	4	23	6	31	5	26	2	29	31	106	32	114	36	106	28	109
1230	41	90	13	40	17	124	29	67	9	25	4	28	6	28	7	30	32	117	24	106	30	113	34	114
1245	47	127	18	51	7	114	80	137	6	27	2	22	10	26	9	32	28	128	29	106	32	112	39	128
1300	10	129	25	69	9	81	54	182	14	33	6	18	14	35	4	22	20	111	24	109	25	123	31	132
1315	5	103	78	134	9	42	33	196	13	42	3	15	16	46	4	24	30	110	29	106	27	114	34	138
1330	5	67	48	169	8	33	44	211	10	43	5	16	12	52	9	26	29	107	33	115	27	111	26	130
1345	3	23	34	185	5	31	40	171	19	56	9	23	11	53	7	24	40	119	38	124	36	115	29	120
1400	8	21	51	211	7	29	42	159	10	52	7	24	9	48	6	26	29	128	36	136	33	123	27	116
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1500	6	35	61	217	6	29	56	305	12	69	7	29	11	52	6	31	47	150	38	144	44	153	17	123
1515	11	38	131	293	11	31	88	330	10	62	5	25	15	60	5	25	29	152	26	135	48	167	33	130
1530	4	30	60	316	5	30	37	312	7	50	3	20	10	56	6	22	49	163	33	129	55	188	34	131
1545	7	28	80	332	6	28	35	216	9	38	4	19	12	48	8	25	53	178	36	133	51	198	44	128
1600	7	29	38	309	9	31	19	179	11	37	3	15	15	52	9	28	46	177	37	132	47	201	27	138
1615	12	30	30	208	17	37	13	104	9	36	1	11	18	55	12	35	48	196	45	151	48	201	29	134
1630	9	35	15	163	7	39	8	75	11	40	3	11	15	60	4	33	48	195	55	173	46	192	45	145
1645	12	40	14	97	9	42	13	53	8	39	5	12	21	69	11	36	55	197	43	180	59	200	60	161
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1715	7	38	6	44	16	36	3	30	12	47	2	15	24	76	4	22	53	211	36	178	68	225	46	195
1730	4	33	6	35	4	33	6	28	16	52	4	16	20	81	5	23	52	215	50	173	53	232	43	193
1745	9	30	11	32	10	34	7	22	12	56	5	16	12	72	6	18	49	209	34	164	69	242	40	173
1800	9	29	7	30	2	32	6	22	12	52	4	15	12	68	5	20	47	201	25	145	37	227	40	169
1815	3	25	4	28	17	33	6	25	6	46	7	20	6	50	8	24	46	194	36	145	36	195	43	166
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1845	3	18	12	31	5	38	2	31	7	34	7	24	8	37	4	26	42	173	39	130	38	159	38	142
1900	4	13	10	34	8	44	8	33	9	31	4	24	6	31	3	24	45	171	33	138	36	158	37	139
1915	2	12	8	38	11	38	11	38	4	29	4	21	10	35	4	20	51	176	28	130	31	153	25	121
1930	2	11	9	39	5	29	15	36	3	23	5	20	2	26	5	16	29	167	26	126	23	128	24	124
1945	1	9	9	36	14	38	9	43	10	26	2	15	8	26	2	14	40	165	31	118	48	138	22	108
2000	3	8	6	32	32	62	8	43	6	23	2	13	8	28	8	19	32	152	14	99	37	139	26	97
2015	16	22	4	28	14	65	20	52	3	22	3	12	4	22	4	19	31	132	15	86	39	147	26	98
2030	28	48	3	22	10	70	64	101	5	24	4	11	6	26	2	16	34	137	23	83	44	168	27	101
2045	7	54	15	28	3	59	42	134	3	17	1	10	8	26	2	16	34	131	13	65	46	166	25	104
2100	2	53	61	83	6	33	11	137	2	13	6	14	6	24	6	14	34	133	24	75	36	165	21	99
2115	2	39	21	100	3	22	9	126	5	15	5	16	5	25	3	13	23	125	15	75	25	151	19	92
2130	0	11	5	102	9	21	7	69	3	13	3	15	4	23	7	18	18	109	21	73	25	132	14	79
2145	3	7	1	88	4	22	6	33	3	13	1	15	3	18	2	18	23	98	12	72	14	100	16	70
2200	1	6	3	30	1	17	7	29	4	15	3	12	4	16	1	13	23	87	9	57	27	91	8	57
2215	1	5	1	10	5	19	0	20	5	15	2	9	7	18	2	12	14	78	12	54	16	82	11	49
2230	1	6	0	5	7	17	3	16	1	13	0	6	3	17	5	10	15	75	3	36	14	71	11	46
2245	0	3	1	5	2	15	0	10	3	13	2	7	1	15	5	13	14	66	8	32	11	68	9	39
2300	1	3	1	3	12	26	12	15	2	11	0	4	15	26	5	17	7	50	4	27	12	53	6	37
2315	0	2	0	2	5	26	0	15	2	8	1	3	3	22	2	17	10	46	4	19	8	45	4	30
2330	0	1	0	2	10	29	5	17	1	8	1	4	4	23	0	12	11	42	4	20	9	40	6	25
2345	1	2	1	2	16	43	5	22	0	5	0	2	2	24	0	7	6	34	5	17	5	34	4	20
TOTAL	1,481	N/A	1,361	N/A	1,594	N/A	1,447	N/A	581	N/A	534	N/A	671	N/A	569	N/A	2,156	N/A	2,249	N/A	2,216	N/A	2,269	N/A
AM	364		50		375		42		38		68		32		58		102		251		102		255	
NOON	129		211		124		291		67		45		53		43		134		148		142		138	
PM	43		332		44		330		69		29		81		36		215		187		242		195	
EVEN	54		102		70		137		24		16		28		19		152		99		168		104	

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/11/2010 Tuesday				5/12/2010 Wednesday				5/12/2010 Wednesday				5/13/2010 Thursday				5/11/2010 Tuesday				5/12/2010 Wednesday			
	37. On Avenue 15 1/2, West of Santa Fe Dr								38. On Avenue 15, West of Santa Fe Dr								39.On Avenue 12, East of Rd 30 1/2(btw SR-99 & Santa Fe Dr							
	EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	1	0	1	0	1	0	1	0	2	0	1	0	0	0	0	0	3	0	10	0	7	0	12	0
1215	3	0	4	0	2	0	2	0	1	0	1	0	1	0	0	0	5	0	4	0	3	0	9	0
1230	1	0	2	0	1	0	0	0	1	0	0	0	0	0	0	0	6	0	9	0	5	0	7	0
1245	0	5	1	8	0	4	0	3	1	5	0	2	0	1	0	0	4	18	2	25	7	22	3	31
100	0	4	0	7	0	3	1	3	2	5	0	1	0	1	0	0	0	15	9	24	1	16	5	24
115	0	1	3	6	0	1	0	1	0	4	1	1	0	0	0	0	3	13	1	21	4	17	2	17
130	0	0	0	4	1	1	1	2	0	3	0	1	0	0	0	0	3	10	4	16	3	15	6	16
145	0	0	0	3	0	1	0	2	0	2	0	1	0	0	0	0	4	10	4	18	5	13	2	15
200	1	1	1	4	1	2	0	1	1	1	0	1	0	0	0	0	2	12	6	15	3	15	1	11
215	1	2	1	2	0	2	0	1	0	1	0	0	0	0	1	1	3	12	1	15	0	11	3	12
230	1	3	1	3	0	1	1	1	1	2	0	0	0	0	0	1	1	10	1	12	3	11	2	8
245	2	5	0	3	1	2	0	1	0	2	0	0	0	0	0	1	1	7	4	12	2	8	0	6
300	0	4	3	5	0	1	1	2	0	1	0	0	1	1	0	1	2	7	4	10	1	6	3	8
315	4	7	1	5	0	1	1	3	0	1	0	0	0	1	0	0	0	4	3	12	2	8	2	7
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400	0	7	0	1	1	1	1	3	1	3	1	3	1	2	0	0	5	8	7	17	5	14	3	11
415	1	4	1	1	0	1	2	4	0	3	0	3	0	2	0	0	4	12	3	17	2	14	4	13
430	0	2	4	5	1	2	2	6	2	4	0	2	1	2	0	0	3	12	10	26	2	11	9	18
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515	4	6	3	11	5	8	2	8	7	11	1	2	6	9	0	0	19	35	24	61	11	23	17	43
530	4	10	2	9	3	10	3	9	12	21	5	7	18	26	5	5	29	61	22	73	28	49	29	63
545	11	21	6	14	13	23	6	14	11	31	3	9	10	36	2	7	32	84	35	97	45	92	27	83
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615	4	24	2	15	43	64	3	17	7	35	3	13	0	33	0	8	46	145	32	124	46	157	32	117
630	13	33	0	13	39	100	29	43	16	39	5	13	9	24	4	7	47	163	54	156	45	174	48	136
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700	8	29	5	11	14	105	7	59	10	48	3	17	11	26	1	5	34	188	70	235	61	208	92	245
715	16	41	5	14	11	73	18	74	17	58	4	18	17	43	4	9	78	220	97	300	52	214	110	323
730	11	39	16	30	12	46	14	59	10	52	7	20	11	45	7	12	67	240	118	364	83	252	121	396
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830	9	55	8	41	11	52	7	34	23	53	12	23	11	41	4	16	62	311	86	444	73	302	114	455
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915	13	43	4	26	7	38	9	34	6	52	5	32	6	37	5	33	58	254	82	319	74	270	76	371
930	13	47	9	27	10	37	6	33	14	43	5	25	3	29	1	30	68	260	60	293	84	281	63	320
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1045	9	29	11	28	10	31	14	30	13	44	3	13	15	45	4	13	67	309	81	304	65	260	70	272
1100	11	31	10	31	7	29	10	34	7	42	9	18	16	55	13	24	75	308	73	289	77	268	73	279
1115	9	35	8	34	5	24	7	35	6	36	7	23	17	60	12	31	72	300	71	284	67	281	58	253
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1200	11	34	7	33	10	29	8	25	15	40	4	27	15	56	6	25	58	271	65	276	74	287	75	306
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1230	7	29	15	41	5	37	19	40	5	33	4	21	9	44	5	26	73	270	73	240	92	299	76	321
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1315	13	35	9	46	8	29	9	46	15	31	17	42	7	30	14	42	72	267	80	348	63	309	60	301
1330	14	42	12	43	9	33	12	39	9	35	11	49	7	28	4	41	94	288	83	358	71	288	79	304
1345	18	54	8	40	11	38	11	40	11	41	11	49	7	29	12	42	86	315	90	353	63	280	92	301
1400	9	54	10	39	10	38	11	43	7	42	11	50	9	30	13	43	72	324	78	331	62	259	88	319
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1430	15	49	11	38	11	39	16	49	6	33	7	43	6	26	5	36	94	340	74	319	89	304	89	353
1445	9	40	11	41	16	44	12	50	6	28	9	41	10	29	10	34	82	336	84	313	83	324	99	360
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1600	20	47	15	62	16	54	8	44	7	36	16	56	11	41	5	35	114	414	94	442	119	416	100	380
1615	9	47	23	73	11	55	13	51	12	38	12	57	13	41	5	27	115	447	112	440	130	451	89	372
1630	9	44	10	67	9	52	16	52	13	40	17	60	14	46	7	20	112	451	110	443	112	474	101	376
1645	18	56	17	65	20	56	11	48	18	50	15	60	8	46	4	21	110	451	90	406	101	462	88	378
1700	11	47	13	63	14	54	17	57	19	62	13	57	5	40	6	22	93	430	101	413	101	444	88	366
1715	13	51	11	51	14	57	18	62	23	73	12	57	23	50	12	29	141	456	82	383	155	469	114	391
1730	14	56	22	63	14	62	11	57	15	75	11	51	17	53	12	34	142	486	100	373	111	468	102	392
1745	16	54	17	63	15	57	16	62	16	73	16	52	9	54	6	36	114	490	118	401	98	465	94	398
1800	10	53	9	59	10	53	18	63	16	70	15	54	12	61	11	41	69	466	121	421	63	427	99	409
1815	14	54	13	61	14	53	14	59	12	59	12	54	10	48	4	33	69	394	95	434	67	339	93	388
1830	5	45	14	53	8	47	10	58	10	54	7	50	7	38	3	24	44	296	72	406	71	299	80	366
1845	7	36	11	47	8	40	10	52	14	52	12	46	8	37	1	19	46	228	75	363	52	253	70	342
1900	4	30	9	47	21	51	12	46	7	43	8	39	5	30	2	10	40	199	52	294	54	244	68	311
1915	11	27	12	46	25	62	8	40	9	40	6	33	5	25	2	8	41	171	61	260	53	230	43	261
1930	2	24	8	40	29	83	13	43	10	40	6	32	6	24	2	7	52	179	41	229	51	210	55	236
1945	11	28	9	38	12	87	72	105	4	30	2	22	4	20	0	6	36	169	46	200	40	198	37	203
2000	6	30	12	41	6	72	14	107	3	26	4	18	2	17	2	6	40	169	54	202	35	179	45	180
2015	3	22	8	37	0	47	12	111	8	25	6	18	5	17	0	4	39	167	46	187	35	161	44	181
2030	8	28	9	38	7	25	3	101	5	20	3	15	3	14	0	2	23	138	45	191	40	150	39	165
2045	6	23	8	37	3	16	5	34	4	20	2	15	7	17	3	5	37	139	51	196	46	156	44	172
2100	3	20	6	31	3	13	8	28	13	30	8	19	6	21	0	3	28	127	38	180	47	168	42	169
2115	7	24	8	31	3	16	4	20	2	24	0	13	1	17	0	3	22	110	28	162	37	170	45	170
2130	4	20	5	27	1	10	8	25	6	25	1	11	5	19	0	3	30	117	45	162	20	150	48	179
2145	5	19	9	28	4	11	12	32	5	26	1	10	3	15	0	0	19	99	29	140	25	129	38	173
2200	2	18	7	29	4	12	4	28	9	22	3	5	2	11	0	0	14	85	41	143	23	105	33	164
2215	2	13	0	21	4	13	3	27	2	22	2	7	2	12	1	1	18	81	29	144	26	94	30	149
2230	1	10	6	22	1	13	4	23	4	20	6	12	0	7	0	1	22	73	44	143	25	99	48	149
2245	2	7	1	14	2	11	1	12	2	17	2	13	2	6	0	1	14	68	32	146	17	91	21	132
2300	1	6	1	8	1	8	2	10	3	11	2	12	0	4	0	1	8	62	7	112	16	84	27	126
2315	3	7	1	9	2	6	4	11	2	11	0	10	3	5	0	0	10	54	18	101	8	66	13	109
2330	0	6	4	7	2	7	2	9	2	9	1	5	1	6	0	0	11	43	12	69	10	51	12	73
2345	1	5	4	10	0	5	2	10	0	7	2	5	0	4	0	0	13	42	8	45	6	40	10	62
TOTAL	660	N/A	700	N/A	769	N/A	786	N/A	726	N/A	544	N/A	611	N/A	366	N/A	4,713	N/A	5,346	N/A	4,826	N/A	5,311	N/A
AM		62		53		105		74		58		32		49		33		317		476		312		475
NOON		54		48		44		50		47		50		60		43		340		358		324		360
PM		56		73		87		105		75		60		61		58		490		443		474		409
EVEN		30		41		72		111		30		19		21		6		169		202		179		181

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B.A.Y.M.E.T.R.I.C.S.

Project Name

Date	5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday			
	40. On Avenue 11, East of SR-99 & Rd 30 1/2								41.On Avenue 10, East of SR-99 and Road 30 1/2								42. On Avenue 9, East of SR-99 & Road 30 1/2							
	EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	9	0	3	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	5	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	3	0
1245	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	3	1	3	4	17	2	13
100	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	5	0	2	1	4	2	10	1	11
115	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	1	3	0	3	3	11	1	7
130	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	5	0	2	1	3	1	10	4	8
145	1	1	0	0	0	0	0	1	0	0	1	1	0	0	0	5	1	2	0	2	0	6	1	7
200	0	1	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0	1	0	4	3	9
215	0	1	0	1	1	1	0	1	0	0	0	1	0	0	0	0	0	1	0	1	1	2	1	9
230	0	1	0	1	1	2	1	1	0	0	0	1	0	0	0	0	1	2	1	1	2	3	0	5
245	0	0	0	1	0	2	0	1	0	0	0	0	0	0	0	0	0	1	1	2	1	4	0	4
300	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	2	0	2	1	5	1	2
315	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2	4	2	4	4	8	0	1
330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	2	8	0	1
345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	3	1	8	1	2
400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	3	1	8	2	3
415	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	1	2	4	8	3	6
430	0	0	1	1	1	1	2	3	0	0	0	0	0	0	1	1	1	3	2	3	1	7	3	9
445	0	0	0	1	1	2	1	4	0	0	0	0	0	0	2	3	0	2	0	3	5	11	3	11
500	2	2	0	1	1	3	1	5	1	1	2	2	0	0	0	3	2	3	2	5	2	12	8	17
515	5	7	1	2	2	5	1	5	0	1	1	3	1	1	1	4	0	3	0	4	3	11	8	22
530	2	9	2	3	3	7	0	3	1	2	1	4	1	2	3	6	4	6	2	4	11	21	5	24
545	1	10	0	3	1	7	0	2	1	3	2	6	2	4	2	6	10	16	7	11	24	40	13	34
600	3	11	1	4	2	8	2	3	0	2	4	8	0	4	0	6	16	30	11	20	25	63	8	34
615	1	7	3	6	1	7	1	3	0	2	0	7	1	4	0	5	18	48	12	32	25	85	17	43
630	0	5	0	4	4	8	4	7	0	1	0	6	2	5	0	2	24	68	16	46	26	100	19	57
645	0	4	5	9	0	7	1	8	1	1	0	4	2	5	12	12	34	92	22	61	46	122	41	85
700	1	2	1	9	2	7	4	10	1	2	0	0	1	6	1	13	25	101	17	67	54	151	29	106
715	1	2	0	6	1	7	2	11	1	3	0	0	0	5	1	14	36	119	24	79	53	179	39	128
730	2	4	2	8	2	5	3	10	0	3	1	1	0	3	4	18	63	158	42	105	106	259	50	159
745	7	11	3	6	1	6	3	12	0	2	1	2	1	2	2	8	65	189	43	126	113	326	57	175
800	1	11	3	8	2	6	2	10	0	1	2	4	0	1	3	10	36	200	24	133	73	345	55	201
815	1	11	0	8	2	7	0	8	0	0	1	5	0	1	0	9	34	198	22	131	68	360	43	205
830	5	14	1	7	0	5	1	6	1	1	1	5	0	1	0	5	34	169	22	111	50	304	30	185
845	4	11	1	5	2	6	0	3	0	1	0	4	0	0	1	4	31	135	20	88	54	245	43	171
900	1	11	1	3	1	5	0	1	0	1	2	4	0	0	0	1	30	129	20	84	44	216	26	142
915	1	11	1	4	3	6	4	5	0	1	0	3	2	2	1	2	32	127	21	83	47	195	23	122
930	2	8	1	4	1	7	3	7	1	1	1	3	0	2	3	5	32	125	21	82	50	195	23	115
945	1	5	2	5	3	8	0	7	1	2	7	10	0	2	2	6	25	119	17	79	43	184	24	96
1000	3	7	3	7	1	8	1	8	0	2	2	10	0	2	2	8	25	114	16	75	45	185	24	94
1015	4	10	2	8	1	6	5	9	0	2	0	10	0	0	1	8	29	111	19	73	40	178	34	105
1030	1	9	1	8	0	5	1	7	1	2	1	10	2	2	1	6	27	106	18	70	37	165	29	111
1045	2	10	1	7	0	2	2	9	0	1	1	4	0	2	0	4	15	96	10	63	49	171	24	111
1100	1	8	2	6	0	1	1	9	1	2	0	2	0	2	1	3	27	98	18	65	35	161	32	119
1115	1	5	1	5	0	0	0	4	1	3	0	2	0	2	0	2	23	92	15	61	39	160	31	116
1130	4	8	3	7	0	0	0	3	0	2	1	2	0	0	0	1	16	81	11	54	46	169	19	106
1145	2	8	1	7	0	0	0	1	0	2	0	1	1	1	1	2	19	85	12	56	40	160	32	114
1200	1	8	4	9	0	0	1	1	0	1	1	2	0	1	0	1	24	82	16	54	32	157	39	121
1215	1	8	1	9	0	0	1	2	3	3	0	2	1	2	1	2	20	79	13	52	33	151	23	113
1230	2	6	1	7	1	1	1	3	0	3	1	2	0	2	1	3	20	83	13	54	43	148	30	124
1245	1	5	1	7	0	1	0	3	1	4	0	2	2	3	2	4	15	79	10	52	42	150	35	127
1300	1	5	1	4	3	4	3	5	1	5	0	1	0	3	1	5	12	67	12	48	33	151	33	121
1315	2	6	2	5	1	5	0	4	0	2	0	1	1	3	1	5	24	71	21	56	43	161	34	132
1330	3	7	0	4	0	4	2	5	1	3	1	1	0	3	0	4	26	77	27	70	40	158	17	119
1345	2	8	1	4	3	7	1	6	0	2	0	1	1	2	1	3	18	80	19	79	39	155	24	108
1400	1	8	4	7	3	7	2	5	0	1	2	3	0	2	0	2	21	89	19	86	28	150	25	100
1415	3	9	3	8	2	8	1	6	0	1	1	4	0	1	0	1	17	82	15	80	27	134	23	89
1430	8	14	0	8	2	10	1	5	0	0	0	3	0	1	0	1	30	86	32	85	28	122	28	100
1445	1	13	1	8	5	12	5	9	1	1	1	4	0	0	1	1	20	88	17	83	17	100	18	94
1500	0	12	4	8	0	9	2	9	2	3	1	3	0	0	3	4	24	91	23	87	22	94	22	91
1515	0	9	4	9	3	10	3	11	1	4	4	6	1	1	1	5	18	92	18	90	22	89	33	101
1530	5	6	2	11	1	9	2	12	1	5	2	8	0	1	0	5	18	80	26	84	26	87	40	113
1545	3	8	1	11	4	8	2	9	0	4	1	8	0	1	0	4	24	84	36	103	24	94	36	131
1600	0	8	1	8	5	13	1	8	0	2	1	8	0	1	0	1	21	81	31	111	31	103	47	156
1615	6	14	1	5	2	12	1	6	0	1	0	4	1	1	0	0	17	80	25	118	26	107	40	163
1630	3	12	1	4	1	12	0	4	1	1	1	3	1	2	0	0	24	86	36	128	31	112	47	170
1645	2	11	2	5	1	9	4	6	0	1	1	3	2	4	1	1	21	83	32	124	23	111	36	170
1700	1	12	1	5	4	8	1	6	1	2	0	2	0	4	0	1	24	86	36	129	24	104	37	160
1715	1	7	1	5	2	8	2	7	0	2	0	2	0	3	0	1	34	103	51	155	34	112	53	173
1730	3	7	4	8	1	8	1	8	2	3	0	1	0	2	0	1	35	114	53	172	26	107	41	167
1745	0	5	4	10	3	10	0	4	0	3	0	0	0	0	0	0	24	117	37	177	26	110	39	170
1800	2	6	0	9	2	8	5	8	1	3	0	0	0	0	0	0	18	111	27	168	17	103	27	160
1815	0	5	0	8	2	8	0	6	0	3	1	1	0	0	0	0	16	93	23	140	16	85	24	131
1830	1	3	3	7	4	11	2	7	0	1	0	1	0	0	0	0	15	73	21	108	16	75	26	116
1845	0	3	0	3	1	9	1	8	0	1	1	2	0	0	1	1	10	59	16	87	15	64	24	101
1900	1	2	1	4	0	7	1	4	1	1	0	2	1	1	0	1	11	52	15	75	8	55	14	88
1915	1	3	2	6	1	6	2	6	0	1	2	3	0	1	0	1	12	48	18	70	5	44	9	73
1930	2	4	1	4	0	2	0	4	0	1	0	3	0	1	0	1	8	41	11	60	10	38	16	63
1945	1	5	0	4	1	2	1	4	0	1	0	2	0	1	0	0	12	43	17	61	8	31	13	52
2000	2	6	0	3	1	3	0	3	0	0	0	2	0	0	1	1	8	40	13	59	3	26	5	43
2015	1	6	0	1	1	3	0	1	0	0	0	0	0	0	0	1	6	34	8	49	7	28	12	46
2030	0	4	3	3	0	3	2	3	0	0	0	0	0	0	0	1	7	33	11	49	6	24	10	40
2045	2	5	1	4	2	4	0	2	0	0	0	0	0	0	0	1	6	27	9	41	4	20	6	33
2100	2	5	0	4	1	4	1	3	0	0	0	0	0	0	0	0	6	25	8	36	4	21	7	35
2115	0	4	0	4	1	4	1	4	0	0	0	0	0	0	0	0	4	23	6	34	2	16	4	27
2130	0	4	0	1	0	4	0	2	0	0	0	0	0	0	0	0	4	20	7	30	3	13	6	23
2145	0	2	2	2	1	3	1	3	0	0	0	0	0	0	0	0	3	17	4	25	3	12	6	23
2200	1	1	0	2	0	2	0	2	0	0	0	0	0	0	0	0	4	15	6	23	4	12	8	24
2215	0	1	0	2	0	1	0	1	0	0	0	0	0	0	0	0	2	13	3	20	4	14	6	26
2230	0	1	0	2	0	1	0	1	0	0	0	0	0	0	0	0	6	15	7	20	4	15	7	27
2245	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	16	5	21	2	14	5	26
2300	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	14	3	18	2	12	3	21
2315	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	14	2	17	1	9	3	18
2330	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	9	1	11	1	6	3	14
2345	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	8	4	10	0	4	0	9
TOTAL	129	N/A	102	N/A	106	N/A	102	N/A	29	N/A	54	N/A	28	N/A	65	N/A	1,445	N/A	1,360	N/A	2,159	N/A	1,867	N/A
AM		14		9		8		12		3		10		6		18		200		133		360		205
NOON		14		9		12		9		5		10		3		8		114		86		185		132
PM		14		11		13		12		5		8		4		5		117		177		112		173
EVEN		6		4		4		4		0		2		0		1		40		59		28		46

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B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday			
	43*. On Road 31, Near Avenue 10, North of SR-99 & RD 30 1/2								44. On Avenue 8, East of SR-99								45. On Avenue 7, Between SR-99 and Road 33							
	NB		SB		NB		SB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0
1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	6	0	3
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	5	0	3
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	3	1	1
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2	0	1	0	1
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	2	0	1
200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	1	3	1	3	1	2
215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	3	0	2	0	1
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	2	4	0	2	0	1
245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	6	1	5	1	2	1	2
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0	4	0	1	0	1
315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0	3	0	1	0	1
330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	1	3	0	1	0	1	0	1
345	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	1	1	2	2	0	0
400	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	2	2	3	1	3	1	1
415	0	1	0	0	0	0	1	1	1	1	0	0	0	1	3	4	1	3	0	3	2	5	0	1
430	0	1	0	0	0	0	0	1	1	2	0	0	0	1	1	4	2	4	0	3	0	5	2	3
445	0	1	0	0	0	0	0	1	0	2	3	3	0	0	0	4	2	6	2	4	1	4	0	3
500	1	1	1	1	0	0	0	1	2	4	3	6	1	1	2	6	3	8	6	8	3	6	5	7
515	0	1	0	1	0	0	0	0	0	3	0	6	0	1	0	3	5	12	4	12	4	8	3	10
530	0	1	0	1	1	1	0	0	2	4	1	7	1	2	0	2	7	17	5	17	17	25	5	13
545	0	1	0	1	0	1	0	0	0	4	0	4	2	4	4	6	9	24	6	21	14	38	9	22
600	0	0	0	0	0	1	0	0	2	4	3	4	3	6	1	5	13	34	11	26	12	47	10	27
615	0	0	0	0	0	1	1	1	3	7	1	5	0	6	1	6	14	43	12	34	18	61	9	33
630	2	2	0	0	0	0	0	1	0	5	1	5	1	6	1	7	35	71	23	52	24	68	16	44
645	0	2	0	0	0	0	0	1	3	8	2	7	3	7	3	6	34	96	24	70	37	91	25	60
700	0	2	0	0	1	1	0	1	0	6	3	7	2	6	2	7	26	109	16	75	34	113	23	73
715	0	2	0	0	0	1	0	0	1	4	0	6	0	6	0	6	13	108	10	73	16	111	11	75
730	0	0	0	0	0	1	0	0	6	10	0	5	0	5	1	6	31	104	17	67	27	114	18	77
745	0	0	0	0	0	1	0	0	1	8	3	6	2	4	1	4	41	111	28	71	39	116	29	81
800	0	0	2	2	1	1	0	0	1	9	0	3	1	3	7	9	37	122	24	79	31	113	21	79
815	0	0	1	3	0	1	0	0	0	8	0	3	0	3	2	11	18	127	12	81	35	132	23	91
830	0	0	1	4	2	3	1	1	0	2	1	4	1	4	1	11	22	118	14	78	24	129	17	90
845	0	0	0	4	0	3	0	1	1	2	4	5	0	2	0	10	23	100	16	66	23	113	15	76
900	0	0	0	2	0	2	0	1	3	4	1	6	1	2	1	4	20	83	14	56	16	98	11	66
915	0	0	0	1	0	2	0	1	3	7	0	6	0	2	4	6	22	87	13	57	19	82	12	55
930	2	2	0	0	0	0	0	0	0	7	2	7	0	1	0	5	16	81	11	54	18	76	11	49
945	0	2	0	0	1	1	0	0	1	7	1	4	0	1	1	6	18	76	12	50	13	66	9	43
1000	0	2	0	0	0	1	2	2	2	6	0	3	1	1	1	6	14	70	10	46	12	62	8	40
1015	1	3	0	0	0	1	0	2	1	4	3	6	2	3	0	2	13	61	9	42	10	53	7	35
1030	0	1	0	0	0	1	0	2	2	6	1	5	0	3	1	3	15	60	10	41	17	52	11	35
1045	0	1	1	1	1	1	0	2	2	7	1	5	1	4	0	2	20	62	14	43	18	57	13	39
1100	0	1	0	1	0	1	1	1	1	6	0	5	1	4	1	2	8	56	5	38	16	61	12	43
1115	0	0	0	1	0	1	0	1	0	5	1	3	2	4	2	4	13	56	9	38	10	61	9	45
1130	0	0	0	1	0	1	0	1	0	3	0	2	1	5	0	3	9	50	6	34	17	61	12	46
1145	0	0	0	0	0	0	0	1	4	5	0	1	0	4	1	4	10	40	7	27	14	57	10	43
1200	1	1	0	0	1	1	1	1	0	4	1	2	0	3	4	7	18	50	14	36	13	54	9	40
1215	0	1	2	2	0	1	0	1	1	5	0	1	0	1	0	5	16	53	13	40	15	59	11	42
1230	0	1	0	2	0	1	0	1	0	5	3	4	3	3	0	5	11	55	8	42	14	56	12	42
1245	1	2	0	2	0	1	1	2	1	2	2	6	0	3	0	4	12	57	9	44	13	55	11	43
1300	0	1	0	2	2	2	0	1	1	3	0	5	0	3	2	2	15	54	11	41	17	59	14	48
1315	0	1	0	0	1	3	0	1	0	2	0	5	0	3	0	2	13	51	13	41	11	55	9	46
1330	0	1	0	0	0	3	1	2	0	2	0	2	0	0	0	2	20	60	16	49	11	52	10	44
1345	0	0	0	0	0	3	0	1	4	5	2	2	0	0	1	3	16	64	13	53	15	54	15	48
1400	0	0	0	0	0	1	0	1	1	5	1	3	1	1	5	6	10	59	14	56	11	48	14	48
1415	0	0	0	0	0	0	0	1	2	7	0	3	1	2	0	6	11	57	15	58	15	52	21	60
1430	2	2	0	0	0	0	0	0	0	7	2	5	1	3	0	6	17	54	23	65	14	55	20	70
1445	0	2	0	0	0	0	0	0	2	5	1	4	0	3	1	6	16	54	21	73	13	53	17	72
1500	0	2	2	2	0	0	0	0	0	4	0	3	2	4	0	1	11	55	15	74	12	54	16	74
1515	0	2	0	2	0	0	2	2	1	3	0	3	1	4	1	2	21	65	28	87	21	60	25	78
1530	2	2	1	3	0	0	1	3	1	4	1	2	1	4	0	2	19	67	25	89	14	60	18	76
1545	1	3	0	3	1	1	0	3	0	2	0	1	0	4	1	2	20	71	26	94	19	66	31	90
1600	0	3	0	1	0	1	0	3	1	3	0	1	2	4	0	2	23	83	34	113	21	75	32	106
1615	0	3	0	1	0	1	0	1	2	4	3	4	2	5	0	1	19	81	29	114	20	74	29	110
1630	0	1	0	0	0	1	0	0	0	3	0	3	0	4	0	1	22	84	33	122	18	78	38	130
1645	0	0	0	0	0	0	0	0	1	4	0	3	0	4	1	1	19	83	29	125	22	81	34	133
1700	0	0	2	2	2	2	0	0	0	3	0	3	0	2	0	1	18	78	28	119	25	85	31	132
1715	0	0	0	2	0	2	0	0	0	1	0	0	1	1	0	1	23	82	34	124	27	92	42	145
1730	0	0	0	2	0	2	1	1	3	4	0	0	0	1	2	3	26	86	35	126	28	102	35	142
1745	1	1	0	2	0	2	0	1	2	5	1	1	0	1	0	2	24	91	36	133	31	111	48	156
1800	0	1	0	0	0	0	0	1	0	5	0	1	1	2	1	3	16	89	25	130	18	104	27	152
1815	0	1	0	0	0	0	0	1	1	6	0	1	0	1	1	4	14	80	22	118	21	98	23	133
1830	0	1	0	0	0	0	0	0	0	3	0	1	1	2	0	2	12	66	19	102	14	84	22	120
1845	0	0	2	2	0	0	0	0	0	1	1	1	0	2	0	2	8	50	12	78	11	64	16	88
1900	2	2	0	2	1	1	0	0	1	2	0	1	1	2	1	2	9	43	14	67	13	59	21	82
1915	0	2	0	2	0	1	0	0	0	1	0	1	0	2	0	1	12	41	13	58	9	47	15	74
1930	0	2	0	2	0	1	0	0	0	1	0	1	0	1	3	4	11	40	9	48	6	39	7	59
1945	0	2	0	0	0	1	0	0	0	1	0	0	0	1	2	6	9	41	8	44	9	37	9	52
2000	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	5	3	35	8	38	10	34	6	37
2015	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	7	30	7	32	5	30	5	27
2030	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3	22	9	32	8	32	9	29
2045	0	0	0	0	0	0	0	0	1	1	1	2	0	0	0	0	5	18	4	28	4	27	6	26
2100	1	1	1	1	0	0	0	0	0	1	0	1	0	0	0	0	8	23	9	29	7	24	10	30
2115	0	1	0	1	0	0	0	0	1	2	0	1	0	0	0	0	3	19	2	24	10	29	8	33
2130	0	1	0	1	0	0	1	1	0	2	2	3	0	0	0	0	5	21	4	19	6	27	5	29
2145	0	1	0	1	0	0	0	1	0	1	0	2	0	0	0	0	8	24	3	18	4	27	9	32
2200	0	0	0	0	0	0	0	1	0	1	0	2	1	1	0	0	3	19	2	11	7	27	4	26
2215	0	0	0	0	0	0	0	1	0	0	0	2	0	1	0	0	2	18	1	10	6	23	6	24
2230	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	17	3	9	8	25	4	23
2245	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	11	6	12	3	24	8	22
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	10	3	13	6	23	6	24
2315	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	3	11	5	17	2	19	1	19
2330	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4	11	0	14	1	12	3	18
2345	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	11	3	11	1	10	1	11
TOTAL	18	N/A	16	N/A	15	N/A	14	N/A	70	N/A	58	N/A	46	N/A	71	N/A	1,100	N/A	1,074	N/A	1,163	N/A	1,146	N/A
AM	2		4		3		1		10		7		7		11		127		81		132		91	
NOON	3		2		3		2		7		6		5		7		70		73		62		72	
PM	3		3		2		3		6		4		5		6		91		133		111		156	
EVEN	1		1		0		1		2		3		1		5		35		38		34		37	

Telephone: (510) 232-1271 Fax: (510) 232-1272

* Dirt Road

B.A.Y.M.E.T.R.I.C.S.

HSR Project @ Merced

Date	5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday				5/11/2010 Tuesday				5/12/2010 Wednesday			
	46*. On Road 33, South of Avenue 7 (east of SR-99)																							
	NB		SB		NB		SB																	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
645	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
700	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
715	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
730	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
830	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
845	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
900	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
915	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1145	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1445	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	N/A	4	N/A	0	N/A	6	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
AM	2		1		0		4		0		0		0		0		0		0		0		0	
NOON	1		2		0		2		0		0		0		0		0		0		0		0	
PM	0		1		0		0		0		0		0		0		0		0		0		0	
EVEN	0		0		0		0		0		0		0		0		0		0		0		0	

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

2-DAY ADT COUNTS IN FRESNO

Date	3/8/2011 Tuesday				3/9/2011 Wednesday				3/8/2011 Tuesday				3/9/2011 Wednesday			
Location	1. On W. Herndon Avenue, between Weber Av and Bryan Av								2. On Bryan Avenue, South of W. Herndon Avenue							
Direction	EB		WB		EB		WB		NB		SB		NB		SB	
Time	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	28	0	18	0	34	0	22	0	4	0	0	0	0	0	1	0
1215	28	0	17	0	16	0	12	0	0	0	1	0	0	0	0	0
1230	26	0	20	0	10	0	13	0	0	0	0	0	0	0	1	0
1245	13	95	19	74	22	82	18	65	1	5	1	2	0	0	1	3
100	21	88	17	73	9	57	7	50	2	3	2	4	0	0	0	2
115	18	78	21	77	9	50	8	46	2	5	1	4	1	1	0	2
130	12	64	9	66	11	51	3	36	1	6	1	5	0	1	0	1
145	13	64	13	60	8	37	14	32	2	7	1	5	0	1	0	0
200	12	55	11	54	10	38	6	31	0	5	1	4	0	1	0	0
215	18	55	14	47	10	39	13	36	0	3	0	3	1	1	1	1
230	9	52	17	55	10	38	7	40	0	2	0	2	0	1	0	1
245	15	54	13	55	5	35	5	31	0	0	2	3	0	1	0	1
300	8	50	14	58	4	29	11	36	0	0	0	2	1	2	0	1
315	6	38	9	53	7	26	18	41	0	0	0	2	2	3	0	0
330	4	33	16	52	9	25	22	56	0	0	2	4	0	3	0	0
345	10	28	12	51	12	32	15	66	1	1	0	2	0	3	0	0
400	8	28	7	44	11	39	27	82	0	1	0	2	2	4	0	0
415	11	33	12	47	11	43	36	100	0	1	0	2	1	3	0	0
430	14	43	35	66	18	52	35	113	1	2	0	0	3	6	0	0
445	10	43	34	88	16	56	70	168	1	2	0	0	2	8	1	1
500	16	51	39	120	34	79	82	223	2	4	0	0	5	11	1	2
515	23	63	67	175	45	113	100	287	3	7	2	2	5	15	5	7
530	33	82	97	237	41	136	77	329	2	8	3	5	1	13	2	9
545	46	118	88	291	46	166	104	363	5	12	3	8	5	16	4	12
600	37	139	103	355	71	203	184	465	4	14	3	11	11	22	4	15
615	52	168	131	419	125	283	254	619	6	17	1	10	27	44	6	16
630	68	203	215	537	114	356	298	840	15	30	8	15	24	67	11	25
645	115	272	228	677	195	505	352	1088	15	40	9	21	61	123	42	63
700	106	341	314	888	215	649	310	1214	29	65	18	36	121	233	105	164
715	155	444	350	1107	235	759	328	1288	67	126	49	84	131	337	56	214
730	249	625	292	1184	229	874	216	1206	122	233	102	178	59	372	22	225
745	229	739	309	1265	190	869	250	1104	120	338	45	214	62	373	22	205
800	214	847	217	1168	186	840	230	1024	53	362	19	215	60	312	14	114
815	187	879	242	1060	172	777	174	870	85	380	21	187	19	200	4	62
830	176	806	237	1005	144	692	157	811	63	321	14	99	8	149	5	45
845	148	725	145	841	146	648	164	725	14	215	5	59	10	97	4	27
900	134	645	157	781	152	614	149	644	4	166	6	46	8	45	5	18
915	148	606	144	683	152	594	167	637	13	94	1	26	9	35	9	23
930	149	579	130	576	131	581	141	621	5	36	6	18	10	37	7	25
945	145	576	137	568	147	582	123	580	8	30	9	22	9	36	6	27
1000	132	574	119	530	131	561	160	591	8	34	6	22	7	35	8	30
1015	124	550	137	523	141	550	153	577	7	28	7	28	10	36	13	34
1030	136	537	118	511	141	560	148	584	5	28	6	28	11	37	4	31
1045	143	535	112	486	134	547	151	612	16	36	10	29	10	38	5	30
1100	139	542	116	483	165	581	135	587	12	40	6	29	10	41	5	27
1115	168	586	128	474	148	588	149	583	6	39	7	29	16	47	12	26
1130	147	597	139	495	158	605	152	587	15	49	8	31	21	57	6	28
1145	150	604	149	532	134	605	155	591	10	43	12	33	7	54	7	30
1200	158	623	165	581	130	570	158	614	19	50	7	34	11	55	9	34
1215	137	592	155	608	160	582	125	590	15	59	11	38	7	46	8	30
1230	162	607	134	603	153	577	169	607	4	48	19	49	15	40	4	28
1245	161	618	112	566	120	563	156	608	13	51	34	71	4	37	8	29
1300	169	629	158	559	149	582	145	595	27	59	46	110	5	31	4	24
1315	186	678	204	608	139	561	142	612	78	122	46	145	6	30	11	27
1330	171	687	224	698	152	560	130	573	139	257	26	152	10	25	9	32
1345	152	678	170	756	139	579	146	563	40	284	10	128	7	28	8	32
1400	174	683	158	756	150	580	138	556	13	270	14	96	12	35	6	34
1415	184	681	195	747	154	595	142	556	12	204	15	65	5	34	15	38
1430	183	693	158	681	187	630	158	584	7	72	12	51	11	35	33	62
1445	164	705	158	669	195	686	159	597	13	45	8	49	47	75	45	99
1500	204	735	160	671	207	743	192	651	9	41	20	55	73	136	44	137
1515	226	777	180	656	207	796	175	684	9	38	19	59	24	155	50	172
1530	245	839	170	668	206	815	220	746	15	46	19	66	102	246	29	168
1545	244	919	178	688	224	844	163	750	28	61	19	77	31	230	22	145
1600	233	948	196	724	234	871	188	746	17	69	15	72	11	168	17	118
1615	271	993	188	732	218	882	203	774	7	67	15	68	13	157	12	80
1630	263	1011	203	765	231	907	166	720	12	64	28	77	12	67	16	67
1645	315	1082	189	776	277	960	185	742	7	43	19	77	26	62	32	77
1700	275	1124	231	811	286	1012	247	801	12	38	17	79	40	91	24	84
1715	349	1202	250	873	297	1091	210	808	12	43	28	92	28	106	22	94
1730	262	1201	176	846	313	1173	234	876	11	42	27	91	16	110	37	115
1745	219	1105	189	846	325	1221	218	909	15	50	15	87	16	100	33	116
1800	202	1032	188	803	264	1199	181	843	16	54	10	80	12	72	24	116
1815	193	876	174	727	234	1136	195	828	9	51	11	63	16	60	17	111
1830	168	782	152	703	201	1024	170	764	18	58	6	42	7	51	7	81
1845	173	736	137	651	185	884	155	701	7	50	9	36	7	42	12	60
1900	134	668	129	592	175	795	133	653	4	38	11	37	7	37	7	43
1915	123	598	96	514	137	698	115	573	6	35	11	37	8	29	6	32
1930	119	549	99	461	125	622	107	510	6	23	3	34	6	28	4	29
1945	94	470	87	411	92	529	88	443	5	21	13	38	3	24	6	23
2000	98	434	101	383	100	454	100	410	8	25	2	29	3	20	7	23
2015	93	404	93	380	86	403	94	389	4	23	6	24	3	15	5	22
2030	87	372	99	380	107	385	87	369	1	18	7	28	4	13	11	29
2045	84	362	95	388	80	373	99	380	1	14	5	20	10	20	10	33
2100	84	348	105	392	97	370	101	381	2	8	5	23	8	25	7	33
2115	67	322	74	373	78	362	72	359	1	5	4	21	7	29	7	35
2130	66	301	64	338	60	315	97	369	0	4	5	19	3	28	2	26
2145	53	270	64	307	49	284	64	334	2	5	2	16	2	20	9	25
2200	62	248	55	257	73	260	58	291	1	4	4	15	4	16	4	22
2215	40	221	51	234	70	252	65	284	1	4	1	12	2	11	1	16
2230	48	203	42	212	59	251	50	237	1	5	4	11	0	8	3	17
2245	40	190	29	177	49	251	39	212	1	4	3	12	1	7	3	11
2300	43	171	24	146	25	203	34	188	4	7	4	12	1	4	3	10
2315	30	161	26	121	39	172	22	145	0	6	2	13	0	2	2	11
2330	17	130	22	101	36	149	14	109	4	9	0	9	0	2	2	10
2345	21	111	18	90	34	134	31	101	0	8	0	6	0	1	1	8
TOTAL	11,099	N/A	11,313	N/A	11,472	N/A	11,765	N/A	1,365	N/A	1,015	N/A	1,396	N/A	1,057	N/A
AM	879		1,265		874		1,288		380		215		373		225	
NOON	705		756		686		614		284		152		75		99	
PM	1,202		873		1,221		909		69		92		246		172	
EVEN	434		392		454		410		25		29		29		35	

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B.A.Y.M.E.T.R.I.C.S.

2-DAY ADT COUNTS IN FRESNO

Date	3/8/2011 Tuesday				3/9/2011 Wednesday				3/8/2011 Tuesday				3/9/2011 Wednesday			
Location	3. On Figarden Drive, North of Shaw Avenue								4. On Shaw Avenue, between Golden State Blvd and Brawley Avenue							
Direction	NB		SB		NB		SB		EB		WB		EB		WB	
Time	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	28	0	26	0	28	0	18	0	25	0	33	0	22	0	37	0
1215	26	0	10	0	21	0	12	0	17	0	25	0	19	0	21	0
1230	21	0	22	0	23	0	17	0	18	0	27	0	18	0	33	0
1245	22	97	12	70	15	87	8	55	20	80	25	110	23	82	24	115
100	29	98	12	56	20	79	14	51	12	67	9	86	15	75	12	90
115	15	87	11	57	12	70	6	45	25	75	20	81	24	80	18	87
130	9	75	9	44	14	61	13	41	11	68	16	70	16	78	17	71
145	21	74	11	43	14	60	6	39	13	61	17	62	11	66	15	62
200	18	63	5	36	11	51	11	36	10	59	12	65	13	64	11	61
215	13	61	8	33	11	50	10	40	12	46	12	57	11	51	16	59
230	18	70	10	34	11	47	3	30	11	46	17	58	9	44	13	55
245	22	71	11	34	5	38	5	29	10	43	12	53	12	45	15	55
300	15	68	10	39	6	33	9	27	11	44	6	47	14	46	9	53
315	9	64	5	36	4	26	7	24	15	47	5	40	16	51	5	42
330	13	59	9	35	5	20	2	23	7	43	11	34	8	50	13	42
345	9	46	11	35	3	18	9	27	9	42	11	33	9	47	12	39
400	3	34	9	34	3	15	12	30	26	57	12	39	21	54	9	39
415	10	35	12	41	4	15	13	36	7	49	14	48	17	55	15	49
430	4	26	11	43	3	13	6	40	16	58	12	49	16	63	17	53
445	5	22	12	44	6	16	19	50	42	91	21	59	39	93	20	61
500	3	22	18	53	4	17	19	57	28	93	32	79	38	110	31	83
515	12	24	29	70	4	17	21	65	34	120	22	87	36	129	23	91
530	9	29	14	73	4	18	16	75	30	134	40	115	41	154	41	115
545	12	36	31	92	10	22	39	95	40	132	53	147	32	147	67	162
600	10	43	52	126	10	28	43	119	63	167	57	172	57	166	62	193
615	18	49	54	151	26	50	55	153	66	199	52	202	65	195	73	243
630	20	60	59	196	20	66	50	187	81	250	81	243	93	247	89	291
645	22	70	67	232	20	76	76	224	81	291	125	315	87	302	135	359
700	31	91	117	297	48	114	126	307	121	349	152	410	123	368	164	461
715	40	113	162	405	47	135	138	390	123	406	189	547	133	436	201	589
730	64	157	225	571	57	172	209	549	178	503	208	674	169	512	213	713
745	64	199	214	718	76	228	226	699	190	612	192	741	199	624	199	777
800	104	272	290	891	83	263	280	853	228	719	187	776	231	732	194	807
815	105	337	226	955	111	327	225	940	231	827	185	772	228	827	201	807
830	97	370	181	911	86	356	175	906	208	857	167	731	216	874	175	769
845	97	403	164	861	86	366	165	845	212	879	153	692	214	889	149	719
900	76	375	169	740	71	354	190	755	203	854	156	661	207	865	154	679
915	87	357	165	679	112	355	168	698	182	805	145	621	195	832	155	633
930	91	351	132	630	86	355	159	682	202	799	163	617	198	814	166	624
945	89	343	149	615	104	373	132	649	208	795	194	658	218	818	179	654
1000	95	362	124	570	94	396	131	590	207	799	177	679	211	822	183	683
1015	82	357	151	556	89	373	145	567	203	820	193	727	207	834	200	728
1030	90	356	109	533	89	376	136	544	211	829	201	765	215	851	198	760
1045	101	368	126	510	106	378	119	531	223	844	185	756	233	866	203	784
1100	87	360	133	519	113	397	135	535	226	863	218	797	237	892	214	815
1115	98	376	114	482	115	423	137	527	232	892	213	817	231	916	211	826
1130	97	383	109	482	121	455	128	519	237	918	245	861	243	944	238	866
1145	101	383	159	515	117	466	144	544	250	945	244	920	249	960	256	919
1200	121	417	175	557	129	482	149	558	220	939	272	974	223	946	284	989
1215	119	438	154	597	140	507	160	581	224	931	267	1028	231	946	276	1054
1230	148	489	164	652	133	519	166	619	287	981	303	1086	274	977	299	1115
1245	146	534	161	654	141	543	172	647	244	975	291	1133	259	987	287	1146
1300	150	563	152	631	147	561	162	660	229	984	262	1123	214	978	292	1154
1315	155	599	144	621	148	569	131	631	225	985	266	1122	215	962	276	1154
1330	149	600	132	589	144	580	146	611	233	931	299	1118	231	919	309	1164
1345	152	606	153	581	110	549	90	529	245	932	271	1098	236	896	279	1156
1400	150	606	141	570	157	559	148	515	238	941	294	1130	228	910	321	1185
1415	140	591	168	594	145	556	134	518	236	952	301	1165	226	921	293	1202
1430	180	622	151	613	151	563	160	532	254	973	303	1169	236	926	308	1201
1445	140	610	188	648	161	614	134	576	241	969	281	1179	235	925	274	1196
1500	138	598	181	688	170	627	175	603	253	984	293	1178	240	937	323	1198
1515	170	628	131	651	171	653	156	625	265	1013	295	1172	256	967	280	1185
1530	157	605	132	632	166	668	132	597	274	1033	317	1186	288	1019	328	1205
1545	162	627	154	598	190	697	173	636	266	1058	311	1216	260	1044	305	1236
1600	173	662	153	570	174	701	172	633	281	1086	321	1244	268	1072	334	1247
1615	176	668	138	577	176	706	155	632	289	1110	333	1282	301	1117	325	1292
1630	182	693	154	599	209	749	149	649	297	1133	342	1307	301	1130	352	1316
1645	201	732	143	588	215	774	169	645	296	1163	309	1305	281	1151	313	1324
1700	205	764	153	588	197	797	161	634	311	1193	331	1315	305	1188	337	1327
1715	227	815	176	626	246	867	180	659	321	1225	324	1306	309	1196	351	1353
1730	250	883	191	663	241	899	167	677	276	1204	317	1281	288	1183	336	1337
1745	263	945	178	698	256	940	187	695	301	1209	299	1271	299	1201	322	1346
1800	211	951	213	758	252	995	168	702	276	1174	342	1282	263	1159	337	1346
1815	222	946	138	720	227	976	169	691	244	1097	310	1268	237	1087	308	1303
1830	207	903	176	705	197	932	184	708	239	1060	286	1237	238	1037	298	1265
1845	202	842	161	688	191	867	159	680	254	1013	294	1232	244	982	291	1234
1900	191	822	169	644	163	778	165	677	211	948	297	1187	197	916	288	1185
1915	160	760	127	633	157	708	150	658	207	911	261	1138	170	849	241	1118
1930	143	696	134	591	155	666	135	609	152	824	244	1096	146	757	233	1053
1945	154	648	120	550	156	631	105	555	133	703	231	1033	126	639	236	998
2000	155	612	113	494	142	610	92	482	117	609	210	946	114	556	222	932
2015	134	586	95	462	134	587	86	418	91	493	199	884	88	474	237	928
2030	129	572	91	419	125	557	88	371	101	442	173	813	105	433	183	878
2045	125	543	76	375	152	553	79	345	94	403	162	744	101	408	174	816
2100	129	517	70	332	111	522	66	319	82	368	158	692	83	377	168	762
2115	97	480	63	300	104	492	63	296	77	354	143	636	65	354	172	697
2130	114	465	71	280	113	480	69	277	66	319	132	595	69	318	131	645
2145	106	446	58	262	94	422	58	256	42	267	104	537	35	252	104	575
2200	85	402	44	236	103	414	48	238	56	241	99	478	63	232	102	509
2215	67	372	42	215	73	383	59	234	57	221	83	418	48	215	89	426
2230	53	311	34	178	49	319	44	209	43	198	87	373	46	192	76	371
2245	63	268	38	158	60	285	38	189	47	203	73	342	44	201	67	334
2300	34	217	27	141	54	236	41	182	33	180	86	329	30	168	83	315
2315	36	186	23	122	35	198	26	149	27	150	74	320	30	150	39	265
2330	36	169	21	109	32	181	25	130	36	143	51	284	39	143	44	233
2345	27	133	24	95	35	156	21	113	29	125	39	250	26	125	37	203
TOTAL	9,046	N/A	9,664	N/A	9,159	N/A	9,653	N/A	13,835	N/A	15,886	N/A	13,750	N/A	16,270	N/A
AM		403		955		373		940		879		776		889		807
NOON		622		654		614		660		985		1,179		987		1,202
PM		951		758		995		708		1,225		1,315		1,201		1,353
EVEN		612		494		610		482		609		946		556		932

Telephone: (510) 232-1271 Fax: (510) 232-1272

B.A.Y.M.E.T.R.I.C.S.

2-DAY ADT COUNTS IN FRESNO

Date	3/8/2011 Tuesday				3/9/2011 Wednesday				3/8/2011 Tuesday				3/9/2011 Wednesday			
Location	5. On Polk Avenue, between Herndon Avenue and Bullard Avenue								7. On Marks Avenue, South of Clinton Avenue							
Direction	NB		SB		NB		SB		NB		SB		NB		SB	
Time	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	7	0	8	0	8	0	4	0	7	0	7	0	2	0	1	0
1215	5	0	9	0	3	0	6	0	8	0	4	0	0	0	1	0
1230	3	0	7	0	4	0	5	0	5	0	5	0	2	0	3	0
1245	10	25	9	33	1	16	4	19	2	22	1	17	0	4	4	9
100	3	21	9	34	3	11	5	20	5	20	3	13	6	8	1	9
115	3	19	6	31	3	11	3	17	4	16	2	11	3	11	3	11
130	2	18	4	28	4	11	11	23	3	14	1	7	4	13	2	10
145	7	15	5	24	2	12	5	24	2	14	4	10	1	14	4	10
200	8	20	4	19	2	11	4	23	8	17	3	10	5	13	2	11
215	1	18	4	17	7	15	2	22	2	15	3	11	1	11	1	9
230	2	18	8	21	1	12	2	13	2	14	0	10	2	9	0	7
245	4	15	1	17	3	13	3	11	6	18	1	7	2	10	1	4
300	4	11	1	14	3	14	3	10	3	13	3	7	4	9	0	2
315	6	16	4	14	8	15	2	10	1	12	1	5	0	8	1	2
330	3	17	2	8	8	22	2	10	0	10	1	6	0	6	2	4
345	6	19	0	7	6	25	3	10	3	7	4	9	2	6	3	6
400	6	21	1	7	12	34	1	8	2	6	1	7	2	4	3	9
415	10	25	3	6	13	39	1	7	2	7	3	9	4	8	6	14
430	16	38	3	7	15	46	3	8	5	12	3	11	1	9	7	19
445	8	40	3	10	23	63	6	11	3	12	2	9	1	8	8	24
500	18	52	7	16	20	71	3	13	2	12	7	15	5	11	9	30
515	23	65	9	22	35	93	8	20	5	15	5	17	2	9	10	34
530	34	83	5	24	37	115	22	39	4	14	9	23	4	12	12	39
545	40	115	9	30	62	154	8	41	4	15	12	33	16	27	15	46
600	42	139	16	39	81	215	22	60	7	20	15	41	12	34	25	62
615	48	164	12	42	93	273	41	93	12	27	20	56	21	53	43	95
630	89	219	26	63	133	369	38	109	10	33	23	70	21	70	36	119
645	111	290	36	90	130	437	40	141	19	48	33	91	23	77	32	136
700	105	353	46	120	185	541	54	173	19	60	32	108	44	109	34	145
715	155	460	46	154	140	588	81	213	30	78	38	126	47	135	63	165
730	195	566	65	193	133	588	60	235	44	112	48	151	37	151	78	207
745	137	592	75	232	100	558	61	256	55	148	57	175	52	180	50	225
800	119	606	45	231	100	473	60	262	37	166	66	209	42	178	46	237
815	118	569	68	253	88	421	51	232	45	181	47	218	41	172	35	209
830	103	477	47	235	84	372	39	211	24	161	34	204	32	167	44	175
845	93	433	47	207	75	347	40	190	34	140	29	176	37	152	28	153
900	79	393	51	213	83	330	45	175	22	125	33	143	19	129	32	139
915	58	333	32	177	74	316	35	159	28	108	23	119	27	115	27	131
930	70	300	41	171	51	283	43	163	35	119	28	113	22	105	36	123
945	72	279	38	162	66	274	42	165	28	113	30	114	31	99	31	126
1000	50	250	40	151	50	241	49	169	30	121	48	129	31	111	32	126
1015	57	249	33	152	82	249	38	172	27	120	37	143	30	114	28	127
1030	63	242	46	157	83	281	53	182	32	117	41	156	31	123	30	121
1045	64	234	49	168	60	275	45	185	38	127	24	150	72	164	32	122
1100	68	252	53	181	65	290	54	190	32	129	40	142	57	190	30	120
1115	65	260	49	197	79	287	45	197	32	134	39	144	51	211	39	131
1130	64	261	27	178	69	273	88	232	34	136	39	142	83	263	38	139
1145	56	253	47	176	68	281	62	249	43	141	32	150	57	248	41	148
1200	62	247	64	187	85	301	67	262	49	158	40	150	65	256	40	158
1215	83	265	58	196	49	271	34	251	46	172	41	152	73	278	33	152
1230	72	273	56	225	62	264	69	232	40	178	43	156	65	260	25	139
1245	82	299	64	242	65	261	45	215	35	170	41	165	79	282	35	133
1300	82	319	60	238	80	256	62	210	41	162	33	158	22	239	33	126
1315	75	311	68	248	74	281	61	237	34	150	28	145	36	202	39	132
1330	69	308	87	279	72	291	56	224	43	153	34	136	45	182	38	145
1345	81	307	86	301	71	297	49	228	41	159	29	124	40	143	37	147
1400	86	311	56	297	49	266	58	224	41	159	33	124	42	163	35	149
1415	69	305	77	306	67	259	58	221	36	161	55	151	40	167	35	145
1430	80	316	56	275	68	255	61	226	40	158	33	150	40	162	30	137
1445	85	320	68	257	68	252	66	243	46	163	34	155	38	160	44	144
1500	80	314	86	287	56	259	79	264	44	166	43	165	50	168	36	145
1515	86	331	71	281	87	279	67	273	62	192	44	154	29	157	45	155
1530	77	328	73	298	59	270	109	321	45	197	27	148	59	176	33	158
1545	81	324	77	307	104	306	69	324	62	213	42	156	40	178	39	153
1600	76	320	83	304	81	331	81	326	46	215	34	147	56	184	35	152
1615	73	307	130	363	83	327	73	332	46	199	27	130	46	201	40	147
1630	101	331	110	400	73	341	93	316	59	213	44	147	49	191	48	162
1645	84	334	104	427	85	322	98	345	75	226	39	144	62	213	38	161
1700	96	354	134	478	86	327	125	389	76	256	39	149	74	231	33	159
1715	133	414	147	495	83	327	126	442	77	287	31	153	65	250	46	165
1730	105	418	110	495	107	361	126	475	66	294	29	138	91	292	36	153
1745	103	437	95	486	108	384	128	505	54	273	25	124	101	331	32	147
1800	92	433	107	459	96	394	136	516	39	236	39	124	63	320	31	145
1815	99	399	101	413	84	395	105	495	47	206	33	126	64	319	33	132
1830	72	366	87	390	97	385	113	482	42	182	23	120	92	320	39	135
1845	75	338	86	381	96	373	99	453	37	165	22	117	99	318	25	128
1900	68	314	82	356	85	362	104	421	28	154	20	98	44	299	29	126
1915	55	270	78	333	88	366	95	411	21	128	23	88	36	271	25	118
1930	39	237	63	309	59	328	66	364	28	114	23	88	31	210	26	105
1945	40	202	72	295	49	281	85	350	27	104	19	85	25	136	17	97
2000	44	178	73	286	47	243	63	309	20	96	24	89	23	115	18	86
2015	45	168	69	277	59	214	74	288	23	98	18	84	27	106	20	81
2030	51	180	61	275	60	215	67	289	20	90	15	76	18	93	18	73
2045	32	172	49	252	54	220	66	270	19	82	16	73	15	83	15	71
2100	24	152	42	221	41	214	76	283	19	81	10	59	17	77	7	60
2115	30	137	40	192	19	174	52	261	15	73	11	52	27	77	17	57
2130	30	116	44	175	42	156	44	238	6	59	12	49	18	77	18	57
2145	22	106	36	162	37	139	45	217	15	55	8	41	12	74	14	56
2200	27	109	28	148	33	131	48	189	14	50	7	38	17	74	11	60
2215	24	103	22	130	18	130	38	175	7	42	5	32	13	60	15	58
2230	9	82	31	117	20	108	31	162	9	45	7	27	12	54	12	52
2245	10	70	18	99	27	98	31	148	4	34	8	27	6	48	8	46
2300	12	55	14	85	11	76	15	115	4	24	5	25	15	46	6	41
2315	11	42	8	71	8	66	12	89	2	19	6	26	5	38	13	39
2330	11	44	9	49	13	59	16	74	3	13	2	21	8	34	7	34
2345	3	37	10	41	7	39	10	53	5	14	3	16	7	35	10	36
TOTAL	5,256	N/A	4,406	N/A	5,427	N/A	4,653	N/A	2,463	N/A	2,168	N/A	2,990	N/A	2,328	N/A
AM		606		253		588		262		181		218		180		237
NOON		320		306		301		262		178		165		282		158
PM		437		495		395		516		294		165		331		165
EVEN		180		286		243		309		98		89		115		86

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B.A.Y.M.E.T.R.I.C.S.

2-DAY ADT COUNTS IN FRESNO

Date	3/8/2011 Tuesday				3/9/2011 Wednesday				3/15/2011 Tuesday				3/16/2011 Wednesday			
Location	6. On Parkway Drive, South of Clinton Avenue								8. On Gates Avenue, between Figarden Drive and Blythe Avenue							
Direction	NB		SB		NB		SB		EB		WB		EB		WB	
Time	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	30	0	3	0	16	0	20	0	49	0	7	0	12	0
1215	1	0	26	0	0	0	16	0	18	0	32	0	7	0	8	0
1230	4	0	22	0	0	0	23	0	7	0	32	0	3	0	13	0
1245	0	5	17	95	0	3	8	63	10	55	17	130	4	21	7	40
100	0	5	17	82	0	0	10	57	13	48	17	98	6	20	4	32
115	0	4	22	78	0	0	14	55	8	38	15	81	4	17	3	27
130	0	0	10	66	0	0	15	47	5	36	16	65	9	23	5	19
145	0	0	17	66	0	0	16	55	9	35	18	66	4	23	6	18
200	2	2	21	70	0	0	10	55	5	27	11	60	1	18	3	17
215	2	4	23	71	0	0	11	52	8	27	9	54	4	18	2	16
230	2	6	17	78	0	0	12	49	6	28	11	49	3	12	1	12
245	0	6	15	76	0	0	8	41	1	20	13	44	2	10	4	10
300	0	4	13	68	1	1	12	43	3	18	11	44	2	11	5	12
315	0	2	10	55	0	1	26	58	0	10	7	42	3	10	3	13
330	0	0	14	52	0	1	12	58	5	9	6	37	4	11	8	20
345	0	0	21	58	0	1	30	80	3	11	1	25	5	14	6	22
400	0	0	17	62	0	0	23	91	1	9	4	18	4	16	8	25
415	1	1	24	76	1	1	43	108	5	14	6	17	7	20	6	28
430	1	2	37	99	1	2	40	136	2	11	5	16	5	21	16	36
445	0	2	47	125	0	2	52	158	2	10	4	19	9	25	25	55
500	0	2	29	137	0	2	57	192	5	14	6	21	10	31	22	69
515	0	1	47	160	0	1	112	261	8	17	1	16	13	37	20	83
530	1	1	69	192	2	2	77	298	9	24	7	18	15	47	30	97
545	0	1	98	243	3	5	93	339	14	36	0	14	15	53	30	102
600	5	6	83	297	0	5	127	409	16	47	4	12	42	85	29	109
615	1	7	93	343	2	7	134	431	12	51	6	17	22	94	41	130
630	1	7	122	396	2	7	129	483	13	55	9	19	49	128	51	151
645	3	10	158	456	1	5	162	552	14	55	5	24	70	183	87	208
700	0	5	124	497	7	12	221	646	27	66	21	41	71	212	91	270
715	2	6	182	586	5	15	228	740	37	91	18	53	109	299	120	349
730	8	13	192	656	6	19	191	802	54	132	20	64	72	322	127	425
745	9	19	200	698	8	26	134	774	67	185	24	83	58	310	123	461
800	6	25	165	739	2	21	153	706	101	259	26	88	64	303	157	527
815	5	28	151	708	4	20	173	651	113	335	37	107	54	248	114	521
830	3	23	147	663	6	20	110	570	67	348	35	122	62	238	102	496
845	3	17	144	607	3	15	115	551	57	338	46	144	61	241	73	446
900	4	15	101	543	5	18	135	533	53	290	64	182	43	220	84	373
915	6	16	105	497	5	19	130	490	58	235	95	240	54	220	67	326
930	4	17	114	464	8	21	118	498	67	235	102	307	60	218	78	302
945	6	20	128	448	5	23	127	510	71	249	125	386	53	210	88	317
1000	6	22	100	447	7	25	133	508	70	266	106	428	78	245	72	305
1015	2	18	124	466	8	28	123	501	80	288	155	488	89	280	88	326
1030	9	23	116	468	7	27	109	492	64	285	161	547	76	296	76	324
1045	3	20	121	461	11	33	132	497	74	288	109	531	62	305	84	320
1100	13	27	101	462	9	35	123	487	87	305	111	536	76	303	73	321
1115	8	33	109	447	6	33	134	498	79	304	75	456	73	287	72	305
1130	6	30	106	437	10	36	127	516	112	352	86	381	107	318	74	303
1145	8	35	120	436	6	31	126	510	111	389	80	352	92	348	73	292
1200	11	33	111	446	9	31	118	505	83	385	87	328	97	369	78	297
1215	7	32	128	465	7	32	149	520	114	420	84	337	98	394	73	298
1230	11	37	135	494	8	30	127	520	111	419	94	345	92	379	79	303
1245	4	33	135	509	4	28	78	472	107	415	85	350	86	373	96	326
1300	7	29	123	521	11	30	131	485	119	451	78	341	111	387	90	338
1315	4	26	133	526	5	28	125	461	105	442	79	336	101	390	80	345
1330	5	20	134	525	8	28	120	454	112	443	91	333	142	440	74	340
1345	15	31	139	529	6	30	124	500	110	446	90	338	98	452	100	344
1400	9	33	156	562	7	26	125	494	109	436	94	354	119	460	88	342
1415	8	37	153	582	10	31	148	517	120	451	80	355	112	471	76	338
1430	3	35	161	609	11	34	142	539	151	490	99	363	124	453	80	344
1445	7	27	156	626	8	36	158	573	103	483	99	372	100	455	90	334
1500	0	18	147	617	3	32	177	625	100	474	80	358	119	455	83	329
1515	4	14	141	605	4	26	161	638	107	461	94	372	155	498	87	340
1530	3	14	132	576	4	19	134	630	131	441	100	373	149	523	102	362
1545	8	15	142	562	10	21	190	662	117	455	88	362	142	565	94	366
1600	5	20	157	572	6	24	167	652	122	477	91	373	132	578	78	361
1615	2	18	145	576	10	30	129	620	146	516	82	361	146	569	97	371
1630	7	22	156	600	9	35	145	631	168	553	94	355	198	618	97	366
1645	8	22	132	590	6	31	135	576	136	572	101	368	170	646	106	378
1700	7	24	132	565	5	30	128	537	157	607	117	394	145	659	99	399
1715	10	32	140	560	3	23	119	527	143	604	112	424	133	646	97	399
1730	9	34	142	546	6	20	138	520	174	610	94	424	116	564	91	393
1745	2	28	108	522	5	19	127	512	144	618	89	412	113	507	87	374
1800	5	26	156	546	8	22	132	516	142	603	111	406	120	482	80	355
1815	5	21	145	551	8	27	111	508	139	599	91	385	102	451	84	342
1830	10	22	139	548	6	27	137	507	132	557	100	391	95	430	96	347
1845	4	24	112	552	5	27	110	490	120	533	86	388	102	419	92	352
1900	2	21	104	500	4	23	137	495	90	481	92	369	96	395	81	353
1915	3	19	87	442	2	17	114	498	95	437	84	362	85	378	85	354
1930	1	10	87	390	1	12	98	459	92	397	92	354	83	366	65	323
1945	1	7	92	370	3	10	81	430	84	361	94	362	73	337	66	297
2000	8	13	96	362	0	6	113	406	79	350	93	363	85	326	61	277
2015	1	11	73	348	2	6	81	373	61	316	106	385	48	289	42	234
2030	1	11	83	344	2	7	67	342	77	301	88	381	46	252	52	221
2045	1	11	54	306	0	4	96	357	67	284	78	365	41	220	38	193
2100	0	3	75	285	4	8	66	310	71	276	84	356	48	183	46	178
2115	1	3	69	281	2	8	77	306	52	267	68	318	40	175	31	167
2130	0	2	51	249	4	10	78	317	48	238	70	300	31	160	26	141
2145	2	3	45	240	2	12	68	289	34	205	72	294	37	156	21	124
2200	1	4	43	208	1	9	64	287	46	180	61	271	20	128	30	108
2215	1	4	53	192	1	8	54	264	40	168	42	245	15	103	24	101
2230	0	4	47	188	0	4	54	240	30	150	47	222	28	100	21	96
2245	1	3	49	192	3	5	43	215	32	148	46	196	20	83	21	96
2300	5	7	54	203	1	5	50	201	31	133	38	173	10	73	12	78
2315	0	6	39	189	0	4	29	176	27	120	39	170	15	73	15	69
2330	0	6	21	163	0	4	42	164	17	107	34	157	9	54	4	52
2345	0	5	28	142	2	3	40	161	20	95	41	152	9	43	11	42
TOTAL	344	N/A	8,909	N/A	370	N/A	9,367	N/A	6,286	N/A	5,777	N/A	5,999	N/A	5,517	N/A
AM		28		739		26		802		348		386		322		527
NOON		37		626		36		573		490		547		471		345
PM		34		617		35		662		618		424		659		399
EVEN		13		362		12		406		350		385		326		277

Telephone: (510) 232-1271 Fax: (510) 232-1272

APPENDIX C

Level of Service Calculation Sheets

MERCED STATION ANALYSIS

ROADWAY SEGMENT

– LEVEL OF SERVICE SHEETS

Merced Station_Roadway Analysis - Existing Conditions

Segment	Travel Lanes	AM Peak				PM Peak			
		Volume	Capacity	V/C	LOS	Volume	Capacity	V/C	LOS
Main Street									
- Between Martin Luther King Jr. Wy and M St	2	237	1021	0.23	A	487	1021	0.48	A
- Between G St and Martin Luther King Jr. Wy	4	193	2210	0.09	A	339	2210	0.15	A
- Between Yosemite Pkwy (SR140) and G St	2	278	1021	0.27	A	292	1021	0.29	A
16th Street									
- Between V St and SR-59	4	1,367	2210	0.62	B	1,888	2210	0.85	D
- Between R St and M St	4	810	2210	0.37	A	1,335	2210	0.60	A
- Between Martin Luther King Jr. Wy and M St	4	835	2210	0.38	A	1,328	2210	0.60	A
- Between G St and Martin Luther King Jr. Wy	4	825	2210	0.37	A	1,198	2210	0.54	A
- Between Yosemite Pkwy (SR140) and G St	4	652	2210	0.30	A	987	2210	0.45	A
15th Street									
- Between R St and M St	2	120	1021	0.12	A	322	1021	0.32	A
- Between Martin Luther King Jr. Wy and M St	2	98	1021	0.10	A	294	1021	0.29	A
- Between G St and Martin Luther King Jr. Wy	2	149	1021	0.15	A	293	1021	0.29	A
V Street									
- West of 13th St	2	686	1021	0.67	B	862	1021	0.84	D
- Between 13th St and 16th St	4	1,199	2210	0.54	A	1,525	2210	0.69	B
- East of 16th St	2	648	1021	0.63	B	754	1021	0.74	C
R Street									
- West of 13th St	2	753	1021	0.74	C	990	1021	0.97	E
- Between 13th St and 16th St	4	964	2210	0.44	A	1,391	2210	0.63	B
- East of 16th St	4	1,030	2210	0.47	A	1,586	2210	0.72	C
M Street									
- West of 13th St	2	567	1021	0.56	A	660	1021	0.65	B
- Between 13th St and 16th St	2	648	1021	0.63	B	713	1021	0.70	B
- East of 16th St	4	1,155	2210	0.52	A	1,296	2210	0.59	A
Martin Luther King Jr. Way									
- West of Child Ave	4	883	2210	0.40	A	1,072	2210	0.49	A
- Between Child Ave and 13th St	4	721	2210	0.33	A	1,035	2210	0.47	A
- Between 13th St and 16th St	4	787	2210	0.36	A	1,022	2210	0.46	A
- East of 16th St	2	276	1021	0.27	A	426	1021	0.42	A
G Street									
- West of 13th St	2	549	1021	0.54	A	578	1021	0.57	A
- Between 13th St and 16th St	4	882	2210	0.40	A	1,027	2210	0.46	A
- East of 16th St	4	1,387	2210	0.63	B	1,572	2210	0.71	C

Merced Station_Roadway Analysis - Existing With Project_Option-A Conditions

Segment	Travel Lanes	AM Peak				PM Peak			
		Volume	Capacity	V/C	LOS	Volume	Capacity	V/C	LOS
Main Street									
- Between Martin Luther King Jr. Wy and M St	2	241	1021	0.24	A	491	1021	0.48	A
- Between G St and Martin Luther King Jr. Wy	4	779	2210	0.35	A	1,073	2210	0.49	A
- Between Yosemite Pkwy (SR140) and G St	2	686	1021	0.67	B	784	1021	0.77	C
16th Street									
- Between V St and SR-59	4	1,421	2210	0.64	B	1,947	2210	0.88	D
- Between R St and M St	4	961	2210	0.43	A	1,489	2210	0.67	B
- Between Martin Luther King Jr. Wy and M St	4	1,244	2210	0.56	A	1,738	2210	0.79	C
- Between G St and Martin Luther King Jr. Wy	4	733	2210	0.33	A	1,061	2210	0.48	A
- Between Yosemite Pkwy (SR140) and G St	4	322	2210	0.15	A	491	2210	0.22	A
15th Street									
- Between R St and M St	2	161	1021	0.16	A	353	1021	0.35	A
- Between Martin Luther King Jr. Wy and M St	2	168	1021	0.16	A	556	1021	0.54	A
- Between G St and Martin Luther King Jr. Wy	2	93	1021	0.09	A	182	1021	0.18	A
V Street									
- West of 13th St	2	720	1021	0.71	B	891	1021	0.87	D
- Between 13th St and 16th St	4	1,253	2210	0.57	A	1,581	2210	0.72	C
- East of 16th St	2	648	1021	0.63	B	754	1021	0.74	C
R Street									
- West of 13th St	2	753	1021	0.74	C	990	1021	0.97	E
- Between 13th St and 16th St	4	1,044	2210	0.47	A	1,444	2210	0.65	B
- East of 16th St	4	1,047	2210	0.47	A	1,603	2210	0.73	C
M Street									
- West of 13th St	2	596	1021	0.58	A	689	1021	0.67	B
- Between 13th St and 16th St	2	1,008	1021	0.99	E	1,036	1021	1.01	F
- East of 16th St	4	1,195	2210	0.54	A	1,335	2210	0.60	A
Martin Luther King Jr. Way									
- West of Child Ave	4	941	2210	0.43	A	1,130	2210	0.51	A
- Between Child Ave and 13th St	4	758	2210	0.34	A	1,082	2210	0.49	A
- Between 13th St and 16th St	4	845	2210	0.38	A	1,054	2210	0.48	A
- East of 16th St	2	276	1021	0.27	A	426	1021	0.42	A
G Street									
- West of 13th St	2	550	1021	0.54	A	579	1021	0.57	A
- Between 13th St and 16th St	4	931	2210	0.42	A	1,087	2210	0.49	A
- East of 16th St	4	884	2210	0.40	A	1,098	2210	0.50	A

Merced Station_Roadway Analysis - Existing With Project_Option-B Conditions

Segment	Travel Lanes	AM Peak				PM Peak			
		Volume	Capacity	V/C	LOS	Volume	Capacity	V/C	LOS
Main Street									
- Between Martin Luther King Jr. Wy and M St	2	239	1021	0.23	A	489	1021	0.48	A
- Between G St and Martin Luther King Jr. Wy	4	783	2210	0.35	A	1,076	2210	0.49	A
- Between Yosemite Pkwy (SR140) and G St	2	696	1021	0.68	B	793	1021	0.78	C
16th Street									
- Between V St and SR-59	4	1,421	2210	0.64	B	1,947	2210	0.88	D
- Between R St and M St	4	971	2210	0.44	A	1,500	2210	0.68	B
- Between Martin Luther King Jr. Wy and M St	4	1,242	2210	0.56	A	1,735	2210	0.79	C
- Between G St and Martin Luther King Jr. Wy	4	728	2210	0.33	A	1,063	2210	0.48	A
- Between Yosemite Pkwy (SR140) and G St	4	320	2210	0.14	A	484	2210	0.22	A
15th Street									
- Between R St and M St	2	127	1021	0.12	A	340	1021	0.33	A
- Between Martin Luther King Jr. Wy and M St	2	147	1021	0.14	A	386	1021	0.38	A
- Between G St and Martin Luther King Jr. Wy	2	122	1021	0.12	A	211	1021	0.21	A
V Street									
- West of 13th St	2	768	1021	0.75	C	957	1021	0.94	E
- Between 13th St and 16th St	4	1,296	2210	0.59	A	1,629	2210	0.74	C
- East of 16th St	2	681	1021	0.67	B	787	1021	0.77	C
R Street									
- West of 13th St	2	753	1021	0.74	C	990	1021	0.97	E
- Between 13th St and 16th St	4	1,014	2210	0.46	A	1,436	2210	0.65	B
- East of 16th St	4	1,045	2210	0.47	A	1,601	2210	0.72	C
M Street									
- West of 13th St	2	599	1021	0.59	A	696	1021	0.68	B
- Between 13th St and 16th St	2	954	1021	0.93	E	974	1021	0.95	E
- East of 16th St	4	1,192	2210	0.54	A	1,333	2210	0.60	A
Martin Luther King Jr. Way									
- West of Child Ave	4	940	2210	0.43	A	1,129	2210	0.51	A
- Between Child Ave and 13th St	4	764	2210	0.35	A	1,135	2210	0.51	A
- Between 13th St and 16th St	4	840	2210	0.38	A	1,053	2210	0.48	A
- East of 16th St	2	276	1021	0.27	A	426	1021	0.42	A
G Street									
- West of 13th St	2	577	1021	0.57	A	603	1021	0.59	A
- Between 13th St and 16th St	4	946	2210	0.43	A	1,100	2210	0.50	A
- East of 16th St	4	884	2210	0.40	A	1,098	2210	0.50	A

Merced Station_Roadway Analysis - 2035 Nobuild Conditions

Segment	Travel Lanes	AM Peak				PM Peak			
		Volume	Capacity	V/C	LOS	Volume	Capacity	V/C	LOS
Main Street									
- Between Martin Luther King Jr. Wy and M St	2	414	1021	0.41	A	826	1021	0.81	C
- Between G St and Martin Luther King Jr. Wy	4	339	2210	0.15	A	574	2210	0.26	A
- Between Yosemite Pkwy (SR140) and G St	2	490	1021	0.48	A	507	1021	0.50	A
16th Street									
- Between V St and SR-59	4	2,335	2210	1.06	F	3,344	2210	1.51	F
- Between R St and M St	4	1,402	2210	0.63	B	2,341	2210	1.06	F
- Between Martin Luther King Jr. Wy and M St	4	1,465	2210	0.66	B	2,288	2210	1.04	F
- Between G St and Martin Luther King Jr. Wy	4	1,458	2210	0.66	B	2,079	2210	0.94	E
- Between Yosemite Pkwy (SR140) and G St	4	1,155	2210	0.52	A	1,670	2210	0.76	C
15th Street									
- Between R St and M St	2	213	1021	0.21	A	554	1021	0.54	A
- Between Martin Luther King Jr. Wy and M St	2	175	1021	0.17	A	510	1021	0.50	A
- Between G St and Martin Luther King Jr. Wy	2	280	1021	0.27	A	538	1021	0.53	A
V Street									
- West of 13th St	2	1,294	1021	1.27	F	1,622	1021	1.59	F
- Between 13th St and 16th St	4	2,319	2210	1.05	F	2,950	2210	1.33	F
- East of 16th St	2	1,209	1021	1.18	F	1,430	1021	1.40	F
R Street									
- West of 13th St	2	1,435	1021	1.41	F	1,895	1021	1.86	F
- Between 13th St and 16th St	4	1,865	2210	0.84	D	2,694	2210	1.22	F
- East of 16th St	4	1,961	2210	0.89	D	3,042	2210	1.38	F
M Street									
- West of 13th St	2	1,038	1021	1.02	F	1,212	1021	1.19	F
- Between 13th St and 16th St	2	1,229	1021	1.20	F	1,348	1021	1.32	F
- East of 16th St	4	2,164	2210	0.98	E	2,465	2210	1.12	F
Martin Luther King Jr. Way									
- West of Child Ave	4	1,671	2210	0.76	C	2,027	2210	0.92	E
- Between Child Ave and 13th St	4	1,383	2210	0.63	B	1,984	2210	0.90	D
- Between 13th St and 16th St	4	1,510	2210	0.68	B	1,958	2210	0.89	D
- East of 16th St	2	523	1021	0.51	A	816	1021	0.80	C
G Street									
- West of 13th St	2	1,048	1021	1.03	F	1,106	1021	1.08	F
- Between 13th St and 16th St	4	1,691	2210	0.77	C	1,966	2210	0.89	D
- East of 16th St	4	2,638	2210	1.19	F	2,967	2210	1.34	F

Merced Station_Roadway Analysis - 2035 Build_Option-A Conditions

Segment	Travel Lanes	AM Peak				PM Peak			
		Volume	Capacity	V/C	LOS	Volume	Capacity	V/C	LOS
Main Street									
- Between Martin Luther King Jr. Wy and M St	2	418	1021	0.41	A	830	1021	0.81	D
- Between G St and Martin Luther King Jr. Wy	4	1,458	2210	0.66	B	1,836	2210	0.83	D
- Between Yosemite Pkwy (SR140) and G St	2	1,251	1021	1.23	F	1,393	1021	1.36	F
16th Street									
- Between V St and SR-59	4	2,389	2210	1.08	F	3,403	2210	1.54	F
- Between R St and M St	4	1,554	2210	0.70	B	2,495	2210	1.13	F
- Between Martin Luther King Jr. Wy and M St	4	1,874	2210	0.85	D	2,698	2210	1.22	F
- Between G St and Martin Luther King Jr. Wy	4	1,197	2210	0.54	A	1,734	2210	0.78	C
- Between Yosemite Pkwy (SR140) and G St	4	828	2210	0.37	A	716	2210	0.32	A
15th Street									
- Between R St and M St	2	255	1021	0.25	A	586	1021	0.57	A
- Between Martin Luther King Jr. Wy and M St	2	242	1021	0.24	A	748	1021	0.73	C
- Between G St and Martin Luther King Jr. Wy	2	185	1021	0.18	A	355	1021	0.35	A
V Street									
- West of 13th St	2	1,328	1021	1.30	F	1,651	1021	1.62	F
- Between 13th St and 16th St	4	2,374	2210	1.07	F	3,007	2210	1.36	F
- East of 16th St	2	1,209	1021	1.18	F	1,430	1021	1.40	F
R Street									
- West of 13th St	2	1,435	1021	1.41	F	1,895	1021	1.86	F
- Between 13th St and 16th St	4	1,945	2210	0.88	D	2,747	2210	1.24	F
- East of 16th St	4	1,978	2210	0.90	D	3,059	2210	1.38	F
M Street									
- West of 13th St	2	1,067	1021	1.05	F	1,241	1021	1.22	F
- Between 13th St and 16th St	2	1,589	1021	1.56	F	1,671	1021	1.64	F
- East of 16th St	4	2,204	2210	1.00	E	2,504	2210	1.13	F
Martin Luther King Jr. Way									
- West of Child Ave	4	1,729	2210	0.78	C	2,085	2210	0.94	E
- Between Child Ave and 13th St	4	1,420	2210	0.64	B	2,031	2210	0.92	E
- Between 13th St and 16th St	4	1,592	2210	0.72	C	2,007	2210	0.91	D
- East of 16th St	2	523	1021	0.51	A	816	1021	0.80	C
G Street									
- West of 13th St	2	1,049	1021	1.03	F	1,107	1021	1.08	F
- Between 13th St and 16th St	4	1,950	2210	0.88	D	2,134	2210	0.97	E
- East of 16th St	4	1,908	2210	0.86	D	2,157	2210	0.98	E

Merced Station_Roadway Analysis - 2035 Build_Option-B Conditions

Segment	Travel Lanes	AM Peak				PM Peak			
		Volume	Capacity	V/C	LOS	Volume	Capacity	V/C	LOS
Main Street									
- Between Martin Luther King Jr. Wy and M St	2	416	1021	0.41	A	828	1021	0.81	D
- Between G St and Martin Luther King Jr. Wy	4	1,462	2210	0.66	B	1,839	2210	0.83	D
- Between Yosemite Pkwy (SR140) and G St	2	1,261	1021	1.24	F	1,402	1021	1.37	F
16th Street									
- Between V St and SR-59	4	2,389	2210	1.08	F	3,403	2210	1.54	F
- Between R St and M St	4	1,563	2210	0.71	B	2,506	2210	1.13	F
- Between Martin Luther King Jr. Wy and M St	4	1,872	2210	0.85	D	2,695	2210	1.22	F
- Between G St and Martin Luther King Jr. Wy	4	1,192	2210	0.54	A	1,736	2210	0.79	C
- Between Yosemite Pkwy (SR140) and G St	4	826	2210	0.37	A	709	2210	0.32	A
15th Street									
- Between R St and M St	2	220	1021	0.22	A	572	1021	0.56	A
- Between Martin Luther King Jr. Wy and M St	2	221	1021	0.22	A	578	1021	0.57	A
- Between G St and Martin Luther King Jr. Wy	2	214	1021	0.21	A	384	1021	0.38	A
V Street									
- West of 13th St	2	1,376	1021	1.35	F	1,717	1021	1.68	F
- Between 13th St and 16th St	4	2,417	2210	1.09	F	3,054	2210	1.38	F
- East of 16th St	2	1,242	1021	1.22	F	1,463	1021	1.43	F
R Street									
- West of 13th St	2	1,435	1021	1.41	F	1,895	1021	1.86	F
- Between 13th St and 16th St	4	1,915	2210	0.87	D	2,739	2210	1.24	F
- East of 16th St	4	1,976	2210	0.89	D	3,057	2210	1.38	F
M Street									
- West of 13th St	2	1,070	1021	1.05	F	1,248	1021	1.22	F
- Between 13th St and 16th St	2	1,534	1021	1.50	F	1,609	1021	1.58	F
- East of 16th St	4	2,201	2210	1.00	E	2,502	2210	1.13	F
Martin Luther King Jr. Way									
- West of Child Ave	4	1,728	2210	0.78	C	2,084	2210	0.94	E
- Between Child Ave and 13th St	4	1,426	2210	0.65	B	2,084	2210	0.94	E
- Between 13th St and 16th St	4	1,586	2210	0.72	C	2,006	2210	0.91	D
- East of 16th St	2	523	1021	0.51	A	816	1021	0.80	C
G Street									
- West of 13th St	2	1,076	1021	1.05	F	1,131	1021	1.11	F
- Between 13th St and 16th St	4	1,965	2210	0.89	D	2,147	2210	0.97	E
- East of 16th St	4	1,908	2210	0.86	D	2,157	2210	0.98	E

MERCED STATION ANALYSIS

INTERSECTION

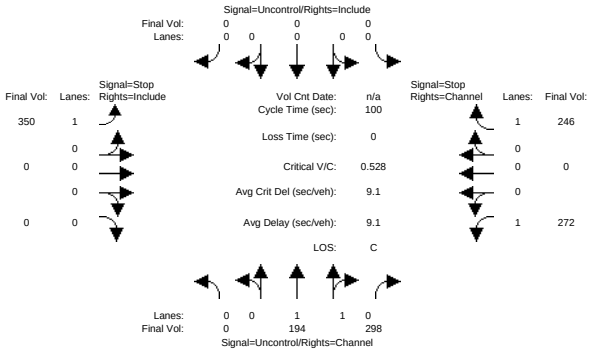
EXISTING CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1001: 16th St / SR-59

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Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  194   298     0    0     0   350    0     0   272    0   246
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  194   298     0    0     0   350    0     0   272    0   246
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  194   298     0    0     0   350    0     0   272    0   246
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  194   298     0    0     0   350    0     0   272    0   246
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  194   298     0    0     0   350    0     0   272    0   246
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx    97 xxxx xxxxx   343 xxxx    97
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   890 xxxx xxxxx   615 xxxx   965
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   663 xxxx xxxxx   615 xxxx   965
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.53 xxxx  xxxx  0.44 xxxx  0.25
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  77.7 xxxx xxxxx  56.5 xxxx  25.4
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  16.3 xxxx xxxxx  15.4 xxxx  10.0
LOS by Move:    *    *     *     *    *     *     C    *     *     C    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             16.3            12.8
ApproachLOS:         *                *                C               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  194   298     0    0     0   350    0     0   272    0   246
ApproachDel:    xxxxxx           xxxxxx             16.3            12.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=350]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1360]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.8]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=518]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1360]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

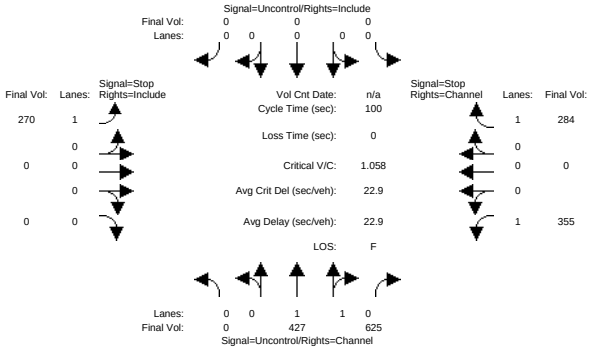
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  194   298     0    0     0   350    0     0   272    0   246
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             492
Minor Approach Volume:           518
Minor Approach Volume Threshold: 679
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1001: 16th St / SR-59




```
Street Name:            16th Street                     SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  427   625     0    0     0   270    0     0   355    0   284
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  427   625     0    0     0   270    0     0   355    0   284
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  427   625     0    0     0   270    0     0   355    0   284
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  427   625     0    0     0   270    0     0   355    0   284
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  427   625     0    0     0   270    0     0   355    0   284
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   214 xxxx xxxxx   740 xxxx   214
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   748 xxxx xxxxx   335 xxxx   832
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   492 xxxx xxxxx   335 xxxx   832
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.55 xxxx  xxxx  1.06 xxxx  0.34
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  81.5 xxxx xxxxx   321 xxxx  38.1
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  20.8 xxxx xxxxx 101.5 xxxx  11.6
LOS by Move:    *    *     *     *    *     *     C    *     *     F    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             20.8            61.5
ApproachLOS:         *                *                C               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  427   625     0    0     0   270    0     0   355    0   284
ApproachDel:    xxxxxx           xxxxxx             20.8            61.5
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=270]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1961]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=10.9]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=639]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1961]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

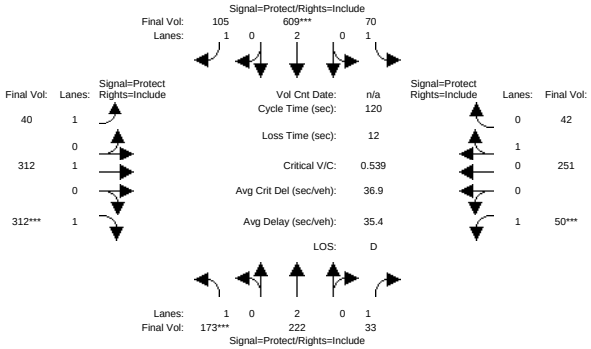
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  427   625     0    0     0   270    0     0   355    0   284
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1052
Minor Approach Volume:           639
Minor Approach Volume Threshold: 352
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

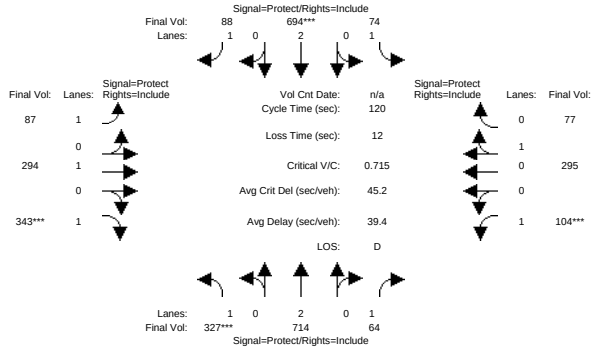



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     173  222    33    70  609   105    40  312   312    50  251    42
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  173  222    33    70  609   105    40  312   312    50  251    42
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  173  222    33    70  609   105    40  312   312    50  251    42
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   173  222    33    70  609   105    40  312   312    50  251    42
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  173  222    33    70  609   105    40  312   312    50  251    42
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  173  222    33    70  609   105    40  312   312    50  251    42
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.98  0.98
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.86  0.14
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1593   267
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.06  0.02  0.04 0.17  0.07  0.02 0.16  0.19  0.03 0.16  0.16
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.18 0.29  0.29  0.20 0.31  0.31  0.11 0.36  0.36  0.06 0.30  0.30
Volume/Cap:  0.54 0.21  0.07  0.19 0.54  0.21  0.20 0.46  0.54  0.47 0.52  0.52
Delay/Veh:   47.0 32.7  31.3  40.2 34.9  30.7  48.9 30.3  32.0  58.1 35.6  35.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  47.0 32.7  31.3  40.2 34.9  30.7  48.9 30.3  32.0  58.1 35.6  35.6
LOS by Move:    D    C     C     D    C     C     D    C     C     E    D     D
HCM2kAvgQ:    143   78    21    54  250    71    36  222   237    61  229   229
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

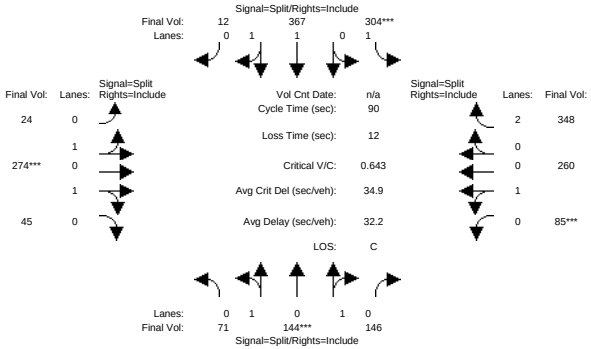



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     327  714    64    74  694    88    87  294   343   104  295    77
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  327  714    64    74  694    88    87  294   343   104  295    77
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  327  714    64    74  694    88    87  294   343   104  295    77
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   327  714    64    74  694    88    87  294   343   104  295    77
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  327  714    64    74  694    88    87  294   343   104  295    77
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  327  714    64    74  694    88    87  294   343   104  295    77
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.97  0.97
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.79  0.21
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1460   381
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.20  0.04  0.04 0.19  0.05  0.05 0.15  0.21  0.06 0.20  0.20
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.25 0.40  0.40  0.12 0.27  0.27  0.08 0.30  0.30  0.08 0.29  0.29
Volume/Cap:  0.71 0.49  0.10  0.34 0.71  0.20  0.57 0.52  0.71  0.71 0.69  0.69
Delay/Veh:   46.2 26.9  22.3  49.5 42.3  34.1  57.9 35.9  42.7  69.3 41.4  41.4
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  46.2 26.9  22.3  49.5 42.3  34.1  57.9 35.9  42.7  69.3 41.4  41.4
LOS by Move:    D    C     C     D    D     C     E    D     D     E    D     D
HCM2kAvgQ:    271  245    34    69  331    63    99  230   311   131  325   325
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

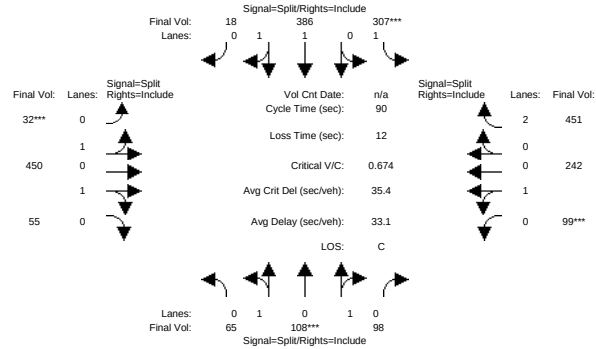



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  144   146  304  367    12   24  274    45   85  260   348
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   71  144   146  304  367    12   24  274    45   85  260   348
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   71  144   146  304  367    12   24  274    45   85  260   348
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    71  144   146  304  367    12   24  274    45   85  260   348
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   71  144   146  304  367    12   24  274    45   85  260   348
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   71  144   146  304  367    12   24  274    45   85  260   348
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.88 0.88  0.88 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.39 0.80  0.81 1.00 1.94  0.06 0.14 1.60  0.26 0.25 0.75  2.00
Final Sat.:   660 1339  1357 1805 3478   114  247 2818   463  462 1415  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.11  0.11 0.17 0.11  0.11 0.10 0.10  0.10 0.18 0.18  0.12
Crit Moves:        ****        ****                ****        ****
Green/Cycle: 0.17 0.17  0.17 0.26 0.26  0.26 0.15 0.15  0.15 0.29 0.29  0.29
Volume/Cap:  0.64 0.64  0.64 0.64 0.40  0.40 0.64 0.64  0.64 0.64 0.64  0.43
Delay/Veh:   37.5 37.5  37.5 32.5 27.7  27.7 38.6 38.6  38.6 30.8 30.8  26.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  37.5 37.5  37.5 32.5 27.7  27.7 38.6 38.6  38.6 30.8 30.8  26.5
LOS by Move:    D    D     D    C    C     C    D    D     D    C    C     C
HCM2kAvgQ:    151  151   151  210  119   119  146  146   146  231  231   119
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

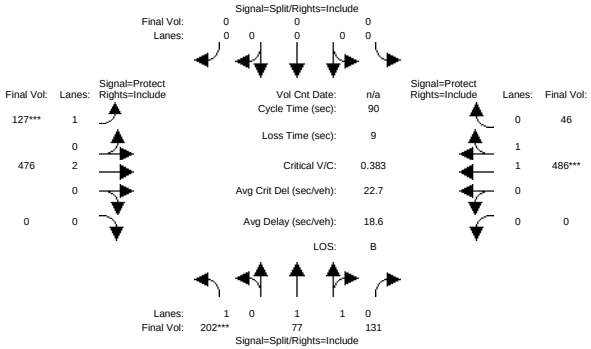



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      65  108    98  307  386    18   32  450    55   99  242   451
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   65  108    98  307  386    18   32  450    55   99  242   451
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   65  108    98  307  386    18   32  450    55   99  242   451
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    65  108    98  307  386    18   32  450    55   99  242   451
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   65  108    98  307  386    18   32  450    55   99  242   451
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   65  108    98  307  386    18   32  450    55   99  242   451
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.89 0.89  0.89 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.48 0.80  0.72 1.00 1.91  0.09 0.12 1.68  0.20 0.29 0.71  2.00
Final Sat.:   809 1345  1220 1805 3425   160  211 2971   363  544 1330  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.08  0.08 0.17 0.11  0.11 0.15 0.15  0.15 0.18 0.18  0.16
Crit Moves:        ****        ****                ****        ****
Green/Cycle: 0.12 0.12  0.12 0.25 0.25  0.25 0.22 0.22  0.22 0.27 0.27  0.27
Volume/Cap:  0.67 0.67  0.67 0.67 0.45  0.45 0.67 0.67  0.67 0.67 0.67  0.59
Delay/Veh:   42.4 42.4  42.4 34.3 28.7  28.7 34.2 34.2  34.2 32.9 32.9  29.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  42.4 42.4  42.4 34.3 28.7  28.7 34.2 34.2  34.2 32.9 32.9  29.7
LOS by Move:    D    D     D    C    C     C    C    C     C    C    C     C
HCM2kAvgQ:    128  128   128  220  132   132  208  208   208  237  237   173
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

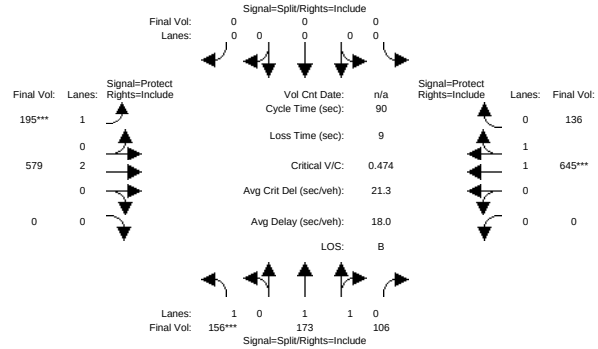



```
Street Name:    14th St - SR-99 NB Onramp                 V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     202   77   131     0    0     0   127  476     0     0  486    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  202   77   131     0    0     0   127  476     0     0  486    46
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  202   77   131     0    0     0   127  476     0     0  486    46
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   202   77   131     0    0     0   127  476     0     0  486    46
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  202   77   131     0    0     0   127  476     0     0  486    46
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  202   77   131     0    0     0   127  476     0     0  486    46
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.86  0.86  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       1.00 1.00  1.00  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.83  0.17
Final Sat.:  1615 1635  1635     0    0     0  1805 3610     0     0 3255   308
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.05  0.08  0.00 0.00  0.00  0.07 0.13  0.00  0.00 0.15  0.15
Crit Moves:  ****                             ****                  ****
Green/Cycle: 0.33 0.33  0.33  0.00 0.00  0.00  0.18 0.57  0.00  0.00 0.39  0.39
Volume/Cap:  0.38 0.14  0.25  0.00 0.00  0.00  0.38 0.23  0.00  0.00 0.38  0.38
Delay/Veh:   23.8 21.5  22.3   0.0  0.0   0.0  33.0  9.5   0.0   0.0 19.9  19.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  23.8 21.5  22.3   0.0  0.0   0.0  33.0  9.5   0.0   0.0 19.9  19.9
LOS by Move:    C    C     C     A    A     A     C    A     A     A    B     B
HCM2kAvgQ:    112   40    71     0    0     0    85   84     0     0  134   134
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

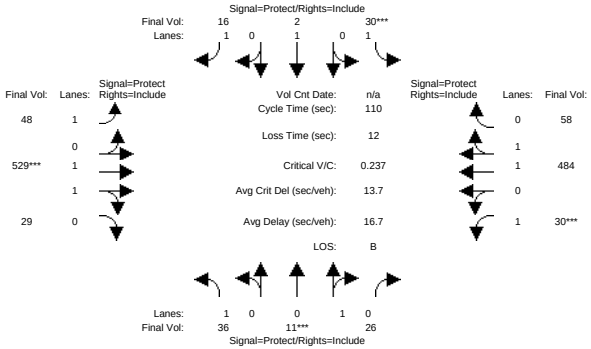



```
Street Name:    14th St - SR-99 NB Onramp                 V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156  173   106     0    0     0   195  579     0     0  645   136
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  156  173   106     0    0     0   195  579     0     0  645   136
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  156  173   106     0    0     0   195  579     0     0  645   136
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   156  173   106     0    0     0   195  579     0     0  645   136
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  156  173   106     0    0     0   195  579     0     0  645   136
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  156  173   106     0    0     0   195  579     0     0  645   136
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.90  0.90  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.93  0.93
Lanes:       1.00 1.24  0.76  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.65  0.35
Final Sat.:  1615 2111  1293     0    0     0  1805 3610     0     0 2904   612
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.08  0.08  0.00 0.00  0.00  0.11 0.16  0.00  0.00 0.22  0.22
Crit Moves:  ****                             ****                  ****
Green/Cycle: 0.20 0.20  0.20  0.00 0.00  0.00  0.23 0.70  0.00  0.00 0.47  0.47
Volume/Cap:  0.47 0.40  0.40  0.00 0.00  0.00  0.47 0.23  0.00  0.00 0.47  0.47
Delay/Veh:   32.7 31.5  31.5   0.0  0.0   0.0  30.9  5.0   0.0   0.0 16.6  16.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  32.7 31.5  31.5   0.0  0.0   0.0  30.9  5.0   0.0   0.0 16.6  16.6
LOS by Move:    C    C     C     A    A     A     C    A     A     A    B     B
HCM2kAvgQ:    108   96    96     0    0     0   127   76     0     0  189   189
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1005: 15th St / V St



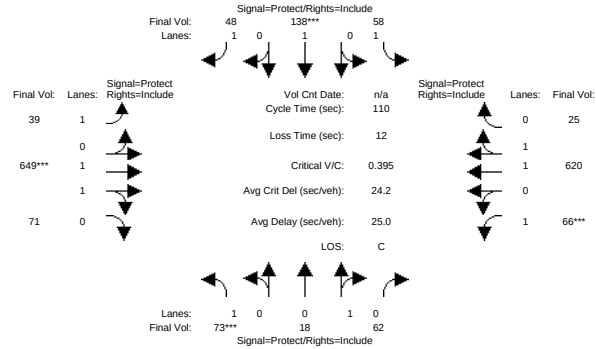
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	36	11	26	30	2	16	48	529	29	30	484	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	11	26	30	2	16	48	529	29	30	484	58
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	11	26	30	2	16	48	529	29	30	484	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	11	26	30	2	16	48	529	29	30	484	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	11	26	30	2	16	48	529	29	30	484	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	11	26	30	2	16	48	529	29	30	484	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.79	0.21
Final Sat.:	1805	506	1195	1805	1900	1615	1805	3395	186	1805	3172	380
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.02	0.00	0.01	0.03	0.16	0.16	0.02	0.15	0.15
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.09	0.09	0.07	0.10	0.10	0.21	0.66	0.66	0.07	0.51	0.51
Volume/Cap:	0.30	0.24	0.24	0.24	0.01	0.10	0.12	0.24	0.24	0.24	0.30	0.30
Delay/Veh:	50.3	47.1	47.1	49.3	45.1	45.8	35.0	7.7	7.7	49.3	15.4	15.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.3	47.1	47.1	49.3	45.1	45.8	35.0	7.7	7.7	49.3	15.4	15.4
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	36	34	34	29	2	14	31	97	97	23	131	131

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1005: 15th St / V St



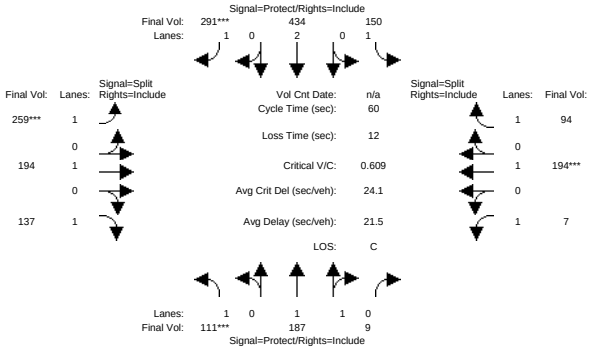
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	73	18	62	58	138	48	39	649	71	66	620	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	18	62	58	138	48	39	649	71	66	620	25
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	18	62	58	138	48	39	649	71	66	620	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	18	62	58	138	48	39	649	71	66	620	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	18	62	58	138	48	39	649	71	66	620	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	18	62	58	138	48	39	649	71	66	620	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.23	0.77	1.00	1.00	1.00	1.00	1.80	0.20	1.00	1.92	0.08
Final Sat.:	1805	378	1302	1805	1900	1615	1805	3205	351	1805	3449	139
Capacity Analysis Module:												
Vol/Sat:	0.04	0.05	0.05	0.03	0.07	0.03	0.02	0.20	0.20	0.04	0.18	0.18
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.17	0.17	0.12	0.18	0.18	0.16	0.51	0.51	0.09	0.45	0.45
Volume/Cap:	0.40	0.28	0.28	0.27	0.40	0.16	0.14	0.40	0.40	0.40	0.40	0.40
Delay/Veh:	47.6	40.5	40.5	44.9	40.3	38.0	40.1	16.5	16.5	48.6	20.7	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.6	40.5	40.5	44.9	40.3	38.0	40.1	16.5	16.5	48.6	20.7	20.7
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	C
HCM2kAvgQ:	68	63	63	50	109	36	27	189	189	51	183	183

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1006: 16th St / V St



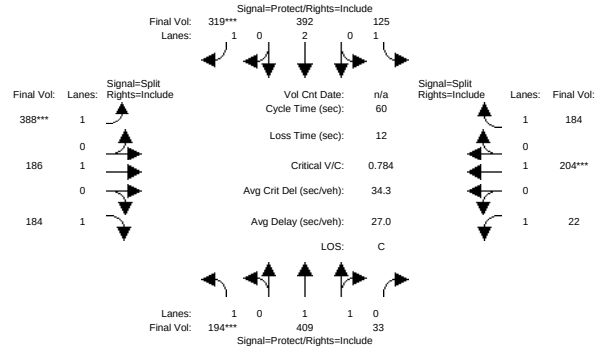
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	111	187	9	150	434	291	259	194	137	7	194	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	111	187	9	150	434	291	259	194	137	7	194	94
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	111	187	9	150	434	291	259	194	137	7	194	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	111	187	9	150	434	291	259	194	137	7	194	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	187	9	150	434	291	259	194	137	7	194	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	111	187	9	150	434	291	259	194	137	7	194	94
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.91	0.09	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3420	165	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.06	0.05	0.05	0.08	0.12	0.18	0.14	0.10	0.08	0.00	0.10	0.06
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.24	0.24	0.17	0.29	0.29	0.23	0.23	0.23	0.17	0.17	0.17
Volume/Cap:	0.53	0.23	0.23	0.50	0.42	0.63	0.63	0.45	0.37	0.02	0.61	0.35
Delay/Veh:	27.4	18.6	18.6	24.0	17.6	21.3	23.8	20.6	20.1	20.9	26.7	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.4	18.6	18.6	24.0	17.6	21.3	23.8	20.6	20.1	20.9	26.7	22.9
LOS by Move:	C	B	B	C	B	C	C	C	C	C	C	C
HCM2kAvgQ:	49	37	37	81	95	144	110	76	52	3	111	48

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1006: 16th St / V St



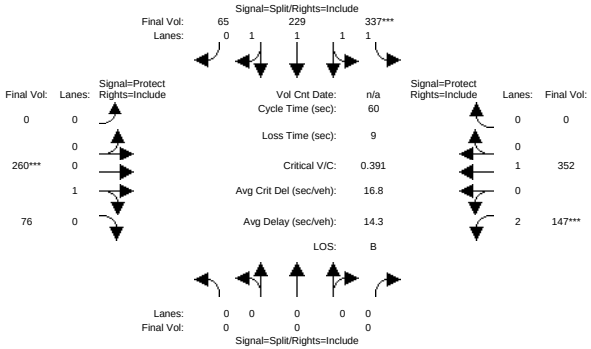
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	194	409	33	125	392	319	388	186	184	22	204	184
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	409	33	125	392	319	388	186	184	22	204	184
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	194	409	33	125	392	319	388	186	184	22	204	184
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	194	409	33	125	392	319	388	186	184	22	204	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	194	409	33	125	392	319	388	186	184	22	204	184
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	194	409	33	125	392	319	388	186	184	22	204	184
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.85	0.15	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3304	267	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.11	0.12	0.12	0.07	0.11	0.20	0.21	0.10	0.11	0.01	0.11	0.11
Crit Moves:	****					****	****				****	
Green/Cycle:	0.13	0.22	0.22	0.15	0.24	0.24	0.26	0.26	0.26	0.17	0.17	0.17
Volume/Cap:	0.82	0.57	0.57	0.45	0.45	0.82	0.82	0.37	0.44	0.07	0.64	0.68
Delay/Veh:	45.4	21.9	21.9	24.3	19.8	34.6	31.8	18.6	19.2	21.2	27.9	30.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.4	21.9	21.9	24.3	19.8	34.6	31.8	18.6	19.2	21.2	27.9	30.6
LOS by Move:	D	C	C	C	B	C	C	B	B	C	C	C
HCM2kAvgQ:	99	96	96	67	93	209	185	68	70	10	120	118

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1007: 13th St / R St



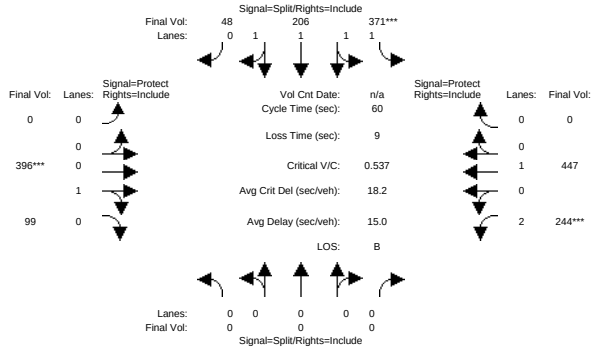
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	337	229	65	0	260	76	147	352	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	337	229	65	0	260	76	147	352	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	337	229	65	0	260	76	147	352	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	337	229	65	0	260	76	147	352	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	337	229	65	0	260	76	147	352	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	337	229	65	0	260	76	147	352	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.56	0.44	0.00	0.77	0.23	2.00	1.00	0.00
Final Sat.:	0	0	0	3134	2441	693	0	1425	416	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.09	0.09	0.00	0.18	0.18	0.04	0.19	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.27	0.27	0.27	0.00	0.46	0.46	0.12	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.40	0.35	0.35	0.00	0.40	0.40	0.36	0.32	0.00
Delay/Veh:	0.0	0.0	0.0	18.0	17.7	17.7	0.0	10.9	10.9	25.0	6.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	18.0	17.7	17.7	0.0	10.9	10.9	25.0	6.7	0.0
LOS by Move:	A	A	A	B	B	B	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	79	67	67	0	108	108	32	83	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1007: 13th St / R St



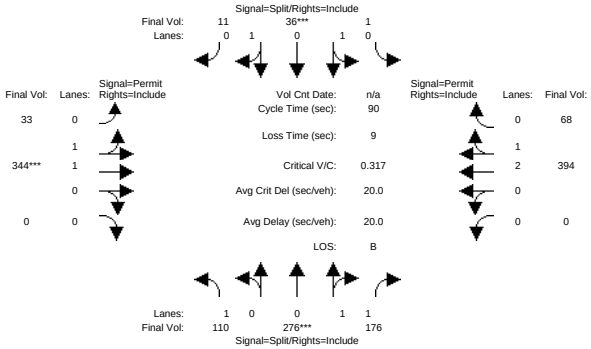
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	371	206	48	0	396	99	244	447	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	371	206	48	0	396	99	244	447	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	371	206	48	0	396	99	244	447	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	371	206	48	0	396	99	244	447	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	371	206	48	0	396	99	244	447	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	371	206	48	0	396	99	244	447	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.62	0.38	0.00	0.80	0.20	2.00	1.00	0.00
Final Sat.:	0	0	0	3112	2524	588	0	1479	370	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.12	0.08	0.08	0.00	0.27	0.27	0.07	0.24	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.22	0.22	0.22	0.00	0.50	0.50	0.13	0.63	0.00
Volume/Cap:	0.00	0.00	0.00	0.54	0.37	0.37	0.00	0.54	0.54	0.54	0.37	0.00
Delay/Veh:	0.0	0.0	0.0	21.1	19.9	19.9	0.0	10.9	10.9	25.7	5.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.1	19.9	19.9	0.0	10.9	10.9	25.7	5.6	0.0
LOS by Move:	A	A	A	C	B	B	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	103	64	64	0	170	170	55	99	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

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Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     110  276   176    1   36    11   33  344     0    0  394    68
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  110  276   176    1   36    11   33  344     0    0  394    68
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  110  276   176    1   36    11   33  344     0    0  394    68
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   110  276   176    1   36    11   33  344     0    0  394    68
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  110  276   176    1   36    11   33  344     0    0  394    68
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  110  276   176    1   36    11   33  344     0    0  394    68
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.92 0.92  0.92 0.84 0.84  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.04 1.50  0.46 0.18 1.82  0.00 0.00 2.56  0.44
Final Sat.:  1805 1790  1790   73 2613   798  281 2928     0    0 4326   747
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.15  0.10 0.01 0.01  0.01 0.12 0.12  0.00 0.00 0.09  0.09
Crit Moves:        ****            ****            ****
Green/Cycle: 0.45 0.45  0.45 0.11 0.11  0.11 0.34 0.34  0.00 0.00 0.34  0.34
Volume/Cap:  0.14 0.34  0.22 0.12 0.12  0.12 0.34 0.34  0.00 0.00 0.27  0.27
Delay/Veh:   14.7 16.4  15.3 36.2 36.2  36.2 22.3 22.3   0.0  0.0 21.6  21.6
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  14.7 16.4  15.3 36.2 36.2  36.2 22.3 22.3   0.0  0.0 21.6  21.6
LOS by Move:    B    B     B    D    D     D    C    C     A    A    C     C
HCM2kAvgQ:     44  126    74   18   18    18   99   99     0    0   81    81
Note: Queue reported is the distance per lane in feet.
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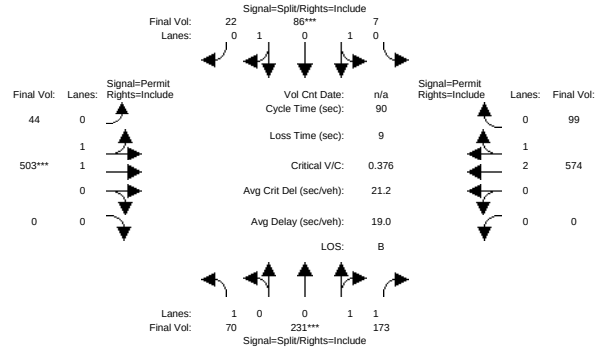
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

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Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      70  231   173    7   86    22   44  503     0    0  574    99
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   70  231   173    7   86    22   44  503     0    0  574    99
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   70  231   173    7   86    22   44  503     0    0  574    99
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   70  231   173    7   86    22   44  503     0    0  574    99
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   70  231   173    7   86    22   44  503     0    0  574    99
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   70  231   173    7   86    22   44  503     0    0  574    99
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.92 0.92  0.92 0.82 0.82  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.12 1.50  0.38 0.16 1.84  0.00 0.00 2.56  0.44
Final Sat.:  1805 1778  1778  213 2613   669  250 2862     0    0 4327   746
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.13  0.10 0.03 0.03  0.03 0.18 0.18  0.00 0.00 0.13  0.13
Crit Moves:        ****            ****            ****
Green/Cycle: 0.34 0.34  0.34 0.11 0.11  0.11 0.45 0.45  0.00 0.00 0.45  0.45
Volume/Cap:  0.12 0.39  0.29 0.30 0.30  0.30 0.39 0.39  0.00 0.00 0.29  0.29
Delay/Veh:   20.8 23.1  22.1 37.2 37.2  37.2 16.5 16.5   0.0  0.0 15.6  15.6
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  20.8 23.1  22.1 37.2 37.2  37.2 16.5 16.5   0.0  0.0 15.6  15.6
LOS by Move:    C    C     C    D    D     D    B    B     A    A    B     B
HCM2kAvgQ:     34  126    90   45   45    45  127  127     0    0  103   103
Note: Queue reported is the distance per lane in feet.
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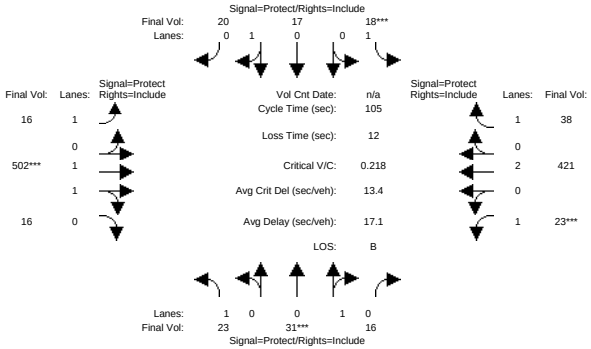
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1009: 15th St / R St



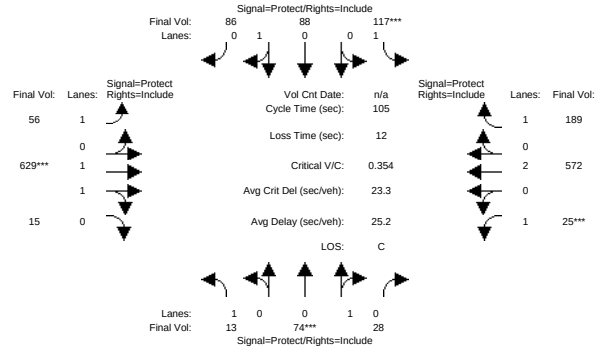
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	23	31	16	18	17	20	16	502	16	23	421	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	31	16	18	17	20	16	502	16	23	421	38
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	23	31	16	18	17	20	16	502	16	23	421	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	31	16	18	17	20	16	502	16	23	421	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	31	16	18	17	20	16	502	16	23	421	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	31	16	18	17	20	16	502	16	23	421	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.66	0.34	1.00	0.46	0.54	1.00	1.94	0.06	1.00	2.00	1.00
Final Sat.:	1805	1189	614	1805	802	944	1805	3481	111	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.01	0.02	0.02	0.01	0.14	0.14	0.01	0.12	0.02
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.12	0.12	0.07	0.11	0.11	0.26	0.64	0.64	0.07	0.45	0.45
Volume/Cap:	0.17	0.23	0.23	0.15	0.20	0.20	0.03	0.23	0.23	0.19	0.26	0.05
Delay/Veh:	46.1	42.8	42.8	46.8	43.3	43.3	29.3	8.1	8.1	47.1	18.2	16.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.1	42.8	42.8	46.8	43.3	43.3	29.3	8.1	8.1	47.1	18.2	16.4
LOS by Move:	D	D	D	D	D	D	C	A	A	D	B	B
HCM2kAvgQ:	21	38	38	17	31	31	9	90	90	17	107	16

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1009: 15th St / R St



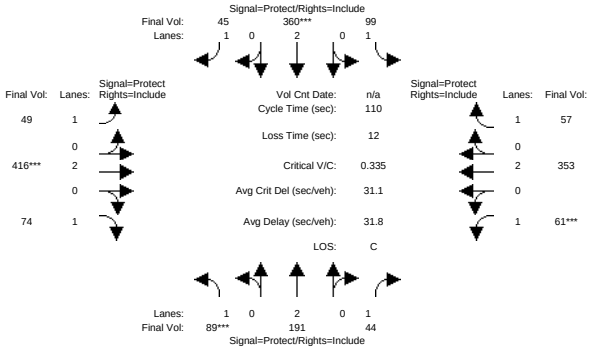
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	13	74	28	117	88	86	56	629	15	25	572	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	74	28	117	88	86	56	629	15	25	572	189
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	74	28	117	88	86	56	629	15	25	572	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	74	28	117	88	86	56	629	15	25	572	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	74	28	117	88	86	56	629	15	25	572	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	74	28	117	88	86	56	629	15	25	572	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.73	0.27	1.00	0.51	0.49	1.00	1.95	0.05	1.00	2.00	1.00
Final Sat.:	1805	1322	500	1805	890	870	1805	3515	84	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.06	0.06	0.10	0.10	0.03	0.18	0.18	0.01	0.16	0.12
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.15	0.15	0.18	0.20	0.20	0.16	0.49	0.49	0.07	0.39	0.39
Volume/Cap:	0.05	0.37	0.37	0.37	0.50	0.50	0.19	0.37	0.37	0.21	0.41	0.30
Delay/Veh:	39.9	40.7	40.7	38.7	38.7	38.7	38.1	16.8	16.8	47.2	23.3	22.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.9	40.7	40.7	38.7	38.7	38.7	38.1	16.8	16.8	47.2	23.3	22.3
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	C
HCM2kAvgQ:	10	81	81	89	137	137	37	163	163	18	168	100

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1010: 16th St / R St



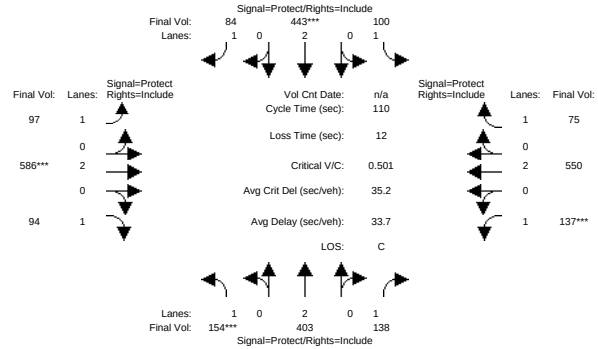
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	89	191	44	99	360	45	49	416	74	61	353	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	191	44	99	360	45	49	416	74	61	353	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	191	44	99	360	45	49	416	74	61	353	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	191	44	99	360	45	49	416	74	61	353	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	191	44	99	360	45	49	416	74	61	353	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	191	44	99	360	45	49	416	74	61	353	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.03	0.05	0.10	0.03	0.03	0.12	0.05	0.03	0.10	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.15	0.26	0.26	0.18	0.30	0.30	0.18	0.34	0.34	0.10	0.27	0.27
Volume/Cap:	0.33	0.20	0.10	0.30	0.33	0.09	0.15	0.33	0.13	0.33	0.36	0.13
Delay/Veh:	42.8	31.7	30.9	39.3	30.3	28.0	38.7	26.9	24.9	47.1	32.7	30.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.8	31.7	30.9	39.3	30.3	28.0	38.7	26.9	24.9	47.1	32.7	30.5
LOS by Move:	D	C	C	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	73	66	28	69	119	26	33	131	41	47	122	35

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1010: 16th St / R St



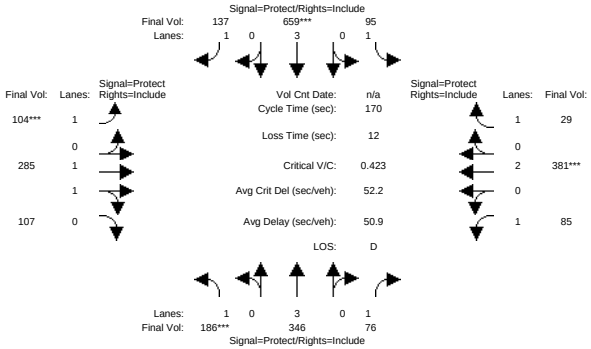
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	154	403	138	100	443	84	97	586	94	137	550	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	154	403	138	100	443	84	97	586	94	137	550	75
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	154	403	138	100	443	84	97	586	94	137	550	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	154	403	138	100	443	84	97	586	94	137	550	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	403	138	100	443	84	97	586	94	137	550	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	403	138	100	443	84	97	586	94	137	550	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.11	0.09	0.06	0.12	0.05	0.05	0.16	0.06	0.08	0.15	0.05
Crit Moves:	****				****			****		****		
Green/Cycle:	0.17	0.26	0.26	0.15	0.24	0.24	0.14	0.32	0.32	0.15	0.34	0.34
Volume/Cap:	0.50	0.42	0.32	0.37	0.50	0.21	0.38	0.50	0.18	0.50	0.45	0.14
Delay/Veh:	42.7	33.8	33.0	42.8	36.2	33.3	43.9	30.3	26.8	44.3	28.9	25.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.7	33.8	33.0	42.8	36.2	33.3	43.9	30.3	26.8	44.3	28.9	25.6
LOS by Move:	D	C	C	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	131	152	97	73	164	54	72	204	54	104	185	42

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1011: Olive Ave / R St



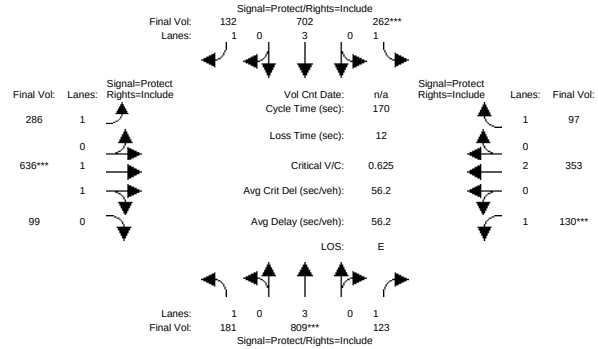
Street Name:	Olive Avenue									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	186		346	76	95		659	137	104		285	107	85		381	29
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	186		346	76	95		659	137	104		285	107	85		381	29
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	186		346	76	95		659	137	104		285	107	85		381	29
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	186		346	76	95		659	137	104		285	107	85		381	29
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	186		346	76	95		659	137	104		285	107	85		381	29
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	186		346	76	95		659	137	104		285	107	85		381	29
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.91	0.85	0.95		0.91	0.85	0.95		0.91	0.91	0.95		0.95	0.85
Lanes:	1.00		3.00	1.00	1.00		3.00	1.00	1.00		1.45	0.55	1.00		2.00	1.00
Final Sat.:	1805		5187	1615	1805		5187	1615	1805		2517	945	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.10		0.07	0.05	0.05		0.13	0.08	0.06		0.11	0.11	0.05		0.11	0.02
Crit Moves:	****						****		****						****	
Green/Cycle:	0.24		0.30	0.30	0.24		0.30	0.30	0.14		0.27	0.27	0.11		0.25	0.25
Volume/Cap:	0.42		0.22	0.15	0.22		0.42	0.28	0.42		0.42	0.42	0.42		0.42	0.07
Delay/Veh:	54.9		44.2	43.4	52.1		47.9	45.8	68.5		51.1	51.1	71.5		53.9	48.8
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	54.9		44.2	43.4	52.1		47.9	45.8	68.5		51.1	51.1	71.5		53.9	48.8
LOS by Move:	D		D	D	D		D	D	E		D	D	E		D	D
HCM2kAvgQ:	195		116	68	94		239	129	130		217	217	110		217	28

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1011: Olive Ave / R St



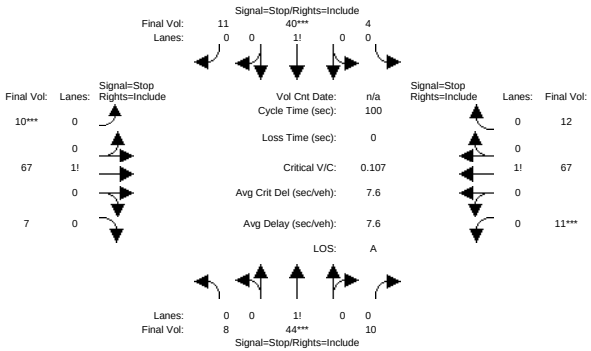
Street Name:	Olive Avenue									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	181		809	123	262		702	132	286		636	99	130		353	97
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	181		809	123	262		702	132	286		636	99	130		353	97
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	181		809	123	262		702	132	286		636	99	130		353	97
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	181		809	123	262		702	132	286		636	99	130		353	97
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	181		809	123	262		702	132	286		636	99	130		353	97
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	181		809	123	262		702	132	286		636	99	130		353	97
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.91	0.85	0.95		0.91	0.85	0.95		0.93	0.93	0.95		0.95	0.85
Lanes:	1.00		3.00	1.00	1.00		3.00	1.00	1.00		1.73	0.27	1.00		2.00	1.00
Final Sat.:	1805		5187	1615	1805		5187	1615	1805		3061	477	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.10		0.16	0.08	0.15		0.14	0.08	0.16		0.21	0.21	0.07		0.10	0.06
Crit Moves:			****		****						****		****			
Green/Cycle:	0.21		0.25	0.25	0.23		0.28	0.28	0.28		0.33	0.33	0.12		0.17	0.17
Volume/Cap:	0.49		0.63	0.31	0.63		0.49	0.30	0.57		0.63	0.63	0.63		0.57	0.35
Delay/Veh:	60.7		57.7	52.2	61.6		51.7	48.8	54.4		48.9	48.9	77.6		66.1	63.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	60.7		57.7	52.2	61.6		51.7	48.8	54.4		48.9	48.9	77.6		66.1	63.0
LOS by Move:	E		E	D	E		D	D	D		D	D	E		E	E
HCM2kAvgQ:	198		330	123	293		264	127	322		424	424	183		233	114

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #1012: 15th St / O St

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Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8    44    10     4    40    11    10    67     7    11    67    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    8    44    10     4    40    11    10    67     7    11    67    12
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    8    44    10     4    40    11    10    67     7    11    67    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     8    44    10     4    40    11    10    67     7    11    67    12
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    8    44    10     4    40    11    10    67     7    11    67    12
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    8    44    10     4    40    11    10    67     7    11    67    12
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.13 0.71  0.16  0.07 0.73  0.20  0.12 0.80  0.08  0.12 0.75  0.13
Final Sat.:   105  578   131    60  596   164    99  662    69   102  624   112
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.08  0.08  0.07 0.07  0.07  0.10 0.10  0.10  0.11 0.11  0.11
Crit Moves:        ****              ****        ****              ****
Delay/Veh:    7.6  7.6   7.6   7.5  7.5   7.5   7.7  7.7   7.7   7.7  7.7   7.7
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.6  7.6   7.6   7.5  7.5   7.5   7.7  7.7   7.7   7.7  7.7   7.7
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       7.6              7.5              7.7              7.7
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.6              7.5              7.7              7.7
LOS by Appr:         A                A                A                A
AllWayAvgQ:   1.9  1.9   1.9   1.7  1.7   1.7   2.6  2.6   2.6   2.8  2.8   2.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
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Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    8   44    10     4   40    11    10   67     7    11   67    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             174
Minor Approach Volume:           62
Minor Approach Volume Threshold: 686
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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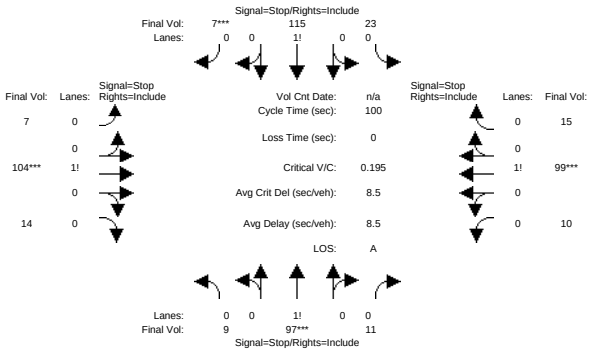
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #1012: 15th St / O St



Street Name:	15th Street									O Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Volume Module:																				
Base Vol:	9		97		11	23		115		7	7		104		14	10		99		15
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	9		97		11	23		115		7	7		104		14	10		99		15
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	9		97		11	23		115		7	7		104		14	10		99		15
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	9		97		11	23		115		7	7		104		14	10		99		15
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	9		97		11	23		115		7	7		104		14	10		99		15
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	9		97		11	23		115		7	7		104		14	10		99		15
Saturation Flow Module:																				
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Lanes:	0.08	0.83	0.09		0.16	0.79	0.05		0.06	0.83	0.11	0.08	0.80		0.12					
Final Sat.:	57		617		70	118		591		36	42		620		83	60		595		90
Capacity Analysis Module:																				
Vol/Sat:	0.16	0.16	0.16		0.19	0.19	0.19		0.17	0.17	0.17	0.17	0.17		0.17					
Crit Moves:		****					****			****			****							
Delay/Veh:	8.4	8.4	8.4		8.7	8.7	8.7		8.5	8.5	8.5	8.4	8.4		8.4					
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00					
AdjDel/Veh:	8.4	8.4	8.4		8.7	8.7	8.7		8.5	8.5	8.5	8.4	8.4		8.4					
LOS by Move:	A		A		A	A	A		A	A	A	A	A		A					
ApproachDel:		8.4				8.7				8.5			8.4							
Delay Adj:		1.00				1.00				1.00			1.00							
ApprAdjDel:		8.4				8.7				8.5			8.4							
LOS by Appr:		A				A				A			A							
AllWayAvgQ:	4.2	4.2	4.2		5.4	5.4	5.4		4.5	4.5	4.5	4.4	4.4		4.4					

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1012 15th St / O St

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0
Initial Vol:	9		97	11	23		115	7	7		104	14	10		99	15

Major Street Volume: 262
Minor Approach Volume: 125
Minor Approach Volume Threshold: 577

SIGNAL WARRANT DISCLAIMER

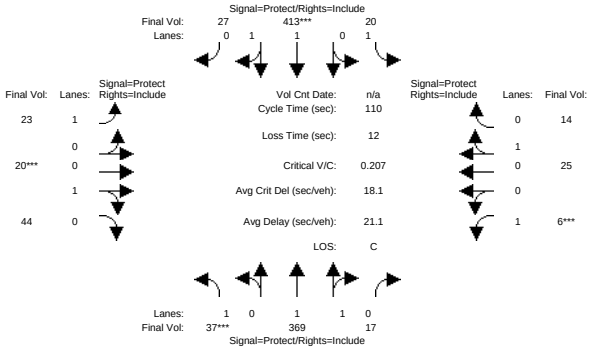
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1013: 16th St / O St



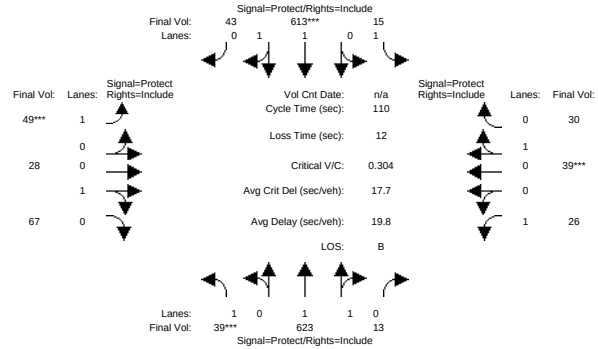
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	37	369	17	20	413	27	23	20	44	6	25	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	369	17	20	413	27	23	20	44	6	25	14
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	37	369	17	20	413	27	23	20	44	6	25	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	369	17	20	413	27	23	20	44	6	25	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	369	17	20	413	27	23	20	44	6	25	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	369	17	20	413	27	23	20	44	6	25	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.91	0.09	1.00	1.88	0.12	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3427	158	1805	3358	220	1805	533	1172	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.02	0.11	0.11	0.01	0.12	0.12	0.01	0.04	0.04	0.00	0.02	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.09	0.41	0.41	0.24	0.56	0.56	0.10	0.17	0.17	0.06	0.14	0.14
Volume/Cap:	0.22	0.26	0.26	0.05	0.22	0.22	0.13	0.22	0.22	0.05	0.16	0.16
Delay/Veh:	46.8	21.4	21.4	31.9	12.1	12.1	45.8	39.6	39.6	48.6	42.0	42.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.8	21.4	21.4	31.9	12.1	12.1	45.8	39.6	39.6	48.6	42.0	42.0
LOS by Move:	D	C	C	C	B	B	D	D	D	D	D	D
HCM2kAvgQ:	33	111	111	13	95	95	20	49	49	6	31	31

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1013: 16th St / O St



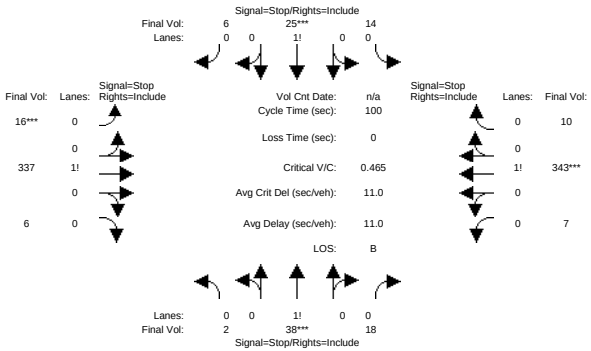
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	39	623	13	15	613	43	49	28	67	26	39	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	623	13	15	613	43	49	28	67	26	39	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	623	13	15	613	43	49	28	67	26	39	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	623	13	15	613	43	49	28	67	26	39	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	623	13	15	613	43	49	28	67	26	39	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	623	13	15	613	43	49	28	67	26	39	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.87	0.13	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3526	74	1805	3340	234	1805	501	1198	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.02	0.18	0.18	0.01	0.18	0.18	0.03	0.06	0.06	0.01	0.04	0.04
Crit Moves:	****				****		****				****	
Green/Cycle:	0.07	0.50	0.50	0.18	0.60	0.60	0.09	0.13	0.13	0.09	0.13	0.13
Volume/Cap:	0.30	0.36	0.36	0.05	0.30	0.30	0.30	0.44	0.44	0.16	0.30	0.30
Delay/Veh:	49.9	17.1	17.1	37.5	10.7	10.7	48.0	45.8	45.8	46.8	44.3	44.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.9	17.1	17.1	37.5	10.7	10.7	48.0	45.8	45.8	46.8	44.3	44.3
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	39	170	170	11	139	139	46	86	86	23	59	59

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #1014: 15th St / M St




```
Street Name:            15th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    38    18    14    25     6    16   337     6     7   343    10
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2    38    18    14    25     6    16   337     6     7   343    10
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    2    38    18    14    25     6    16   337     6     7   343    10
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     2    38    18    14    25     6    16   337     6     7   343    10
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    2    38    18    14    25     6    16   337     6     7   343    10
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    2    38    18    14    25     6    16   337     6     7   343    10
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.03  0.66  0.31  0.31  0.56  0.13  0.04  0.94  0.02  0.02  0.95  0.03
Final Sat.:    21   393   186   180   322    77    34   724    13    15   737    21
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10  0.10  0.10  0.08  0.08  0.08  0.47  0.47  0.47  0.47  0.47  0.47
Crit Moves:        ****              ****        ****                    ****
Delay/Veh:    8.8   8.8   8.8   8.9   8.9   8.9  11.3  11.3  11.3  11.3  11.3  11.3
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.8   8.8   8.8   8.9   8.9   8.9  11.3  11.3  11.3  11.3  11.3  11.3
LOS by Move:    A     A     A     A     A     A     B     B     B     B     B     B
ApproachDel:        8.8               8.9              11.3              11.3
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         8.8               8.9              11.3              11.3
LOS by Appr:          A                 A                 B                 B
AllWayAvgQ:   2.1   2.1   2.1   1.6   1.6   1.6  20.1  20.1  20.1  20.2  20.2  20.2
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
```



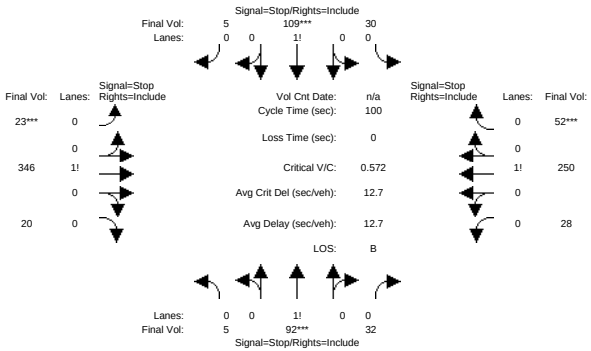
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2   38    18    14   25     6    16  337     6     7  343    10
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             719
Minor Approach Volume:           58
Minor Approach Volume Threshold: 307
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #1014: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    92    32    30   109     5    23   346    20    28   250    52
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    5    92    32    30   109     5    23   346    20    28   250    52
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    5    92    32    30   109     5    23   346    20    28   250    52
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     5    92    32    30   109     5    23   346    20    28   250    52
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    5    92    32    30   109     5    23   346    20    28   250    52
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    5    92    32    30   109     5    23   346    20    28   250    52
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.04  0.71  0.25  0.21  0.76  0.03  0.06  0.89  0.05  0.08  0.76  0.16
Final Sat.:    21   394   137   114   414    19    40   605    35    57   509   106
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23  0.23  0.23  0.26  0.26  0.26  0.57  0.57  0.57  0.49  0.49  0.49
Crit Moves:        ****              ****        ****                        ****
Delay/Veh:   10.3  10.3  10.3  10.7  10.7  10.7  14.3  14.3  14.3  12.6  12.6  12.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.3  10.3  10.3  10.7  10.7  10.7  14.3  14.3  14.3  12.6  12.6  12.6
LOS by Move:    B     B     B     B     B     B     B     B     B     B     B     B
ApproachDel:       10.3              10.7              14.3              12.6
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        10.3              10.7              14.3              12.6
LOS by Appr:          B                 B                 B                 B
AllWayAvgQ:   5.7   5.7   5.7   6.9   6.9   6.9  29.0  29.0  29.0  21.0  21.0  21.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
```



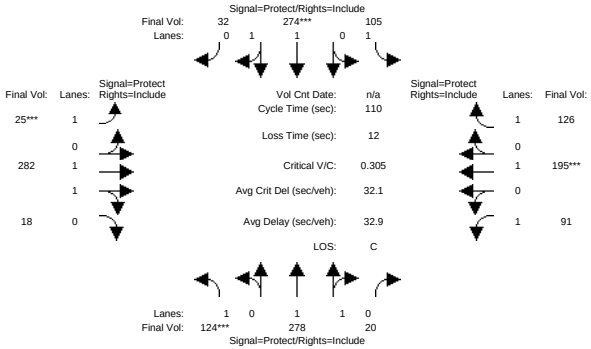
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5    92    32    30   109     5    23   346    20    28   250    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             719
Minor Approach Volume:           144
Minor Approach Volume Threshold: 307
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1015: 16th St / M St



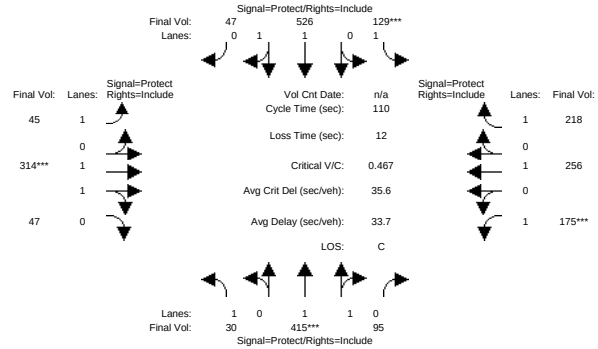
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	124	278	20	105	274	32	25	282	18	91	195	126
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	278	20	105	274	32	25	282	18	91	195	126
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	278	20	105	274	32	25	282	18	91	195	126
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	278	20	105	274	32	25	282	18	91	195	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	278	20	105	274	32	25	282	18	91	195	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	278	20	105	274	32	25	282	18	91	195	126
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.93	0.93	0.95	0.94	0.94	0.95	1.00	0.85
Lanes:	1.00	1.87	0.13	1.00	1.79	0.21	1.00	1.88	0.12	1.00	1.00	1.00
Final Sat.:	1805	3334	240	1805	3181	371	1805	3363	215	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.08	0.08	0.06	0.09	0.09	0.01	0.08	0.08	0.05	0.10	0.08
Crit Moves:	****				****		****				****	
Green/Cycle:	0.22	0.29	0.29	0.20	0.28	0.28	0.06	0.23	0.23	0.16	0.33	0.33
Volume/Cap:	0.31	0.28	0.28	0.28	0.31	0.31	0.22	0.36	0.36	0.31	0.31	0.24
Delay/Veh:	36.3	30.2	30.2	37.3	31.7	31.7	49.9	35.7	35.7	41.3	27.8	27.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.3	30.2	30.2	37.3	31.7	31.7	49.9	35.7	35.7	41.3	27.8	27.0
LOS by Move:	D	C	C	D	C	C	D	D	D	D	C	C
HCM2kAvgQ:	84	98	98	78	109	109	25	115	115	65	118	74

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1015: 16th St / M St



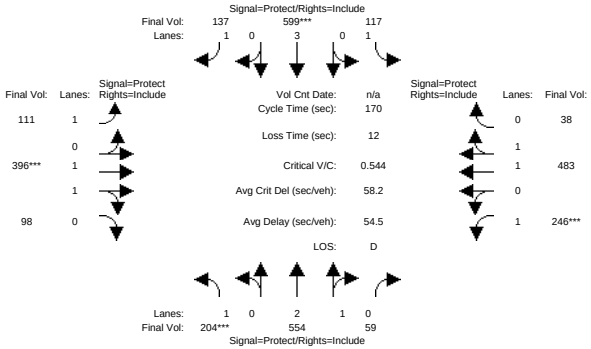
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	30	415	95	129	526	47	45	314	47	175	256	218
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	415	95	129	526	47	45	314	47	175	256	218
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	30	415	95	129	526	47	45	314	47	175	256	218
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	415	95	129	526	47	45	314	47	175	256	218
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	415	95	129	526	47	45	314	47	175	256	218
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	30	415	95	129	526	47	45	314	47	175	256	218
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.94	0.94	0.95	0.93	0.93	0.95	1.00	0.85
Lanes:	1.00	1.63	0.37	1.00	1.84	0.16	1.00	1.74	0.26	1.00	1.00	1.00
Final Sat.:	1805	2855	654	1805	3274	293	1805	3080	461	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.15	0.15	0.07	0.16	0.16	0.02	0.10	0.10	0.10	0.13	0.13
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.31	0.31	0.15	0.33	0.33	0.14	0.22	0.22	0.21	0.29	0.29
Volume/Cap:	0.13	0.47	0.47	0.47	0.48	0.48	0.18	0.47	0.47	0.47	0.47	0.47
Delay/Veh:	42.4	30.8	30.8	43.7	29.5	29.5	42.4	37.9	37.9	39.1	32.7	32.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.4	30.8	30.8	43.7	29.5	29.5	42.4	37.9	37.9	39.1	32.7	32.8
LOS by Move:	D	C	C	D	C	C	D	D	D	D	C	C
HCM2kAvgQ:	21	174	174	111	206	206	36	148	148	126	171	147

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1016: Olive Ave / M St



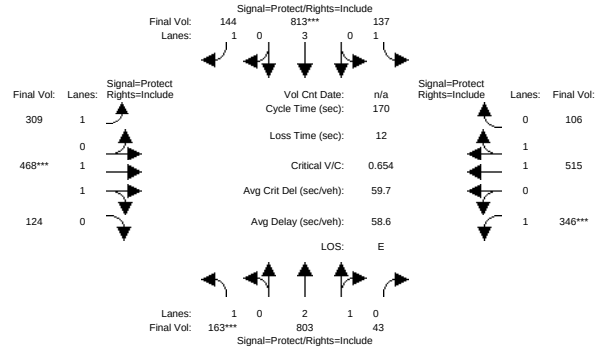
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	204		554	59	117		599	137	111		396	98	246		483	38
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	204		554	59	117		599	137	111		396	98	246		483	38
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	204		554	59	117		599	137	111		396	98	246		483	38
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	204		554	59	117		599	137	111		396	98	246		483	38
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	204		554	59	117		599	137	111		396	98	246		483	38
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	204		554	59	117		599	137	111		396	98	246		483	38
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.91	0.85	0.95		0.92	0.92	0.95		0.94	0.94
Lanes:	1.00		2.71	0.29	1.00		3.00	1.00	1.00		1.60	0.40	1.00		1.85	0.15
Final Sat.:	1805		4622	492	1805		5187	1615	1805		2807	695	1805		3310	260
Capacity Analysis Module:																
Vol/Sat:	0.11		0.12	0.12	0.06		0.12	0.08	0.06		0.14	0.14	0.14		0.15	0.15
Crit Moves:	****						****				****		****			
Green/Cycle:	0.21		0.27	0.27	0.15		0.21	0.21	0.15		0.26	0.26	0.25		0.36	0.36
Volume/Cap:	0.54		0.44	0.44	0.44		0.54	0.40	0.41		0.54	0.54	0.54		0.41	0.41
Delay/Veh:	61.8		51.3	51.3	67.2		60.2	58.4	66.3		55.0	55.0	56.7		41.2	41.2
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	61.8		51.3	51.3	67.2		60.2	58.4	66.3		55.0	55.0	56.7		41.2	41.2
LOS by Move:	E		D	D	E		E	E	E		D	D	E		D	D
HCM2kAvgQ:	228		229	229	134		246	147	135		293	293	281		260	260

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1016: Olive Ave / M St



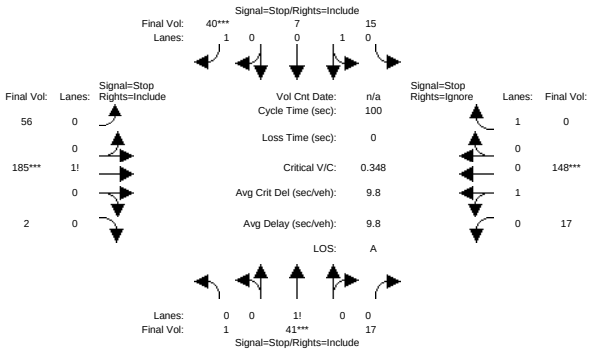
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	163		803	43	137		813	144	309		468	124	346		515	106
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	163		803	43	137		813	144	309		468	124	346		515	106
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	163		803	43	137		813	144	309		468	124	346		515	106
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	163		803	43	137		813	144	309		468	124	346		515	106
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	163		803	43	137		813	144	309		468	124	346		515	106
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	163		803	43	137		813	144	309		468	124	346		515	106
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.91	0.85	0.95		0.92	0.92	0.95		0.93	0.93
Lanes:	1.00		2.85	0.15	1.00		3.00	1.00	1.00		1.58	0.42	1.00		1.66	0.34
Final Sat.:	1805		4884	262	1805		5187	1615	1805		2765	733	1805		2916	600
Capacity Analysis Module:																
Vol/Sat:	0.09		0.16	0.16	0.08		0.16	0.09	0.17		0.17	0.17	0.19		0.18	0.18
Crit Moves:	****						****				****		****			
Green/Cycle:	0.14		0.26	0.26	0.12		0.24	0.24	0.27		0.26	0.26	0.29		0.28	0.28
Volume/Cap:	0.65		0.64	0.64	0.64		0.65	0.37	0.63		0.65	0.65	0.65		0.63	0.63
Delay/Veh:	75.6		57.0	57.0	77.5		59.5	54.6	57.1		58.0	58.0	55.5		54.8	54.8
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	75.6		57.0	57.0	77.5		59.5	54.6	57.1		58.0	58.0	55.5		54.8	54.8
LOS by Move:	E		E	E	E		E	D	E		E	E	E		D	D
HCM2kAvgQ:	197		345	345	169		342	149	360		372	372	401		377	377

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   41    17    15    7    40    56  185     2    17  148    52
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   41    17    15    7    40    56  185     2    17  148    52
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   41    17    15    7    40    56  185     2    17  148    52
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     1   41    17    15    7    40    56  185     2    17  148     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1   41    17    15    7    40    56  185     2    17  148     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    1   41    17    15    7    40    56  185     2    17  148     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.69  0.29  0.68 0.32  1.00  0.23 0.76  0.01  0.10 0.90  1.00
Final Sat.:    11  431   179   390  182   685   161  532     6    71  621   809
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.10  0.04 0.04  0.06  0.35 0.35  0.35  0.24 0.24  0.00
Crit Moves:        ****                    ****       ****              ****
Delay/Veh:    9.0  9.0   9.0   8.8  8.8   7.9  10.7 10.7  10.7   9.3  9.3   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.0  9.0   9.0   8.8  8.8   7.9  10.7 10.7  10.7   9.3  9.3   0.0
LOS by Move:    A    A     A     A    A     A     B    B     B     A    A     *
ApproachDel:       9.0              8.2             10.7              9.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        9.0              8.2             10.7              9.3
LOS by Appr:         A                A                B                A
AllWayAvgQ:   2.3  2.3   2.3   0.9  0.9   1.3  12.6 12.6  12.6   7.4  7.4   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   41    17    15    7    40    56  185     2    17  148    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             460
Minor Approach Volume:           62
Minor Approach Volume Threshold: 708
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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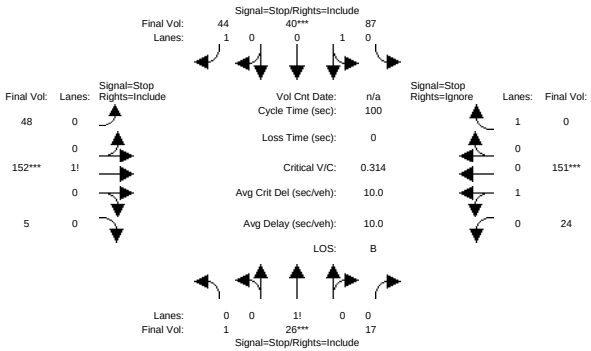
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue              Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   26    17    87   40    44    48  152     5    24  151    45
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   26    17    87   40    44    48  152     5    24  151    45
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   26    17    87   40    44    48  152     5    24  151    45
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     1   26    17    87   40    44    48  152     5    24  151     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1   26    17    87   40    44    48  152     5    24  151     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    1   26    17    87   40    44    48  152     5    24  151     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.69 0.31  1.00  0.23 0.75  0.02  0.14 0.86  1.00
Final Sat.:    14  359   234   400  184   701   153  485    16    89  560   751
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.07  0.22 0.22  0.06  0.31 0.31  0.31  0.27 0.27  0.00
Crit Moves:        ****              ****              ****              ****
Delay/Veh:    8.9  8.9   8.9  10.1 10.1   7.8  10.7 10.7  10.7   9.9  9.9   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.9  8.9   8.9  10.1 10.1   7.8  10.7 10.7  10.7   9.9  9.9   0.0
LOS by Move:    A    A     A     B    B     A     B    B     B     A    A     *
ApproachDel:       8.9               9.5              10.7               9.9
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:        8.9               9.5              10.7               9.9
LOS by Appr:         A                 A                 B                 A
AllWayAvgQ:   1.7  1.7   1.7   6.2  6.2   1.5  10.6 10.6  10.6   8.5  8.5   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



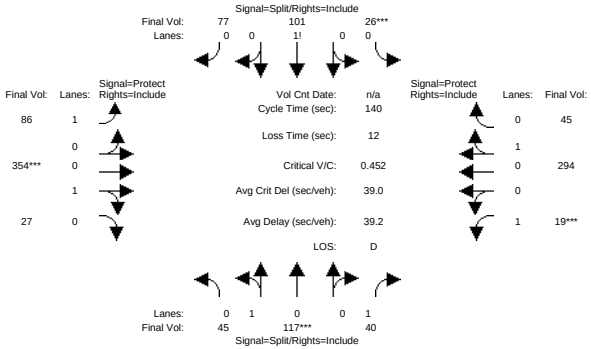
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   26    17    87   40    44    48  152     5    24  151    45
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             425
Minor Approach Volume:           171
Minor Approach Volume Threshold: 742
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1018: Childs Ave / Martin Luther King Wy



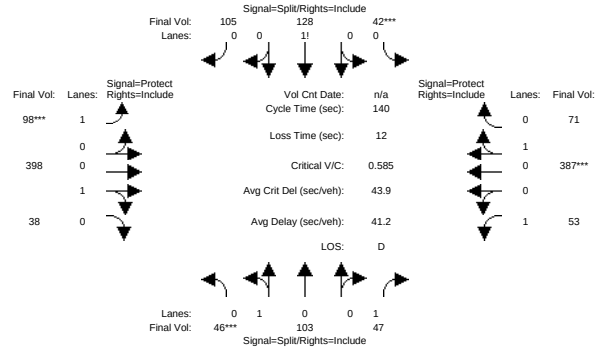
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	45	117	40	26	101	77	86	354	27	19	294	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	117	40	26	101	77	86	354	27	19	294	45
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	45	117	40	26	101	77	86	354	27	19	294	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	45	117	40	26	101	77	86	354	27	19	294	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	45	117	40	26	101	77	86	354	27	19	294	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	45	117	40	26	101	77	86	354	27	19	294	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.13	0.49	0.38	1.00	0.93	0.07	1.00	0.87	0.13
Final Sat.:	520	1353	1615	228	887	676	1805	1746	133	1805	1615	247
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.02	0.11	0.11	0.11	0.05	0.20	0.20	0.01	0.18	0.18
Crit Moves:		****		****				****		****		
Green/Cycle:	0.19	0.19	0.19	0.24	0.24	0.24	0.10	0.43	0.43	0.05	0.38	0.38
Volume/Cap:	0.47	0.47	0.13	0.47	0.47	0.47	0.46	0.47	0.47	0.21	0.48	0.48
Delay/Veh:	51.8	51.8	47.8	45.9	45.9	45.9	60.7	28.5	28.5	65.0	33.4	33.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.8	51.8	47.8	45.9	45.9	45.9	60.7	28.5	28.5	65.0	33.4	33.4
LOS by Move:	D	D	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	162	162	36	190	190	190	98	284	284	19	265	265

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1018: Childs Ave / Martin Luther King Wy



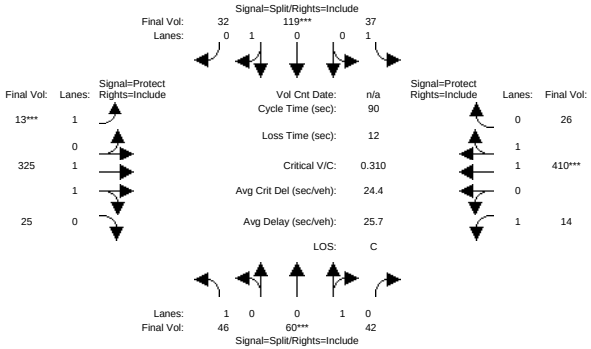
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	46	103	47	42	128	105	98	398	38	53	387	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	103	47	42	128	105	98	398	38	53	387	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	103	47	42	128	105	98	398	38	53	387	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	103	47	42	128	105	98	398	38	53	387	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	103	47	42	128	105	98	398	38	53	387	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	103	47	42	128	105	98	398	38	53	387	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.31	0.69	1.00	0.15	0.47	0.38	1.00	0.91	0.09	1.00	0.84	0.16
Final Sat.:	578	1294	1615	273	832	682	1805	1712	163	1805	1569	288
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.03	0.15	0.15	0.15	0.05	0.23	0.23	0.03	0.25	0.25
Crit Moves:	****			****			****				****	
Green/Cycle:	0.14	0.14	0.14	0.26	0.26	0.26	0.09	0.42	0.42	0.09	0.42	0.42
Volume/Cap:	0.58	0.58	0.21	0.58	0.58	0.58	0.58	0.55	0.55	0.32	0.58	0.58
Delay/Veh:	60.2	60.2	54.3	46.8	46.8	46.8	66.1	31.1	31.1	60.7	32.2	32.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.2	60.2	54.3	46.8	46.8	46.8	66.1	31.1	31.1	60.7	32.2	32.2
LOS by Move:	E	E	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	168	168	47	266	266	266	122	348	348	51	364	364

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1019: 13th St / Martin Luther King Wy



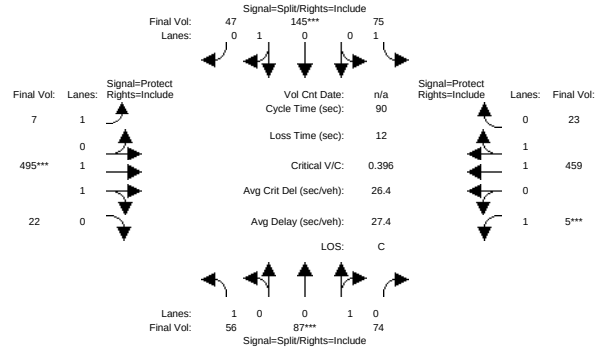
Street Name:	13th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	46	60	42	37	119	32	13	325	25	14	410	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	60	42	37	119	32	13	325	25	14	410	26
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	60	42	37	119	32	13	325	25	14	410	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	60	42	37	119	32	13	325	25	14	410	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	60	42	37	119	32	13	325	25	14	410	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	60	42	37	119	32	13	325	25	14	410	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.97	0.97	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.59	0.41	1.00	0.79	0.21	1.00	1.86	0.14	1.00	1.88	0.12
Final Sat.:	1805	1048	734	1805	1449	390	1805	3315	255	1805	3364	213
Capacity Analysis Module:												
Vol/Sat:	0.03	0.06	0.06	0.02	0.08	0.08	0.01	0.10	0.10	0.01	0.12	0.12
Crit Moves:		****			****		****				****	
Green/Cycle:	0.17	0.17	0.17	0.25	0.25	0.25	0.08	0.26	0.26	0.18	0.37	0.37
Volume/Cap:	0.15	0.33	0.33	0.08	0.33	0.33	0.09	0.37	0.37	0.04	0.33	0.33
Delay/Veh:	31.8	33.3	33.3	26.1	28.2	28.2	38.8	27.4	27.4	30.3	20.6	20.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.8	33.3	33.3	26.1	28.2	28.2	38.8	27.4	27.4	30.3	20.6	20.6
LOS by Move:	C	C	C	C	C	C	D	C	C	C	C	C
HCM2kAvgQ:	29	68	68	20	90	90	8	100	100	8	110	110

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1019: 13th St / Martin Luther King Wy



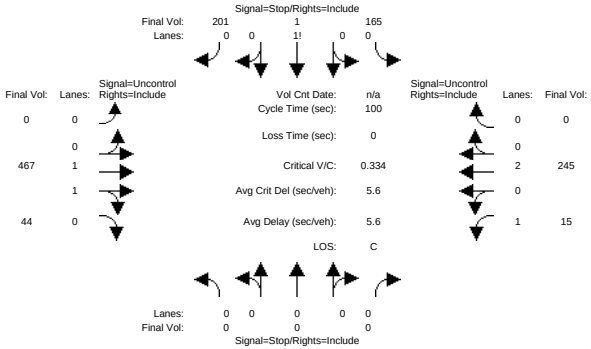
Street Name:	13th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	56	87	74	75	145	47	7	495	22	5	459	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	87	74	75	145	47	7	495	22	5	459	23
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	87	74	75	145	47	7	495	22	5	459	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	87	74	75	145	47	7	495	22	5	459	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	87	74	75	145	47	7	495	22	5	459	23
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	87	74	75	145	47	7	495	22	5	459	23
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	0.95	0.96	0.96	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.54	0.46	1.00	0.76	0.24	1.00	1.91	0.09	1.00	1.90	0.10
Final Sat.:	1805	956	813	1805	1382	448	1805	3436	153	1805	3414	171
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.09	0.04	0.10	0.10	0.00	0.14	0.14	0.00	0.13	0.13
Crit Moves:		****			****			****			****	
Green/Cycle:	0.21	0.21	0.21	0.24	0.24	0.24	0.15	0.33	0.33	0.08	0.26	0.26
Volume/Cap:	0.15	0.43	0.43	0.17	0.43	0.43	0.03	0.43	0.43	0.04	0.52	0.52
Delay/Veh:	29.1	31.6	31.6	27.1	29.4	29.4	32.6	23.6	23.6	38.5	28.9	28.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.1	31.6	31.6	27.1	29.4	29.4	32.6	23.6	23.6	38.5	28.9	28.9
LOS by Move:	C	C	C	C	C	C	C	C	C	D	C	C
HCM2kAvgQ:	33	106	106	42	120	120	4	140	140	3	147	147

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy

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Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   165    1   201     0  467    44    15  245     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   165    1   201     0  467    44    15  245     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   165    1   201     0  467    44    15  245     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   165    1   201     0  467    44    15  245     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   165    1   201     0  467    44    15  245     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   509  786   123  xxxx xxxx xxxxx   511 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   499  326   912  xxxx xxxx xxxxx  1065 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   494  322   912  xxxx xxxx xxxxx  1065 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.33 0.00  0.22  xxxx xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  658 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 17.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             17.2           xxxxxx           xxxxxx
ApproachLOS:         *              C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   165    1   201     0  467    44    15  245     0
ApproachDel:    xxxxxx              17.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=367]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1138]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   165    1   201     0  467    44    15  245     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             771
Minor Approach Volume:           367
Minor Approach Volume Threshold: 374
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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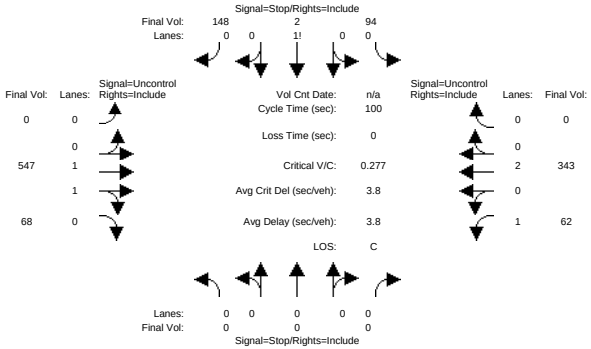
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    94    2   148     0  547    68    62  343     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    94    2   148     0  547    68    62  343     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    94    2   148     0  547    68    62  343     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    94    2   148     0  547    68    62  343     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    94    2   148     0  547    68    62  343     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   741 1082   172  xxxx xxxx xxxxx   615 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   356  219   849  xxxx xxxx xxxxx   974 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   339  205   849  xxxx xxxx xxxxx   974 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.28 0.01  0.17  xxxx xxxx  xxxx  0.06 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  529 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 17.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             17.5           xxxxxx           xxxxxx
ApproachLOS:         *              C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0    94    2   148     0  547    68    62  343     0
ApproachDel:    xxxxxx              17.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=244]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1264]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

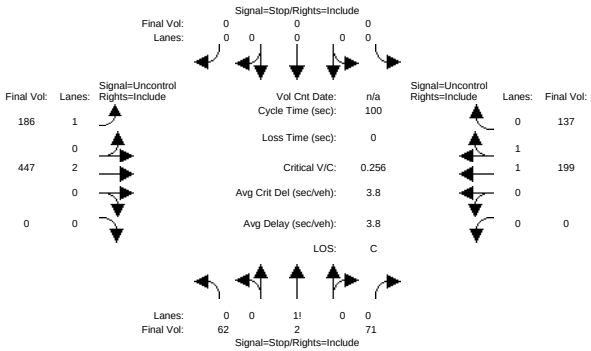
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0    94    2   148     0  547    68    62  343     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1020
Minor Approach Volume:           244
Minor Approach Volume Threshold: 278
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62    2    71     0    0     0   186  447     0     0  199   137
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62    2    71     0    0     0   186  447     0     0  199   137
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   62    2    71     0    0     0   186  447     0     0  199   137
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    62    2    71     0    0     0   186  447     0     0  199   137
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62    2    71     0    0     0   186  447     0     0  199   137
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  919 1155   224  xxxx xxxx xxxxx   336 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  274  199   786  xxxx xxxx xxxxx  1235 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    243  169   786  xxxx xxxx xxxxx  1235 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.26 0.01  0.09  xxxx xxxx  xxxx  0.15 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  13.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  377 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 19.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      19.8           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   62    2    71     0    0     0   186  447     0     0  199   137
ApproachDel:      19.8           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=135]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1104]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

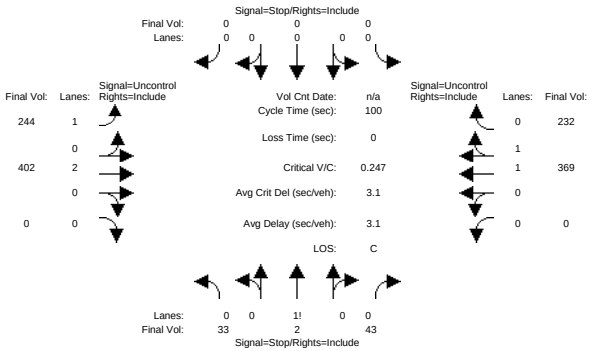
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   62    2    71     0    0     0   186  447     0     0  199   137
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             969
Minor Approach Volume:           135
Minor Approach Volume Threshold: 296
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    2    43     0    0     0   244  402     0     0  369   232
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   33    2    43     0    0     0   244  402     0     0  369   232
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   33    2    43     0    0     0   244  402     0     0  369   232
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    33    2    43     0    0     0   244  402     0     0  369   232
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   33    2    43     0    0     0   244  402     0     0  369   232
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1075 1491   201  xxxx xxxx xxxxx   601 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  218  125   813  xxxx xxxx xxxxx   986 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    176   94   813  xxxx xxxx xxxxx   986 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.19 0.02  0.05  xxxx xxxx  xxxx  0.25 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  24.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  298 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 21.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      21.3           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   244  402     0     0  369   232
ApproachDel:      21.3           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=78]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1325]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

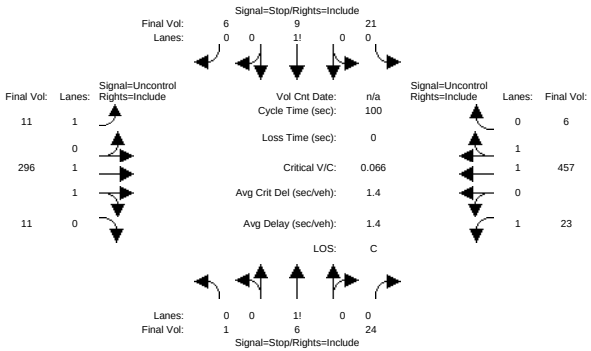
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   244  402     0     0  369   232
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1247
Minor Approach Volume:           78
Minor Approach Volume Threshold: 209
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1    6    24    21    9     6    11  296    11    23  457     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1    6    24    21    9     6    11  296    11    23  457     6
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1    6    24    21    9     6    11  296    11    23  457     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1    6    24    21    9     6    11  296    11    23  457     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1    6    24    21    9     6    11  296    11    23  457     6
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  603  833   154   679  835   232   463 xxxx xxxxx   307 xxxx xxxxx
Potent Cap.:  387  307   871   341  306   777  1109 xxxx xxxxx  1265 xxxx xxxxx
Move Cap.:    368  298   871   320  297   777  1109 xxxx xxxxx  1265 xxxx xxxxx
Volume/Cap:  0.00 0.02  0.03  0.07 0.03  0.01  0.01 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.8 xxxx xxxxx   1.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx   7.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  615 xxxxx  xxxx  347 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 11.2 xxxxx xxxxx 16.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    C     *     *    *     *     *    *     *
ApproachDel:      11.2             16.6           xxxxxx           xxxxxx
ApproachLOS:         B                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1    6    24    21    9     6    11  296    11    23  457     6
ApproachDel:      11.2             16.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=871]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=36]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=871]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

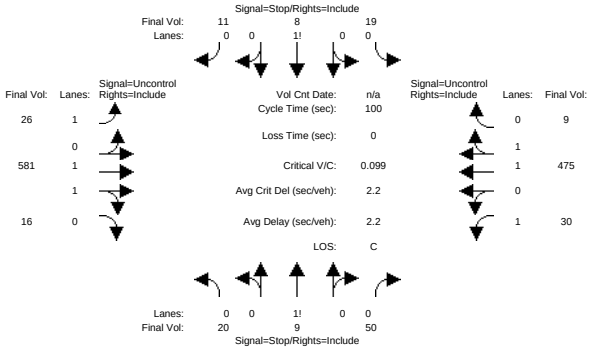
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1    6    24    21    9     6    11  296    11    23  457     6
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             804
Minor Approach Volume:           36
Minor Approach Volume Threshold: 360
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20    9    50    19    8    11    26  581    16    30  475     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   20    9    50    19    8    11    26  581    16    30  475     9
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20    9    50    19    8    11    26  581    16    30  475     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20    9    50    19    8    11    26  581    16    30  475     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20    9    50    19    8    11    26  581    16    30  475     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  943 1185   299   887 1189   242   484 xxxx xxxxx   597 xxxx xxxxx
Potent Cap.:  220  191   704   242  190   765  1089 xxxx xxxxx   989 xxxx xxxxx
Move Cap.:    201  180   704   208  180   765  1089 xxxx xxxxx   989 xxxx xxxxx
Volume/Cap:  0.10 0.05  0.07  0.09 0.04  0.01  0.02 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.8 xxxx xxxxx   2.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx   8.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  359 xxxxx  xxxx  252 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.8 xxxxx xxxxx  0.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 17.8 xxxxx xxxxx 21.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     *    *     *     *    *     *
ApproachDel:      17.8             21.8           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20    9    50    19    8    11    26  581    16    30  475     9
ApproachDel:      17.8             21.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=79]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1254]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=38]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1254]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

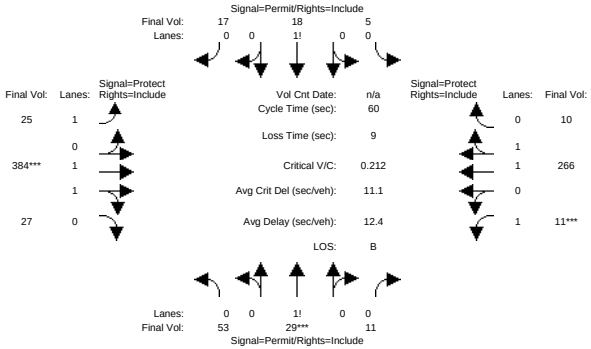
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20    9    50    19    8    11    26  581    16    30  475     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1137
Minor Approach Volume:           79
Minor Approach Volume Threshold: 241
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1023: 15th St / Martin Luther King Wy



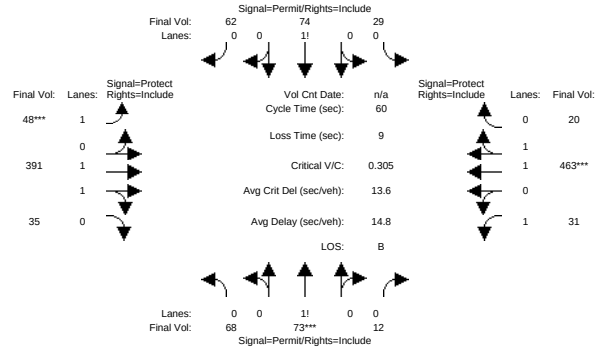
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	29	11	5	18	17	25	384	27	11	266	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	29	11	5	18	17	25	384	27	11	266	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	29	11	5	18	17	25	384	27	11	266	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	29	11	5	18	17	25	384	27	11	266	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	29	11	5	18	17	25	384	27	11	266	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	29	11	5	18	17	25	384	27	11	266	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.82	0.82	0.82	0.92	0.92	0.92	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.57	0.31	0.12	0.13	0.45	0.42	1.00	1.87	0.13	1.00	1.93	0.07
Final Sat.:	893	489	185	218	784	741	1805	3339	235	1805	3462	130
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.06	0.02	0.02	0.02	0.01	0.12	0.12	0.01	0.08	0.08
Crit Moves:		****						****		****		
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.48	0.48	0.12	0.35	0.35
Volume/Cap:	0.24	0.24	0.24	0.09	0.09	0.09	0.06	0.24	0.24	0.05	0.22	0.22
Delay/Veh:	18.3	18.3	18.3	17.4	17.4	17.4	17.3	9.1	9.1	23.7	13.7	13.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.3	18.3	18.3	17.4	17.4	17.4	17.3	9.1	9.1	23.7	13.7	13.7
LOS by Move:	B	B	B	B	B	B	B	A	A	C	B	B
HCM2kAvgQ:	39	39	39	15	15	15	8	56	56	4	45	45

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1023: 15th St / Martin Luther King Wy



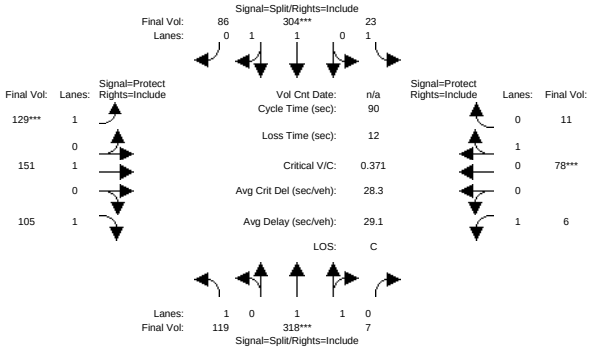
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	68	73	12	29	74	62	48	391	35	31	463	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	68	73	12	29	74	62	48	391	35	31	463	20
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68	73	12	29	74	62	48	391	35	31	463	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	73	12	29	74	62	48	391	35	31	463	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	73	12	29	74	62	48	391	35	31	463	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	73	12	29	74	62	48	391	35	31	463	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.82	0.82	0.82	0.89	0.89	0.89	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	0.44	0.48	0.08	0.18	0.45	0.37	1.00	1.84	0.16	1.00	1.92	0.08
Final Sat.:	691	741	122	298	759	636	1805	3274	293	1805	3440	149
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.10	0.10	0.10	0.10	0.03	0.12	0.12	0.02	0.13	0.13
Crit Moves:		****					****				****	
Green/Cycle:	0.31	0.31	0.31	0.31	0.31	0.31	0.12	0.32	0.32	0.22	0.42	0.42
Volume/Cap:	0.32	0.32	0.32	0.31	0.31	0.31	0.23	0.38	0.38	0.08	0.32	0.32
Delay/Veh:	16.2	16.2	16.2	16.2	16.2	16.2	24.6	16.1	16.1	18.5	11.6	11.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.2	16.2	16.2	16.2	16.2	16.2	24.6	16.1	16.1	18.5	11.6	11.6
LOS by Move:	B	B	B	B	B	B	C	B	B	B	B	B
HCM2kAvgQ:	60	60	60	64	64	64	20	78	78	11	75	75

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1024: 16th St / Martin Luther King Wy

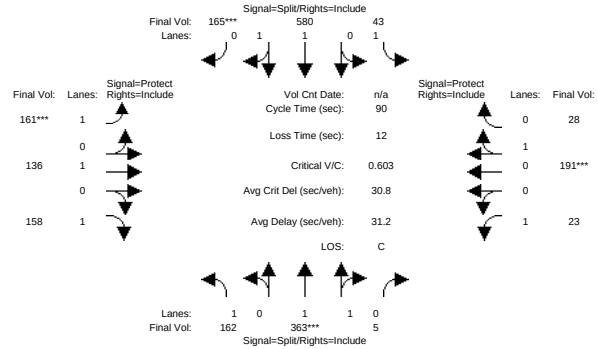



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119  318     7   23  304    86  129  151   105    6   78    11
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  119  318     7   23  304    86  129  151   105    6   78    11
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  119  318     7   23  304    86  129  151   105    6   78    11
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   119  318     7   23  304    86  129  151   105    6   78    11
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  119  318     7   23  304    86  129  151   105    6   78    11
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  119  318     7   23  304    86  129  151   105    6   78    11
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.92  0.92 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.96  0.04 1.00 1.56  0.44 1.00 1.00  1.00 1.00 0.88  0.12
Final Sat.:  1805 3522    78 1805 2721   770 1805 1900  1615 1805 1634   230
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.09  0.09 0.01 0.11  0.11 0.07 0.08  0.07 0.00 0.05  0.05
Crit Moves:        ****            ****       ****                ****
Green/Cycle: 0.24 0.24  0.24 0.30 0.30  0.30 0.19 0.19  0.19 0.13 0.13  0.13
Volume/Cap:  0.27 0.37  0.37 0.04 0.37  0.37 0.37 0.42  0.34 0.03 0.37  0.37
Delay/Veh:   27.9 28.6  28.6 22.3 24.9  24.9 32.2 32.9  32.3 34.0 36.8  36.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  27.9 28.6  28.6 22.3 24.9  24.9 32.2 32.9  32.3 34.0 36.8  36.8
LOS by Move:    C    C     C    C    C     C    C    C     C    C    D     D
HCM2kAvgQ:     69  103   103   11  108   108   75   90    61    3   55    55
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1024: 16th St / Martin Luther King Wy

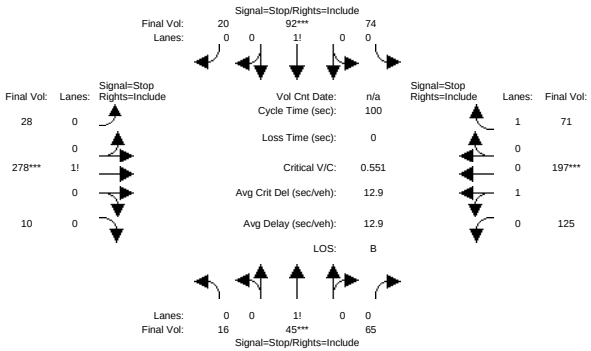



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     162  363     5   43  580   165  161  136   158   23  191    28
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  162  363     5   43  580   165  161  136   158   23  191    28
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  162  363     5   43  580   165  161  136   158   23  191    28
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   162  363     5   43  580   165  161  136   158   23  191    28
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  162  363     5   43  580   165  161  136   158   23  191    28
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  162  363     5   43  580   165  161  136   158   23  191    28
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.92  0.92 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.97  0.03 1.00 1.56  0.44 1.00 1.00  1.00 1.00 0.87  0.13
Final Sat.:  1805 3554    49 1805 2718   773 1805 1900  1615 1805 1626   238
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.10  0.10 0.02 0.21  0.21 0.09 0.07  0.10 0.01 0.12  0.12
Crit Moves:        ****                ****  ****                ****
Green/Cycle: 0.17 0.17  0.17 0.35 0.35  0.35 0.15 0.20  0.20 0.14 0.19  0.19
Volume/Cap:  0.53 0.60  0.60 0.07 0.60  0.60 0.60 0.35  0.48 0.09 0.60  0.60
Delay/Veh:   35.9 36.3  36.3 19.3 24.7  24.7 39.7 31.5  32.9 33.8 35.9  35.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  35.9 36.3  36.3 19.3 24.7  24.7 39.7 31.5  32.9 33.8 35.9  35.9
LOS by Move:    D    D     D    B    C     C    D    C     C    C    D     D
HCM2kAvgQ:    119  147   147   19  218   218  105   78    95   13  139   139
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #1025: 13th St / G St



Street Name:	13th Street									G Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:																
Base Vol:	16	45	65	74	92	20	28	278	10	125	197	71				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	16	45	65	74	92	20	28	278	10	125	197	71				
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	16	45	65	74	92	20	28	278	10	125	197	71				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	16	45	65	74	92	20	28	278	10	125	197	71				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	16	45	65	74	92	20	28	278	10	125	197	71				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	16	45	65	74	92	20	28	278	10	125	197	71				
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.13	0.36	0.51	0.40	0.49	0.11	0.09	0.88	0.03	0.39	0.61	1.00				
Final Sat.:	70	198	286	221	274	60	56	556	20	227	358	683				
Capacity Analysis Module:																
Vol/Sat:	0.23	0.23	0.23	0.34	0.34	0.34	0.50	0.50	0.50	0.55	0.55	0.10				
Crit Moves:		****			****			****			****					
Delay/Veh:	10.3	10.3	10.3	11.6	11.6	11.6	13.4	13.4	13.4	15.3	15.3	8.3				
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	10.3	10.3	10.3	11.6	11.6	11.6	13.4	13.4	13.4	15.3	15.3	8.3				
LOS by Move:	B	B	B	B	B	B	B	B	B	C	C	A				
ApproachDel:	10.3			11.6			13.4			14.1						
Delay Adj:	1.00			1.00			1.00			1.00						
ApprAdjDel:	10.3			11.6			13.4			14.1						
LOS by Appr:	B			B			B			B						
AllWayAvgQ:	5.6	5.6	5.6	10.1	10.1	10.1	21.8	21.8	21.8	27.0	27.0	2.7				

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1025 13th St / G St

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0	0	1	0	0 1
Initial Vol:	16	45	65		74	92	20		28	278	10		125	197	71	

Major Street Volume: 709
Minor Approach Volume: 186
Minor Approach Volume Threshold: 403

SIGNAL WARRANT DISCLAIMER

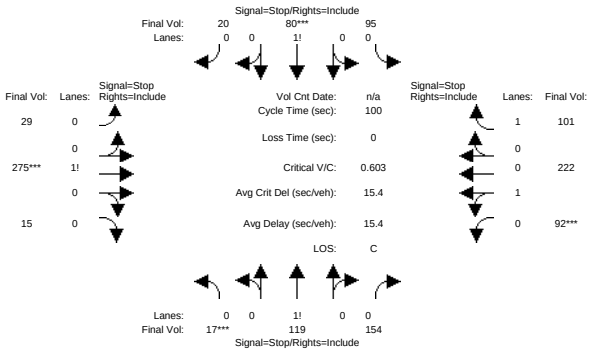
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #1025: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17  119   154    95   80    20    29  275    15    92  222   101
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   17  119   154    95   80    20    29  275    15    92  222   101
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   17  119   154    95   80    20    29  275    15    92  222   101
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    17  119   154    95   80    20    29  275    15    92  222   101
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   17  119   154    95   80    20    29  275    15    92  222   101
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   17  119   154    95   80    20    29  275    15    92  222   101
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.06 0.41  0.53  0.49 0.41  0.10  0.09 0.86  0.05  0.29 0.71  1.00
Final Sat.:    32  226   293   240  202    50    50  474    26   153  368   594
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.53 0.53  0.53  0.40 0.40  0.40  0.58 0.58  0.58  0.60 0.60  0.17
Crit Moves:  ****                 ****              ****        ****
Delay/Veh:   14.7 14.7  14.7  13.2 13.2  13.2  16.5 16.5  16.5  18.1 18.1   9.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  14.7 14.7  14.7  13.2 13.2  13.2  16.5 16.5  16.5  18.1 18.1   9.6
LOS by Move:    B    B     B     B    B     B     C    C     C     C    C     A
ApproachDel:      14.7             13.2             16.5             16.0
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       14.7             13.2             16.5             16.0
LOS by Appr:         B                B                C                C
AllWayAvgQ:  21.6 21.6  21.6  12.4 12.4  12.4  27.9 27.9  27.9  31.6 31.6   4.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1025 13th St / G St
*******************************************************************************
```



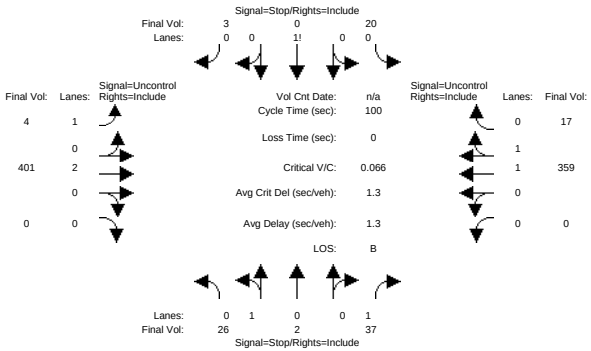
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   17  119   154    95   80    20    29  275    15    92  222   101
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             734
Minor Approach Volume:           290
Minor Approach Volume Threshold: 391
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26    2    37    20    0     3     4  401     0     0  359    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26    2    37    20    0     3     4  401     0     0  359    17
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26    2    37    20    0     3     4  401     0     0  359    17
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26    2    37    20    0     3     4  401     0     0  359    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26    2    37    20    0     3     4  401     0     0  359    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  589  785   201   577  777   188   376 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  396  327   813   404  331   828  1194 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    394  326   813   383  330   828  1194 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.07 0.01  0.05  0.05 0.00  0.00  0.00 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.6  xxxx xxxx xxxxx   0.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx   9.6 xxxxx xxxx xxxxx   8.0 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     A     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  388 xxxx xxxxx  xxxx  412 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.2 xxxx xxxxx xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 15.0 xxxx xxxxx xxxxx 14.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:      11.9             14.3            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   26    2    37    20    0     3     4  401     0     0  359    17
ApproachDel:      11.9             14.3            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=65]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=869]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=869]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

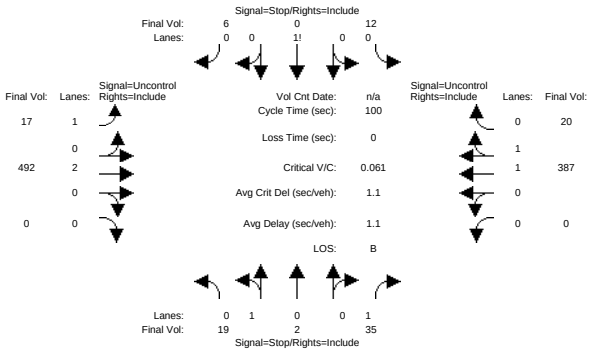
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   26    2    37    20    0     3     4  401     0     0  359    17
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             781
Minor Approach Volume:           65
Minor Approach Volume Threshold: 480
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      19    2    35    12    0     6    17  492     0     0  387    20
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   19    2    35    12    0     6    17  492     0     0  387    20
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   19    2    35    12    0     6    17  492     0     0  387    20
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    19    2    35    12    0     6    17  492     0     0  387    20
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   19    2    35    12    0     6    17  492     0     0  387    20
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  720  933   246   678  923   204   407 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  319  268   760   342  272   810  1163 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    313  264   760   321  268   810  1163 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.06 0.01  0.05  0.04 0.00  0.01  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.6  xxxx xxxx xxxxx   1.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  10.0 xxxxx xxxx xxxxx   8.1 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     A     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  308 xxxx xxxxx  xxxx  402 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.2 xxxx xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 17.5 xxxx xxxxx xxxxx 14.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:      12.8             14.4            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   19    2    35    12    0     6    17  492     0     0  387    20
ApproachDel:      12.8             14.4            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=990]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=990]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

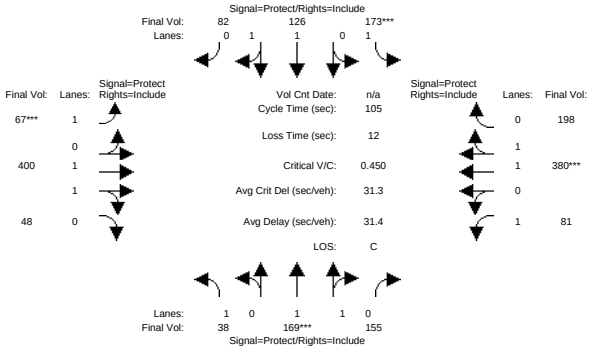
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   19    2    35    12    0     6    17  492     0     0  387    20
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             916
Minor Approach Volume:           56
Minor Approach Volume Threshold: 412
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1027: 16th St / G Street



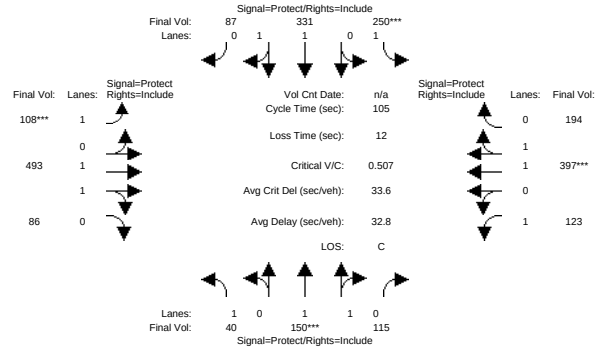
Street Name:	16th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	38	169	155	173	126	82	67	400	48	81	380	198
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	38	169	155	173	126	82	67	400	48	81	380	198
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	169	155	173	126	82	67	400	48	81	380	198
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	169	155	173	126	82	67	400	48	81	380	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	169	155	173	126	82	67	400	48	81	380	198
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	38	169	155	173	126	82	67	400	48	81	380	198
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	0.89	0.89	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.04	0.96	1.00	1.21	0.79	1.00	1.79	0.21	1.00	1.31	0.69
Final Sat.:	1805	1747	1603	1805	2058	1339	1805	3172	381	1805	2252	1174
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.10	0.06	0.06	0.04	0.13	0.13	0.04	0.17	0.17
Crit Moves:		****		****			****				****	
Green/Cycle:	0.18	0.22	0.22	0.21	0.25	0.25	0.08	0.30	0.30	0.16	0.38	0.38
Volume/Cap:	0.12	0.45	0.45	0.45	0.24	0.24	0.45	0.42	0.42	0.28	0.45	0.45
Delay/Veh:	36.6	36.3	36.3	36.8	31.5	31.5	48.1	29.8	29.8	39.5	24.9	24.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.6	36.3	36.3	36.8	31.5	31.5	48.1	29.8	29.8	39.5	24.9	24.9
LOS by Move:	D	D	D	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	27	128	128	130	72	72	66	156	156	62	187	187

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1027: 16th St / G Street



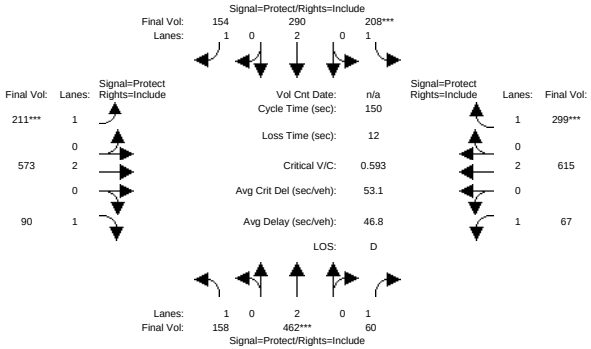
Street Name:	16th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	40	150	115	250	331	87	108	493	86	123	397	194
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	40	150	115	250	331	87	108	493	86	123	397	194
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	40	150	115	250	331	87	108	493	86	123	397	194
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	40	150	115	250	331	87	108	493	86	123	397	194
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	150	115	250	331	87	108	493	86	123	397	194
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	150	115	250	331	87	108	493	86	123	397	194
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.13	0.87	1.00	1.58	0.42	1.00	1.70	0.30	1.00	1.34	0.66
Final Sat.:	1805	1911	1465	1805	2770	728	1805	3006	524	1805	2306	1127
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.08	0.14	0.12	0.12	0.06	0.16	0.16	0.07	0.17	0.17
Crit Moves:		****		****			****				****	
Green/Cycle:	0.15	0.15	0.15	0.27	0.27	0.27	0.12	0.32	0.32	0.13	0.34	0.34
Volume/Cap:	0.14	0.51	0.51	0.51	0.43	0.43	0.51	0.51	0.51	0.51	0.51	0.51
Delay/Veh:	38.7	41.5	41.5	33.1	31.7	31.7	45.4	29.1	29.1	44.0	28.0	28.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.7	41.5	41.5	33.1	31.7	31.7	45.4	29.1	29.1	44.0	28.0	28.0
LOS by Move:	D	D	D	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	29	118	118	179	151	151	98	205	205	107	206	206

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1028: Olive Ave / G St



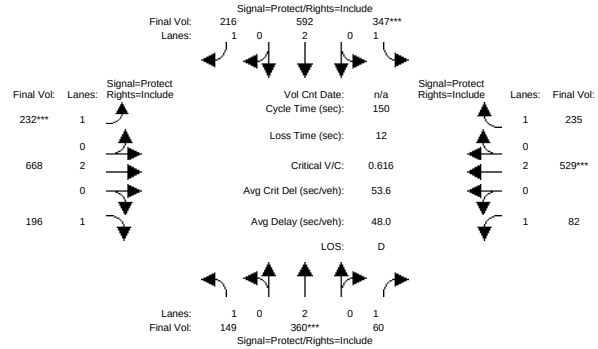
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	158	462	60	208	290	154	211	573	90	67	615	299
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	158	462	60	208	290	154	211	573	90	67	615	299
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	158	462	60	208	290	154	211	573	90	67	615	299
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	158	462	60	208	290	154	211	573	90	67	615	299
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	158	462	60	208	290	154	211	573	90	67	615	299
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	158	462	60	208	290	154	211	573	90	67	615	299
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.04	0.12	0.08	0.10	0.12	0.16	0.06	0.04	0.17	0.19
Crit Moves:		****		****			****					****
Green/Cycle:	0.20	0.22	0.22	0.19	0.21	0.21	0.20	0.39	0.39	0.12	0.31	0.31
Volume/Cap:	0.45	0.59	0.17	0.59	0.38	0.45	0.59	0.40	0.14	0.32	0.55	0.59
Delay/Veh:	54.0	54.1	48.1	57.7	50.7	52.1	57.4	32.9	29.3	61.8	43.3	45.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.0	54.1	48.1	57.7	50.7	52.1	57.4	32.9	29.3	61.8	43.3	45.4
LOS by Move:	D	D	D	E	D	D	E	C	C	E	D	D
HCM2kAvgQ:	164	262	56	212	143	147	234	243	64	76	308	297

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1028: Olive Ave / G St



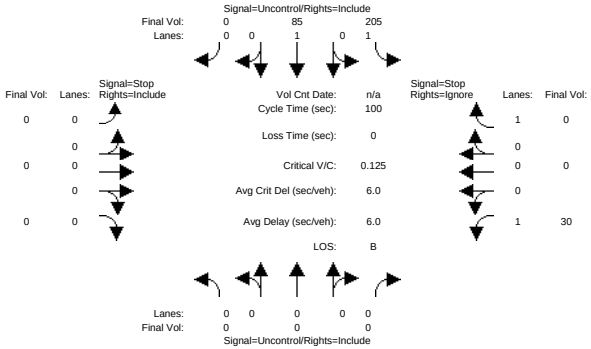
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	149	360	60	347	592	216	232	668	196	82	529	235
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	360	60	347	592	216	232	668	196	82	529	235
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	149	360	60	347	592	216	232	668	196	82	529	235
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	149	360	60	347	592	216	232	668	196	82	529	235
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	149	360	60	347	592	216	232	668	196	82	529	235
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	149	360	60	347	592	216	232	668	196	82	529	235
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.10	0.04	0.19	0.16	0.13	0.13	0.19	0.12	0.05	0.15	0.15
Crit Moves:		****		****			****					****
Green/Cycle:	0.16	0.16	0.16	0.31	0.32	0.32	0.21	0.36	0.36	0.09	0.24	0.24
Volume/Cap:	0.52	0.62	0.23	0.62	0.52	0.42	0.62	0.52	0.34	0.51	0.62	0.61
Delay/Veh:	59.6	60.5	55.2	46.0	42.5	41.2	57.0	38.5	35.7	67.6	52.4	53.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.6	60.5	55.2	46.0	42.5	41.2	57.0	38.5	35.7	67.6	52.4	53.9
LOS by Move:	E	E	E	D	D	D	E	D	D	E	D	D
HCM2kAvgQ:	168	220	62	326	279	186	257	316	162	105	297	255

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)

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Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   205   85     0     0    0     0    30    0   490
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   205   85     0     0    0     0    30    0   490
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   205   85     0     0    0     0    30    0   490
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   205   85     0     0    0     0    30    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   205   85     0     0    0     0    30    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   495 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   537 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   486 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.13 xxxx  xxxx  xxxx xxxx  xxxx  0.06 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  10.7 xxxx xxxxx  xxxx xxxx xxxxx   4.9 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  12.9 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             12.9
ApproachLOS:         *                *                *                 B
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   205   85     0     0    0     0    30    0   490
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             12.9
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=520]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=810]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

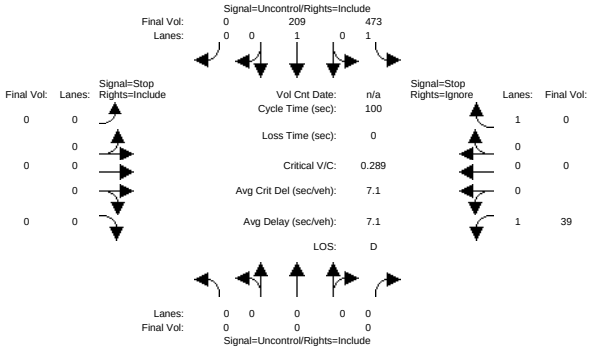
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   205   85     0     0    0     0    30    0   490
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             290
Minor Approach Volume:           520
Minor Approach Volume Threshold: 906
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   473  209     0     0    0     0    39    0   282
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   473  209     0     0    0     0    39    0   282
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   473  209     0     0    0     0    39    0   282
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   473  209     0     0    0     0    39    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   473  209     0     0    0     0    39    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx  1155 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   220 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   171 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.29 xxxx  xxxx  xxxx xxxx  xxxx  0.23 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  30.2 xxxx xxxxx  xxxx xxxx xxxxx  21.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   8.1 xxxx xxxxx xxxxx xxxx xxxxx  32.3 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     D    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             32.3
ApproachLOS:         *                *                *                D
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   473  209     0     0    0     0    39    0   282
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             32.3
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.9]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=321]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=1003]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

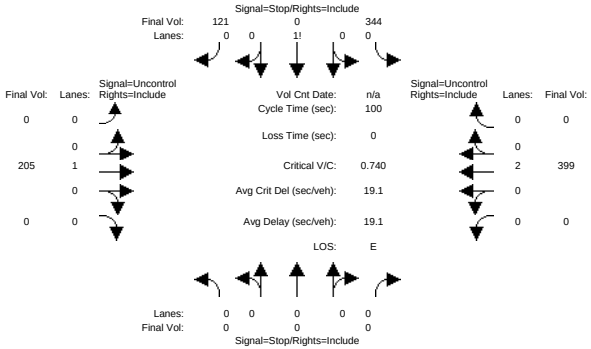
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   473  209     0     0    0     0    39    0   282
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             682
Minor Approach Volume:           321
Minor Approach Volume Threshold: 539
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   344    0   121     0  205     0     0  399     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   344    0   121     0  205     0     0  399     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   344    0   121     0  205     0     0  399     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   344    0   121     0  205     0     0  399     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   344    0   121     0  205     0     0  399     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   604  604   200  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   465  415   847  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   465  415   847  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.74 0.00  0.14  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  527 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  9.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 43.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    E     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             43.9           xxxxxx           xxxxxx
ApproachLOS:         *               E                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0   121     0  205     0     0  399     0
ApproachDel:    xxxxxx              43.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.7]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=465]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1069]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

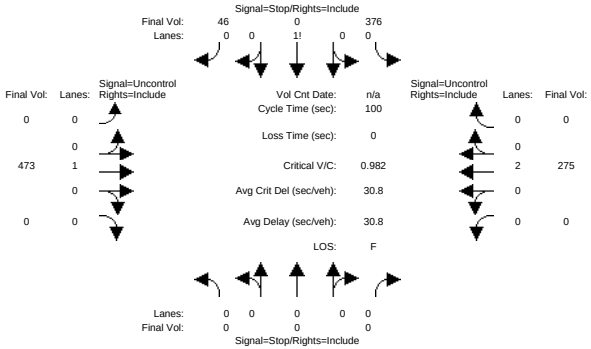
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0   121     0  205     0     0  399     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             604
Minor Approach Volume:           465
Minor Approach Volume Threshold: 459
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   376    0    46     0  473     0     0  275     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   376    0    46     0  473     0     0  275     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   376    0    46     0  473     0     0  275     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   376    0    46     0  473     0     0  275     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   376    0    46     0  473     0     0  275     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   748  748   138  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   383  343   916  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   383  343   916  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.98 0.00  0.05  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  409 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 13.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 85.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             85.4           xxxxxx           xxxxxx
ApproachLOS:         *               F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    46     0  473     0     0  275     0
ApproachDel:    xxxxxx             85.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=10.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=422]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1170]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

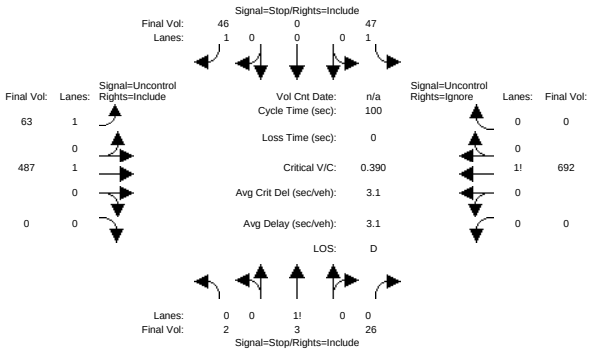
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    46     0  473     0     0  275     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             748
Minor Approach Volume:           422
Minor Approach Volume Threshold: 385
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    3    26    47    0    46    63  487     0     0  692   170
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    3    26    47    0    46    63  487     0     0  692   170
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    3    26    47    0    46    63  487     0     0  692   170
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2    3    26    47    0    46    63  487     0     0  692     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    3    26    47    0    46    63  487     0     0  692     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1328 1305   487  1320 xxxx   692   692 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  133  162   585   135 xxxx   447   912 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    113  150   585   121 xxxx   447   912 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.02 0.02  0.04  0.39 xxxx  0.10  0.07 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  40.7 xxxx   8.5   5.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  52.7 xxxx  14.0   9.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     B     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  378 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 15.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      15.4             33.6           xxxxxx           xxxxxx
ApproachLOS:         C                D                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    2    3    26    47    0    46    63  487     0     0  692   170
ApproachDel:      15.4             33.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1536]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=93]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1536]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    2    3    26    47    0    46    63  487     0     0  692   170
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1412
Minor Approach Volume:           93
Minor Approach Volume Threshold: 226
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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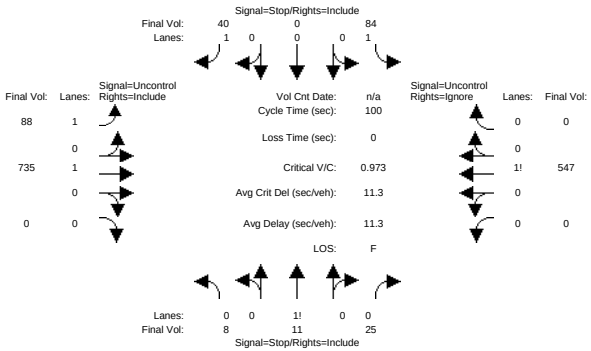
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8   11    25    84    0    40    88  735     0     0  547   151
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    8   11    25    84    0    40    88  735     0     0  547   151
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    8   11    25    84    0    40    88  735     0     0  547   151
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     8   11    25    84    0    40    88  735     0     0  547     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    8   11    25    84    0    40    88  735     0     0  547     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1478 1458   735  1476 xxxx   547   547 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  105  131   423   105 xxxx   541  1033 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     91  120   423    86 xxxx   541  1033 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.09 0.09  0.06  0.97 xxxx  0.07  0.09 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   137 xxxx   6.0   7.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 176.1 xxxx  12.2   8.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     B     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  184 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 30.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    *     *     *    *     *     *    *     *
ApproachDel:      30.6            123.2           xxxxxx           xxxxxx
ApproachLOS:         D                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    8   11    25    84    0    40    88  735     0     0  547   151
ApproachDel:      30.6            123.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=44]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1689]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=124]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1689]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

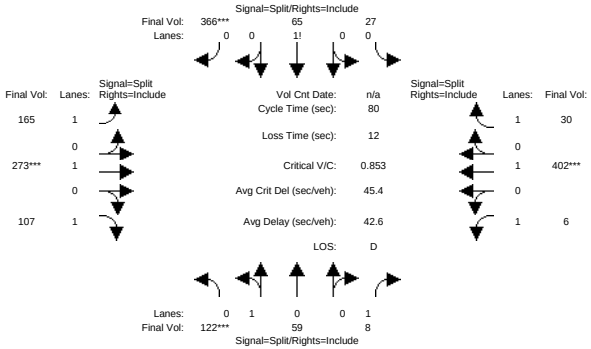
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    8   11    25    84    0    40    88  735     0     0  547   151
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1521
Minor Approach Volume:           124
Minor Approach Volume Threshold: 194
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

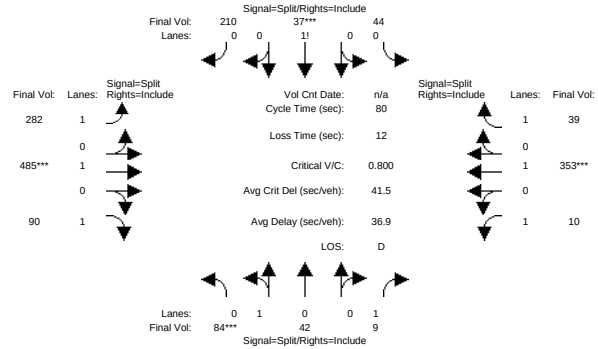



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     122   59     8   27   65   366  165  273   107    6  402    30
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  122   59     8   27   65   366  165  273   107    6  402    30
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  122   59     8   27   65   366  165  273   107    6  402    30
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   122   59     8   27   65   366  165  273   107    6  402    30
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  122   59     8   27   65   366  165  273   107    6  402    30
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  122   59     8   27   65   366  165  273   107    6  402    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.89 0.89  0.89 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.06 0.14  0.80 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1238  599  1615  100  240  1350 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.00 0.27 0.27  0.27 0.09 0.14  0.07 0.00 0.21  0.02
Crit Moves:  ****                 ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.31 0.31  0.31 0.17 0.17  0.17 0.24 0.24  0.24
Volume/Cap:  0.79 0.79  0.04 0.86 0.86  0.86 0.55 0.86  0.40 0.01 0.86  0.08
Delay/Veh:   50.5 50.5  30.9 39.6 39.6  39.6 32.8 53.5  30.7 22.9 44.3  23.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  50.5 50.5  30.9 39.6 39.6  39.6 32.8 53.5  30.7 22.9 44.3  23.3
LOS by Move:    D    D     C    D    D     D    C    D     C    C    D     C
HCM2kAvgQ:    163  163     5  347  347   347  113  241    69    3  318    15
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

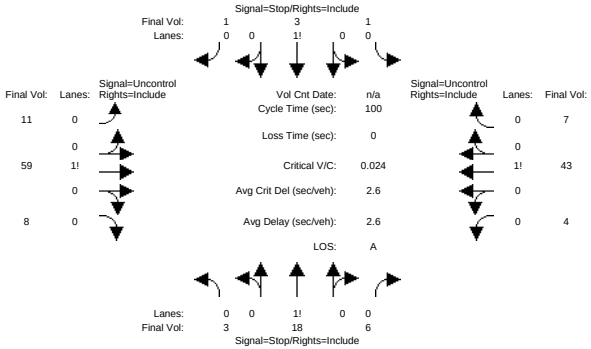



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      84   42     9   44   37   210  282  485    90   10  353    39
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   84   42     9   44   37   210  282  485    90   10  353    39
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   84   42     9   44   37   210  282  485    90   10  353    39
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    84   42     9   44   37   210  282  485    90   10  353    39
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   84   42     9   44   37   210  282  485    90   10  353    39
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   84   42     9   44   37   210  282  485    90   10  353    39
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.90 0.90  0.90 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.15 0.13  0.72 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1226  613  1615  258  217  1229 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.01 0.17 0.17  0.17 0.16 0.26  0.06 0.01 0.19  0.02
Crit Moves:  ****                 ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.20 0.20  0.20 0.30 0.30  0.30 0.22 0.22  0.22
Volume/Cap:  0.55 0.55  0.04 0.84 0.84  0.84 0.52 0.84  0.18 0.03 0.84  0.11
Delay/Veh:   35.7 35.7  30.9 47.7 47.7  47.7 23.9 37.1  20.8 24.5 44.4  25.1
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  35.7 35.7  30.9 47.7 47.7  47.7 23.9 37.1  20.8 24.5 44.4  25.1
LOS by Move:    D    D     C    D    D     D    C    D     C    C    D     C
HCM2kAvgQ:     94   94     6  244  244   244  155  352    43    5  281    20
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                         O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3   18     6     1    3     1    11   59     8     4   43     7
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3   18     6     1    3     1    11   59     8     4   43     7
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    3   18     6     1    3     1    11   59     8     4   43     7
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3   18     6     1    3     1    11   59     8     4   43     7
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    3   18     6     1    3     1    11   59     8     4   43     7
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  142  143    63   152  144    47    50 xxxx xxxxx    67 xxxx xxxxx
Potent Cap.:  833  752  1007   820  751  1029  1570 xxxx xxxxx  1547 xxxx xxxxx
Move Cap.:    823  745  1007   795  744  1029  1570 xxxx xxxxx  1547 xxxx xxxxx
Volume/Cap:  0.00 0.02  0.01  0.00 0.00  0.00  0.01 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  799 xxxxx  xxxx  798 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.1 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  9.7 xxxxx xxxxx  9.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    A     *     *    A     *     *    *     *     *    *     *
ApproachDel:       9.7              9.5           xxxxxx           xxxxxx
ApproachLOS:         A                A                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3   18     6     1    3     1    11   59     8     4   43     7
ApproachDel:       9.7              9.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=164]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=164]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3   18     6     1    3     1    11   59     8     4   43     7
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             132
Minor Approach Volume:           27
Minor Approach Volume Threshold: 759
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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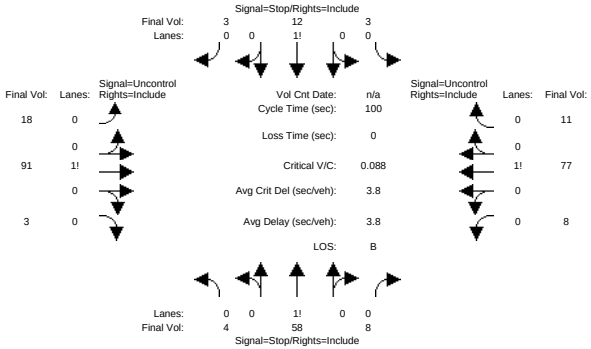
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                         O Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   58     8     3   12     3    18   91     3     8   77    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   58     8     3   12     3    18   91     3     8   77    11
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4   58     8     3   12     3    18   91     3     8   77    11
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4   58     8     3   12     3    18   91     3     8   77    11
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4   58     8     3   12     3    18   91     3     8   77    11
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  235  233    93   260  229    83    88 xxxx xxxxx    94 xxxx xxxxx
Potent Cap.:  724  671   970   697  675   983  1520 xxxx xxxxx  1513 xxxx xxxxx
Move Cap.:    703  660   970   636  663   983  1520 xxxx xxxxx  1513 xxxx xxxxx
Volume/Cap:  0.01 0.09  0.01  0.00 0.02  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.9 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  687 xxxxx  xxxx  696 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.3 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.8 xxxxx xxxxx 10.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      10.8             10.3           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4   58     8     3   12     3    18   91     3     8   77    11
ApproachDel:      10.8             10.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=70]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=296]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=296]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

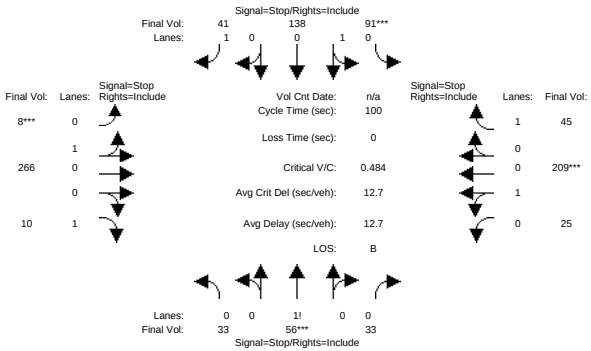
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4   58     8     3   12     3    18   91     3     8   77    11
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             208
Minor Approach Volume:           70
Minor Approach Volume Threshold: 638
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    56    33    91   138    41     8   266    10    25   209    45
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   33    56    33    91   138    41     8   266    10    25   209    45
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   33    56    33    91   138    41     8   266    10    25   209    45
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    33    56    33    91   138    41     8   266    10    25   209    45
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   33    56    33    91   138    41     8   266    10    25   209    45
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   33    56    33    91   138    41     8   266    10    25   209    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.27  0.46  0.27  0.40  0.60  1.00  0.03  0.97  1.00  0.11  0.89  1.00
Final Sat.:   138   235   138   210   318   604    17   550   632    60   500   630
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24  0.24  0.24  0.43  0.43  0.07  0.48  0.48  0.02  0.42  0.42  0.07
Crit Moves:        ****        ****              ****                    ****
Delay/Veh:   11.3  11.3  11.3  13.6  13.6   8.7  14.0  14.0   8.2  12.9  12.9   8.5
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  11.3  11.3  11.3  13.6  13.6   8.7  14.0  14.0   8.2  12.9  12.9   8.5
LOS by Move:    B     B     B     B     B     A     B     B     A     B     B     A
ApproachDel:       11.3              12.9              13.8              12.2
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        11.3              12.9              13.8              12.2
LOS by Appr:          B                 B                 B                 B
AllWayAvgQ:    6.5   6.5   6.5  16.3  16.3   1.6  20.4  20.4   0.4  15.7  15.7   1.7
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



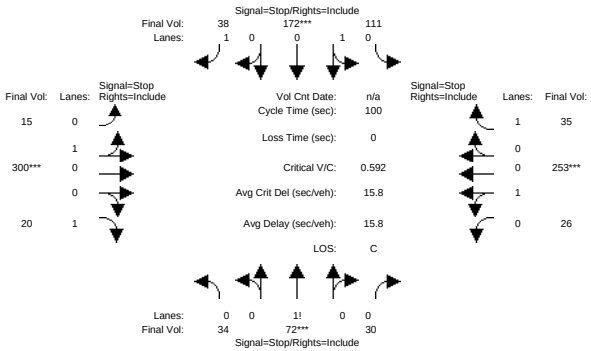
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   33   56   33    91  138   41     8  266   10    25  209   45
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             563
Minor Approach Volume:           270
Minor Approach Volume Threshold: 621
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      34    72    30   111   172    38    15   300    20    26   253    35
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   34    72    30   111   172    38    15   300    20    26   253    35
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   34    72    30   111   172    38    15   300    20    26   253    35
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    34    72    30   111   172    38    15   300    20    26   253    35
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   34    72    30   111   172    38    15   300    20    26   253    35
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   34    72    30   111   172    38    15   300    20    26   253    35
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.25  0.53  0.22  0.39  0.61  1.00  0.05  0.95  1.00  0.09  0.91  1.00
Final Sat.:   116   246   102   196   304   567    25   507   589    49   475   582
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.29  0.29  0.29  0.57  0.57  0.07  0.59  0.59  0.03  0.53  0.53  0.06
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   12.6  12.6  12.6  17.3  17.3   9.1  17.6  17.6   8.7  16.0  16.0   8.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  12.6  12.6  12.6  17.3  17.3   9.1  17.6  17.6   8.7  16.0  16.0   8.9
LOS by Move:    B     B     B     C     C     A     C     C     A     C     C     A
ApproachDel:       12.6              16.4              17.0              15.2
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        12.6              16.4              17.0              15.2
LOS by Appr:          B                 C                 C                 C
AllWayAvgQ:   8.2   8.2   8.2  27.0  27.0   1.6  30.8  30.8   0.8  24.3  24.3   1.4
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



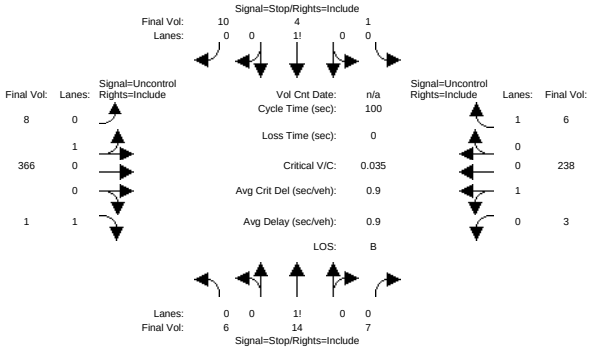
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   34   72    30   111  172    38    15  300    20    26  253    35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             649
Minor Approach Volume:           321
Minor Approach Volume Threshold: 560
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   14     7     1    4    10     8  366     1     3  238     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   14     7     1    4    10     8  366     1     3  238     6
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6   14     7     1    4    10     8  366     1     3  238     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6   14     7     1    4    10     8  366     1     3  238     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6   14     7     1    4    10     8  366     1     3  238     6
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  636  632   366   637  627   238   244 xxxx xxxxx   367 xxxx xxxxx
Potent Cap.:  393  400   684   393  403   806  1334 xxxx xxxxx  1203 xxxx xxxxx
Move Cap.:    383  397   684   376  399   806  1334 xxxx xxxxx  1203 xxxx xxxxx
Volume/Cap:  0.02 0.04  0.01  0.00 0.01  0.01  0.01 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx   8.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  441 xxxxx  xxxx  598 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx  0.1 xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 13.7 xxxxx xxxxx 11.2 xxxxx   7.7 xxxx xxxxx   8.0 xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     A    *     *     A    *     *
ApproachDel:      13.7             11.2           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14     7     1    4    10     8  366     1     3  238     6
ApproachDel:      13.7             11.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=664]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=664]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

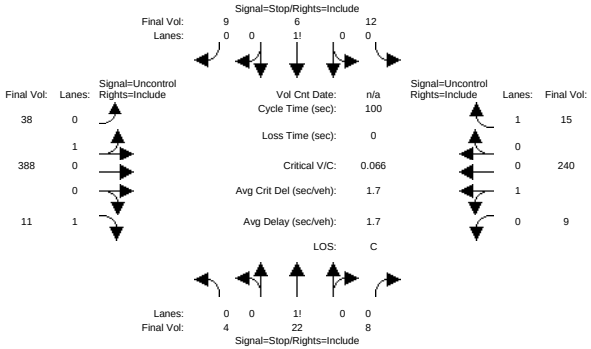
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14     7     1    4    10     8  366     1     3  238     6
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             622
Minor Approach Volume:           27
Minor Approach Volume Threshold: 448
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   22     8    12    6     9    38  388    11     9  240    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   22     8    12    6     9    38  388    11     9  240    15
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4   22     8    12    6     9    38  388    11     9  240    15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4   22     8    12    6     9    38  388    11     9  240    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4   22     8    12    6     9    38  388    11     9  240    15
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  737  737   388   743  733   240   255 xxxx xxxxx   399 xxxx xxxxx
Potent Cap.:  337  348   665   334  350   804  1322 xxxx xxxxx  1171 xxxx xxxxx
Move Cap.:    319  336   665   305  337   804  1322 xxxx xxxxx  1171 xxxx xxxxx
Volume/Cap:  0.01 0.07  0.01  0.04 0.02  0.01  0.03 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.2 xxxx xxxxx   0.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx   8.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  377 xxxxx  xxxx  395 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.3 xxxxx xxxxx  0.2 xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 15.5 xxxxx xxxxx 14.8 xxxxx   7.8 xxxx xxxxx   8.1 xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     A    *     *     A    *     *
ApproachDel:      15.5             14.8           xxxxxx           xxxxxx
ApproachLOS:         C                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22     8    12    6     9    38  388    11     9  240    15
ApproachDel:      15.5             14.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=34]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=762]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=762]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

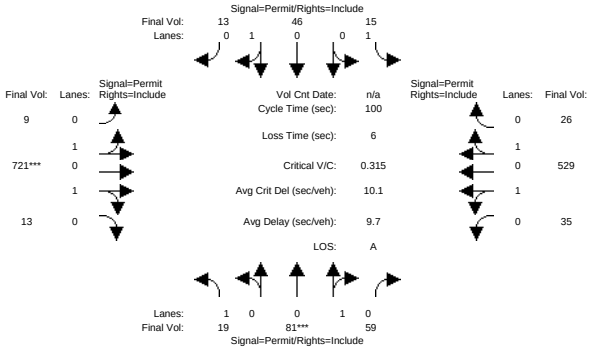
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22     8    12    6     9    38  388    11     9  240    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             701
Minor Approach Volume:            34
Minor Approach Volume Threshold: 407
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1036: Main St / M St



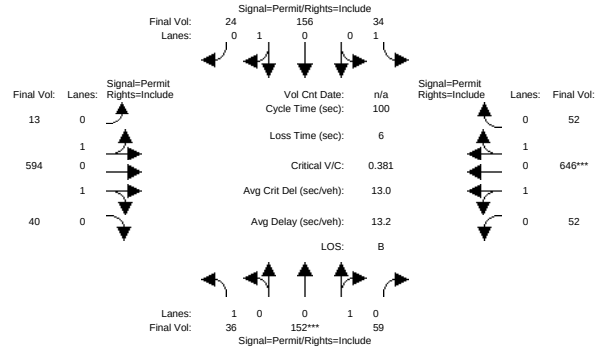
Street Name:	Main Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	10	10	10		10	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	19	81	59		15	46	13		9	721	13		35	529	26	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	19	81	59		15	46	13		9	721	13		35	529	26	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	19	81	59		15	46	13		9	721	13		35	529	26	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	19	81	59		15	46	13		9	721	13		35	529	26	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	19	81	59		15	46	13		9	721	13		35	529	26	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	19	81	59		15	46	13		9	721	13		35	529	26	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.72	0.94	0.94		0.57	0.97	0.97		0.90	0.90	0.90		0.83	0.83	0.83	
Lanes:	1.00	0.58	0.42		1.00	0.78	0.22		0.02	1.95	0.03		0.12	1.79	0.09	
Final Sat.:	1368	1030	750		1091	1432	405		41	3311	60		187	2832	139	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.08	0.08		0.01	0.03	0.03		0.22	0.22	0.22		0.19	0.19	0.19	
Crit Moves:		****								****						
Green/Cycle:	0.25	0.25	0.25		0.25	0.25	0.25		0.69	0.69	0.69		0.69	0.69	0.69	
Volume/Cap:	0.06	0.32	0.32		0.06	0.13	0.13		0.32	0.32	0.32		0.27	0.27	0.27	
Delay/Veh:	28.6	31.0	31.0		28.6	29.2	29.2		6.2	6.2	6.2		6.0	6.0	6.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	28.6	31.0	31.0		28.6	29.2	29.2		6.2	6.2	6.2		6.0	6.0	6.0	
LOS by Move:	C	C	C		C	C	C		A	A	A		A	A	A	
HCM2kAvgQ:	12	91	91		9	35	35		116	116	116		89	89	89	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1036: Main St / M St



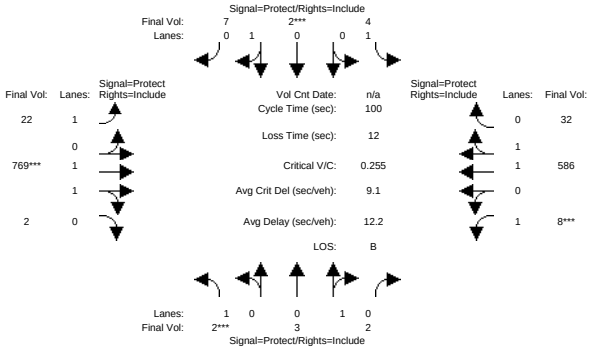
Street Name:	Main Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	10	10	10		10	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	36	152	59		34	156	24		13	594	40		52	646	52	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	36	152	59		34	156	24		13	594	40		52	646	52	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	36	152	59		34	156	24		13	594	40		52	646	52	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	36	152	59		34	156	24		13	594	40		52	646	52	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	36	152	59		34	156	24		13	594	40		52	646	52	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	36	152	59		34	156	24		13	594	40		52	646	52	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.54	0.96	0.96		0.49	0.98	0.98		0.88	0.88	0.88		0.82	0.82	0.82	
Lanes:	1.00	0.72	0.28		1.00	0.87	0.13		0.04	1.84	0.12		0.14	1.72	0.14	
Final Sat.:	1022	1311	509		935	1614	248		67	3074	207		215	2669	215	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.12	0.12		0.04	0.10	0.10		0.19	0.19	0.19		0.24	0.24	0.24	
Crit Moves:		****												****		
Green/Cycle:	0.30	0.30	0.30		0.30	0.30	0.30		0.64	0.64	0.64		0.64	0.64	0.64	
Volume/Cap:	0.12	0.38	0.38		0.12	0.32	0.32		0.30	0.30	0.30		0.38	0.38	0.38	
Delay/Veh:	25.2	27.8	27.8		25.3	27.1	27.1		8.3	8.3	8.3		8.9	8.9	8.9	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	25.2	27.8	27.8		25.3	27.1	27.1		8.3	8.3	8.3		8.9	8.9	8.9	
LOS by Move:	C	C	C		C	C	C		A	A	A		A	A	A	
HCM2kAvgQ:	21	130	130		20	108	108		114	114	114		143	143	143	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1037: 18th St / M St



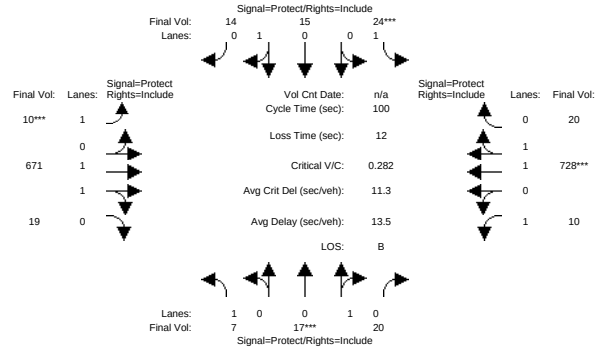
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	2		3	2	4		2	7	22		769	2	8		586	32
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	2		3	2	4		2	7	22		769	2	8		586	32
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	2		3	2	4		2	7	22		769	2	8		586	32
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	2		3	2	4		2	7	22		769	2	8		586	32
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	2		3	2	4		2	7	22		769	2	8		586	32
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	2		3	2	4		2	7	22		769	2	8		586	32
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.94	0.94	0.95		0.88	0.88	0.95		0.95	0.95	0.95		0.94	0.94
Lanes:	1.00		0.60	0.40	1.00		0.22	0.78	1.00		1.99	0.01	1.00		1.90	0.10
Final Sat.:	1805		1072	714	1805		373	1305	1805		3601	9	1805		3396	185
Capacity Analysis Module:																
Vol/Sat:	0.00		0.00	0.00	0.00		0.01	0.01	0.01		0.21	0.21	0.00		0.17	0.17
Crit Moves:	****						****				****		****			
Green/Cycle:	0.07		0.10	0.10	0.07		0.10	0.10	0.20		0.64	0.64	0.07		0.51	0.51
Volume/Cap:	0.02		0.03	0.03	0.03		0.05	0.05	0.06		0.33	0.33	0.06		0.34	0.34
Delay/Veh:	43.3		40.7	40.7	43.4		40.9	40.9	32.1		8.3	8.3	43.6		14.9	14.9
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	43.3		40.7	40.7	43.4		40.9	40.9	32.1		8.3	8.3	43.6		14.9	14.9
LOS by Move:	D		D	D	D		D	D	C		A	A	D		B	B
HCM2kAvgQ:	2		4	4	3		6	6	13		139	139	7		148	148

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1037: 18th St / M St



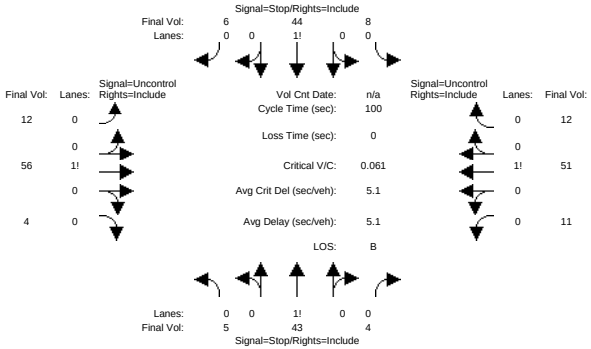
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	7		17	20	24		15	14	10		671	19	10		728	20
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	7		17	20	24		15	14	10		671	19	10		728	20
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	7		17	20	24		15	14	10		671	19	10		728	20
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	7		17	20	24		15	14	10		671	19	10		728	20
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	7		17	20	24		15	14	10		671	19	10		728	20
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	7		17	20	24		15	14	10		671	19	10		728	20
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.92	0.92	0.95		0.93	0.93	0.95		0.95	0.95	0.95		0.95	0.95
Lanes:	1.00		0.46	0.54	1.00		0.52	0.48	1.00		1.94	0.06	1.00		1.95	0.05
Final Sat.:	1805		802	944	1805		912	851	1805		3497	99	1805		3499	96
Capacity Analysis Module:																
Vol/Sat:	0.00		0.02	0.02	0.01		0.02	0.02	0.01		0.19	0.19	0.01		0.21	0.21
Crit Moves:			****		****				****						****	
Green/Cycle:	0.07		0.10	0.10	0.07		0.10	0.10	0.07		0.52	0.52	0.19		0.64	0.64
Volume/Cap:	0.06		0.21	0.21	0.19		0.16	0.16	0.08		0.37	0.37	0.03		0.33	0.33
Delay/Veh:	43.6		42.0	42.0	44.6		41.6	41.6	43.8		14.4	14.4	33.0		8.3	8.3
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	43.6		42.0	42.0	44.6		41.6	41.6	43.8		14.4	14.4	33.0		8.3	8.3
LOS by Move:	D		D	D	D		D	D	D		B	B	C		A	A
HCM2kAvgQ:	6		30	30	17		20	20	7		160	160	6		136	136

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5   43     4     8   44     6    12   56     4    11   51    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    5   43     4     8   44     6    12   56     4    11   51    12
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    5   43     4     8   44     6    12   56     4    11   51    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     5   43     4     8   44     6    12   56     4    11   51    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    5   43     4     8   44     6    12   56     4    11   51    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  186  167    58   185  163    57    63 xxxx xxxxx    60 xxxx xxxxx
Potent Cap.:  779  729  1014   781  733  1015  1553 xxxx xxxxx  1556 xxxx xxxxx
Move Cap.:    730  719  1014   734  722  1015  1553 xxxx xxxxx  1556 xxxx xxxxx
Volume/Cap:  0.01 0.06  0.00  0.01 0.06  0.01  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx   0.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  736 xxxxx  xxxx  746 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.3 xxxxx xxxxx 10.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      10.3             10.2            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
******************************************************************************
Intersection #1038 15th St / Canal St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5   43     4     8   44     6    12   56     4    11   51    12
ApproachDel:      10.3             10.2            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=52]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=256]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=58]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=256]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

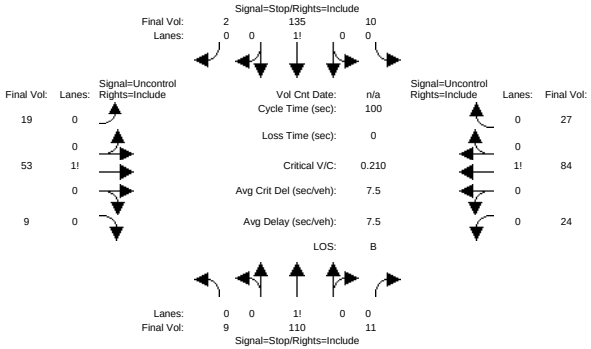
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
******************************************************************************
Intersection #1038 15th St / Canal St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5   43     4     8   44     6    12   56     4    11   51    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             146
Minor Approach Volume:           58
Minor Approach Volume Threshold: 733
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9  110    11    10  135     2    19   53     9    24   84    27
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9  110    11    10  135     2    19   53     9    24   84    27
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    9  110    11    10  135     2    19   53     9    24   84    27
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9  110    11    10  135     2    19   53     9    24   84    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    9  110    11    10  135     2    19   53     9    24   84    27
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  310  255    58   302  246    98   111 xxxx xxxxx    62 xxxx xxxxx
Potent Cap.:  647  653  1014   655  660   964  1492 xxxx xxxxx  1554 xxxx xxxxx
Move Cap.:    530  634  1014   550  641   964  1492 xxxx xxxxx  1554 xxxx xxxxx
Volume/Cap:  0.02 0.17  0.01  0.02 0.21  0.00  0.01 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   1.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  646 xxxxx  xxxx  637 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.7 xxxxx xxxxx  0.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.0 xxxxx xxxxx 12.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      12.0             12.3            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  110    11    10  135     2    19   53     9    24   84    27
ApproachDel:      12.0             12.3            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=130]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=493]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=147]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=493]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  110    11    10  135     2    19   53     9    24   84    27
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             216
Minor Approach Volume:           147
Minor Approach Volume Threshold: 628
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
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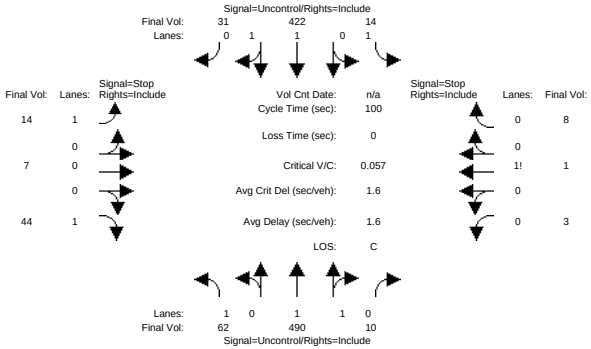
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62  490    10    14  422    31    14    7    44     3    1     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62  490    10    14  422    31    14    7    44     3    1     8
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   62  490    10    14  422    31    14    7    44     3    1     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    62  490    10    14  422    31    14    7    44     3    1     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62  490    10    14  422    31    14    7    44     3    1     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  453 xxxx xxxxx   500 xxxx xxxxx   835 1090   227   862 1100   250
Potent Cap.: 1118 xxxx xxxxx  1075 xxxx xxxxx   264  217   783   252  214   756
Move Cap.:   1118 xxxx xxxxx  1075 xxxx xxxxx   246  202   783   220  199   756
Volume/Cap:  0.06 xxxx  xxxx  0.01 xxxx  xxxx  0.06 0.03  0.06  0.01 0.01  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    4.4 xxxx xxxxx   1.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.4 xxxx xxxxx   8.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   230 xxxx   562  xxxx  410 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.3 xxxx   0.3 xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  22.2 xxxx  12.0 xxxxx 14.0 xxxxx
Shared LOS:     *    *     *     *    *     *     C    *     B     *    B     *
ApproachDel:    xxxxxx           xxxxxx             15.0            14.0
ApproachLOS:         *                *                C               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   62  490    10    14  422    31    14    7    44     3    1     8
ApproachDel:    xxxxxx           xxxxxx             15.0            14.0
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=65]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1106]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1106]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   62  490    10    14  422    31    14    7    44     3    1     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1029
Minor Approach Volume:           65
Minor Approach Volume Threshold: 362
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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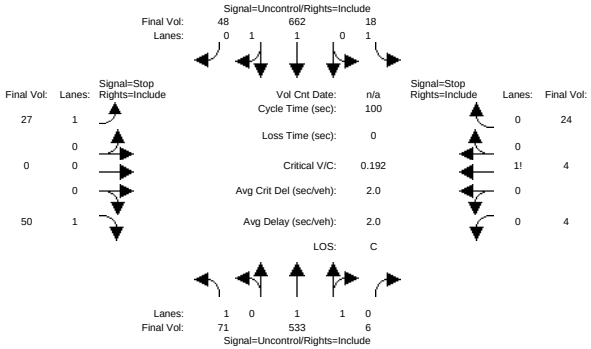
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  533     6    18  662    48    27    0    50     4    4    24
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   71  533     6    18  662    48    27    0    50     4    4    24
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   71  533     6    18  662    48    27    0    50     4    4    24
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    71  533     6    18  662    48    27    0    50     4    4    24
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   71  533     6    18  662    48    27    0    50     4    4    24
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  710 xxxx xxxxx   539 xxxx xxxxx  1133 xxxx   355  1045 1424   270
Potent Cap.:  899 xxxx xxxxx  1040 xxxx xxxxx   160 xxxx   647   186  137   735
Move Cap.:    899 xxxx xxxxx  1040 xxxx xxxxx   140 xxxx   647   159  124   735
Volume/Cap:  0.08 xxxx  xxxx  0.02 xxxx  xxxx  0.19 xxxx  0.08  0.03 0.03  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    6.4 xxxx xxxxx   1.3 xxxx xxxxx  17.1 xxxx   6.3  xxxx xxxx xxxxx
Control Del:  9.4 xxxx xxxxx   8.5 xxxx xxxxx  36.7 xxxx  11.0 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     E    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  355 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.3 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 16.1 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             20.0            16.1
ApproachLOS:         *                *                C               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   71  533     6    18  662    48    27    0    50     4    4    24
ApproachDel:    xxxxxx           xxxxxx             20.0            16.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=77]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1447]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1447]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   71  533     6    18  662    48    27    0    50     4    4    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1338
Minor Approach Volume:           77
Minor Approach Volume Threshold: 249
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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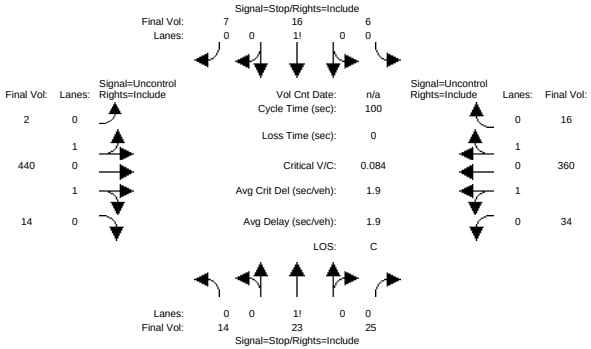
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      14   23    25     6   16     7     2  440    14    34  360    16
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   14   23    25     6   16     7     2  440    14    34  360    16
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   14   23    25     6   16     7     2  440    14    34  360    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    14   23    25     6   16     7     2  440    14    34  360    16
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   14   23    25     6   16     7     2  440    14    34  360    16
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  707  895   227   672  894   188   376 xxxx xxxxx   454 xxxx xxxxx
Potent Cap.:  326  282   782   346  283   828  1194 xxxx xxxxx  1117 xxxx xxxxx
Move Cap.:    301  273   782   305  273   828  1194 xxxx xxxxx  1117 xxxx xxxxx
Volume/Cap:  0.05 0.08  0.03  0.02 0.06  0.01  0.00 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   2.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.0 xxxx xxxxx   8.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  381 xxxxx  xxxx  335 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  0.3 xxxxx   0.0 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 16.3 xxxxx xxxxx 16.8 xxxxx   8.0 xxxx xxxxx   8.3 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      16.3             16.8           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   23    25     6   16     7     2  440    14    34  360    16
ApproachDel:      16.3             16.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=957]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=29]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=957]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   23    25     6   16     7     2  440    14    34  360    16
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             866
Minor Approach Volume:           62
Minor Approach Volume Threshold: 334
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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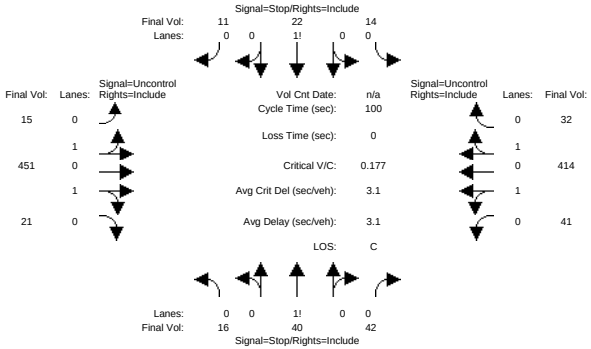
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      16   40    42    14   22    11    15  451    21    41  414    32
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   16   40    42    14   22    11    15  451    21    41  414    32
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   16   40    42    14   22    11    15  451    21    41  414    32
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    16   40    42    14   22    11    15  451    21    41  414    32
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   16   40    42    14   22    11    15  451    21    41  414    32
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  792 1020   236   788 1014   223   446 xxxx xxxxx   472 xxxx xxxxx
Potent Cap.:  283  239   772   285  240   787  1125 xxxx xxxxx  1100 xxxx xxxxx
Move Cap.:    249  226   772   224  228   787  1125 xxxx xxxxx  1100 xxxx xxxxx
Volume/Cap:  0.06 0.18  0.05  0.06 0.10  0.01  0.01 xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   2.9 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.2 xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  332 xxxxx  xxxx  272 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.2 xxxxx xxxxx  0.6 xxxxx   0.0 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 20.3 xxxxx xxxxx 21.0 xxxxx   8.2 xxxx xxxxx   8.4 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      20.3             21.0           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   40    42    14   22    11    15  451    21    41  414    32
ApproachDel:      20.3             21.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=98]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1119]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=47]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1119]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

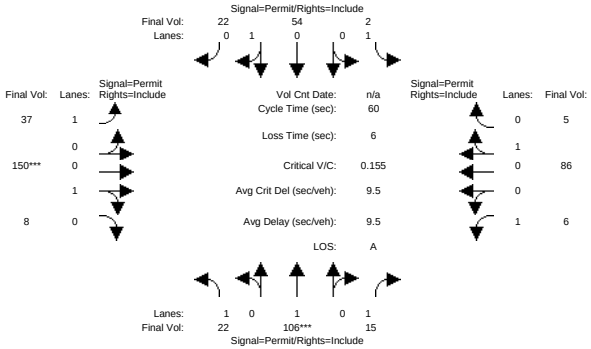
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   40    42    14   22    11    15  451    21    41  414    32
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             974
Minor Approach Volume:           98
Minor Approach Volume Threshold: 294
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1041: Main St / Martin Luther King Wy



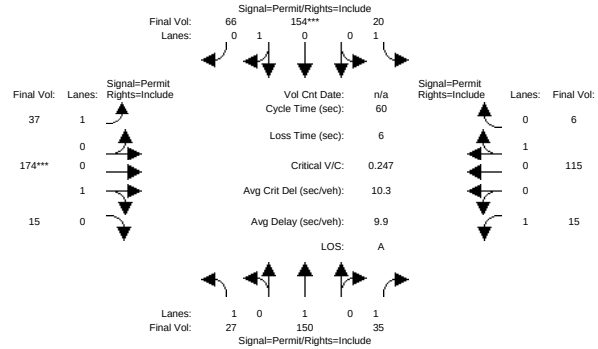
Street Name:	Main Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	22		106		15	2		54		22	37		150		8	6		86		5
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	22		106		15	2		54		22	37		150		8	6		86		5
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	22		106		15	2		54		22	37		150		8	6		86		5
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	22		106		15	2		54		22	37		150		8	6		86		5
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	22		106		15	2		54		22	37		150		8	6		86		5
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	22		106		15	2		54		22	37		150		8	6		86		5
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.71		1.00		0.85	0.69		0.96		0.96	0.70		0.99		0.99	0.65		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.71		0.29	1.00		0.95		0.05	1.00		0.95		0.05
Final Sat.:	1343		1900		1615	1302		1292		526	1322		1789		95	1237		1781		104
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.06		0.01	0.00		0.04		0.04	0.03		0.08		0.08	0.00		0.05		0.05
Crit Moves:			****										****							
Green/Cycle:	0.36		0.36		0.36	0.36		0.36		0.36	0.54		0.54		0.54	0.54		0.54		0.54
Volume/Cap:	0.05		0.16		0.03	0.00		0.12		0.12	0.05		0.16		0.16	0.01		0.09		0.09
Delay/Veh:	12.5		13.1		12.4	12.3		12.9		12.9	6.6		7.0		7.0	6.4		6.7		6.7
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	12.5		13.1		12.4	12.3		12.9		12.9	6.6		7.0		7.0	6.4		6.7		6.7
LOS by Move:	B		B		B	B		B		B	A		A		A	A		A		A
HCM2kAvgQ:	7		35		5	1		24		24	8		35		35	1		21		21

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1041: Main St / Martin Luther King Wy



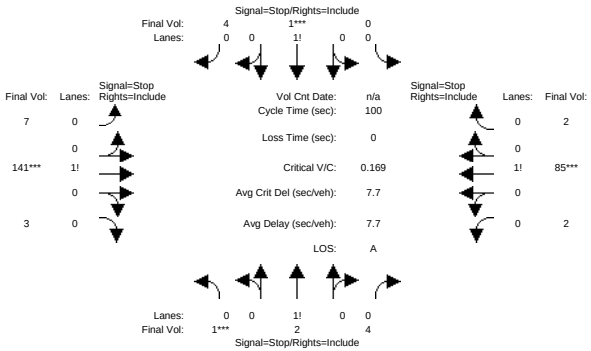
Street Name:	Main Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	27		150		35	20		154		66	37		174		15	15		115		6
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	27		150		35	20		154		66	37		174		15	15		115		6
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	27		150		35	20		154		66	37		174		15	15		115		6
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	27		150		35	20		154		66	37		174		15	15		115		6
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	27		150		35	20		154		66	37		174		15	15		115		6
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	27		150		35	20		154		66	37		174		15	15		115		6
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.59		1.00		0.85	0.66		0.96		0.96	0.68		0.99		0.99	0.60		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.70		0.30	1.00		0.92		0.08	1.00		0.95		0.05
Final Sat.:	1117		1900		1615	1246		1270		544	1283		1728		149	1142		1793		94
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.08		0.02	0.02		0.12		0.12	0.03		0.10		0.10	0.01		0.06		0.06
Crit Moves:								****					****							
Green/Cycle:	0.49		0.49		0.49	0.49		0.49		0.49	0.41		0.41		0.41	0.41		0.41		0.41
Volume/Cap:	0.05		0.16		0.04	0.03		0.25		0.25	0.07		0.25		0.25	0.03		0.16		0.16
Delay/Veh:	8.0		8.5		7.9	7.9		9.0		9.0	10.9		11.8		11.8	10.7		11.3		11.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	8.0		8.5		7.9	7.9		9.0		9.0	10.9		11.8		11.8	10.7		11.3		11.3
LOS by Move:	A		A		A	A		A		A	B		B		B	B		B		B
HCM2kAvgQ:	7		39		9	5		61		61	10		55		55	5		37		37

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1     2     4     0     1     4     7   141     3     2    85     2
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    1     2     4     0     1     4     7   141     3     2    85     2
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    1     2     4     0     1     4     7   141     3     2    85     2
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     1     2     4     0     1     4     7   141     3     2    85     2
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    1     2     4     0     1     4     7   141     3     2    85     2
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    1     2     4     0     1     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.14  0.29  0.57  0.00  0.20  0.80  0.05  0.93  0.02  0.02  0.96  0.02
Final Sat.:   120   239   479     0   174   696    41   835    18    20   842    20
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01  0.01  0.01  xxxx  0.01  0.01  0.17  0.17  0.17  0.10  0.10  0.10
Crit Moves:  ****                    ****              ****              ****
Delay/Veh:    7.1   7.1   7.1   0.0   6.9   6.9   7.8   7.8   7.8   7.5   7.5   7.5
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.1   7.1   7.1   0.0   6.9   6.9   7.8   7.8   7.8   7.5   7.5   7.5
LOS by Move:    A     A     A     *     A     A     A     A     A     A     A     A
ApproachDel:        7.1               6.9               7.8               7.5
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.1               6.9               7.8               7.5
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   0.2   0.2   0.2   0.1   0.1   0.1   5.0   5.0   5.0   2.8   2.8   2.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



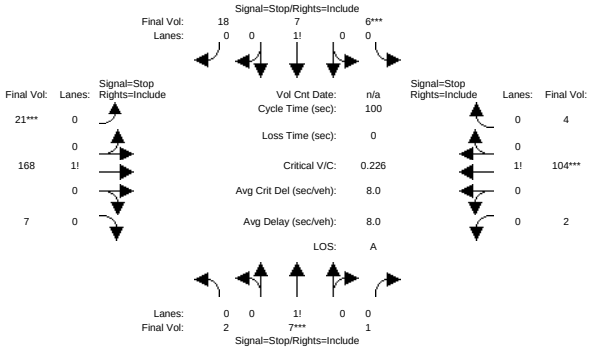
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    1     2     4     0     1     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             240
Minor Approach Volume:           7
Minor Approach Volume Threshold: 600
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    7     1     6    7    18    21  168     7     2  104     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    7     1     6    7    18    21  168     7     2  104     4
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    7     1     6    7    18    21  168     7     2  104     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    7     1     6    7    18    21  168     7     2  104     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2    7     1     6    7    18    21  168     7     2  104     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    2    7     1     6    7    18    21  168     7     2  104     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.20 0.70  0.10  0.19 0.23  0.58  0.11 0.86  0.03  0.02 0.94  0.04
Final Sat.:   149  521    74   155  180   464    93  745    31    16  807    31
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.01  0.01  0.04 0.04  0.04  0.23 0.23  0.23  0.13 0.13  0.13
Crit Moves:        ****        ****              ****                    ****
Delay/Veh:    7.6  7.6   7.6   7.4  7.4   7.4   8.3  8.3   8.3   7.8  7.8   7.8
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.6  7.6   7.6   7.4  7.4   7.4   8.3  8.3   8.3   7.8  7.8   7.8
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       7.6              7.4              8.3              7.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.6              7.4              8.3              7.8
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.3  0.3   0.3   0.9  0.9   0.9   7.1  7.1   7.1   3.6  3.6   3.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



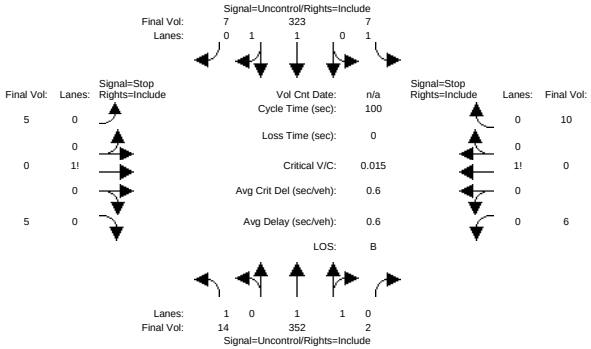
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2    7     1     6    7    18    21  168     7     2  104     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             306
Minor Approach Volume:           31
Minor Approach Volume Threshold: 535
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1043: 16th St / H St




```
Street Name:            16th Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      14  352     2     7  323     7     5    0     5     6    0    10
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   14  352     2     7  323     7     5    0     5     6    0    10
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   14  352     2     7  323     7     5    0     5     6    0    10
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    14  352     2     7  323     7     5    0     5     6    0    10
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   14  352     2     7  323     7     5    0     5     6    0    10
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  330 xxxx xxxxx   354 xxxx xxxxx   545  723   165   557  725   177
Potent Cap.: 1241 xxxx xxxxx  1216 xxxx xxxxx   426  355   857   418  354   842
Move Cap.:   1241 xxxx xxxxx  1216 xxxx xxxxx   416  349   857   410  348   842
Volume/Cap:  0.01 xxxx  xxxx  0.01 xxxx  xxxx  0.01 0.00  0.01  0.01 0.00  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.9 xxxx xxxxx   0.4 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.9 xxxx xxxxx   8.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  560 xxxxx  xxxx  603 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.1 xxxxx xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 11.5 xxxxx xxxxx 11.1 xxxxx
Shared LOS:     *    *     *     *    *     *     *    B     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             11.5            11.1
ApproachLOS:         *                *               B               B
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1043 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   14  352     2     7  323     7     5    0     5     6    0    10
ApproachDel:    xxxxxx           xxxxxx             11.5            11.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=10]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=731]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=16]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=731]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

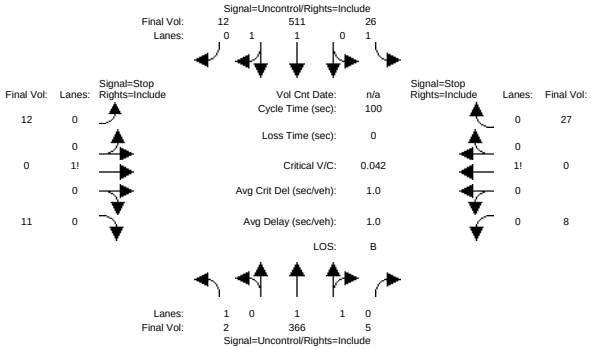
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1043 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   14  352     2     7  323     7     5    0     5     6    0    10
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             705
Minor Approach Volume:            16
Minor Approach Volume Threshold: 405
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1043: 16th St / H St




```
Street Name:            16th Street                     H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2  366     5    26  511    12    12    0    11     8    0    27
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2  366     5    26  511    12    12    0    11     8    0    27
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2  366     5    26  511    12    12    0    11     8    0    27
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2  366     5    26  511    12    12    0    11     8    0    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2  366     5    26  511    12    12    0    11     8    0    27
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  523 xxxx xxxxx   371 xxxx xxxxx   756  944   262   680  948   186
Potent Cap.: 1054 xxxx xxxxx  1199 xxxx xxxxx   301  264   743   341  263   831
Move Cap.:   1054 xxxx xxxxx  1199 xxxx xxxxx   286  258   743   330  257   831
Volume/Cap:  0.00 xxxx  xxxx  0.02 xxxx  xxxx  0.04 0.00  0.01  0.02 0.00  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx   1.7 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.4 xxxx xxxxx   8.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  405 xxxxx  xxxx  617 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.2 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 14.4 xxxxx xxxxx 11.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    B     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             14.4             11.2
ApproachLOS:         *                *               B                B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1043 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2  366     5    26  511    12    12    0    11     8    0    27
ApproachDel:    xxxxxx           xxxxxx              14.4             11.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=980]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=980]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

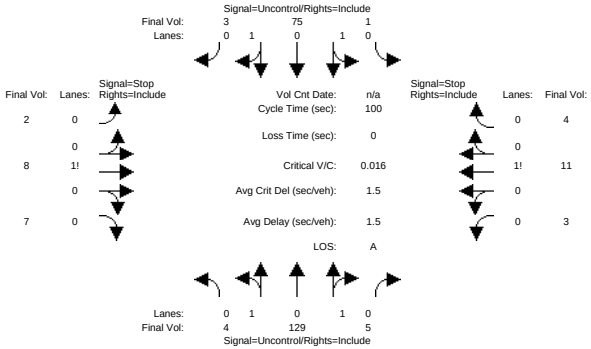
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1043 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2  366     5    26  511    12    12    0    11     8    0    27
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             922
Minor Approach Volume:           35
Minor Approach Volume Threshold: 313
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4  129     5     1   75     3     2    8     7     3   11     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4  129     5     1   75     3     2    8     7     3   11     4
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4  129     5     1   75     3     2    8     7     3   11     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4  129     5     1   75     3     2    8     7     3   11     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4  129     5     1   75     3     2    8     7     3   11     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   78 xxxx xxxxx   134 xxxx xxxxx   157  221    39   183  220    67
Potent Cap.: 1533 xxxx xxxxx  1463 xxxx xxxxx   800  681  1031   767  682   989
Move Cap.:   1533 xxxx xxxxx  1463 xxxx xxxxx   785  679  1031   753  680   989
Volume/Cap:  0.00 xxxx  xxxx  0.00 xxxx  xxxx  0.00 0.01  0.01  0.00 0.02  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.2 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.4 xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  805 xxxxx  xxxx  744 xxxxx
SharedQueue:  0.0 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  0.1 xxxxx xxxxx  0.1 xxxxx
Shrd ConDel:  7.4 xxxx xxxxx   7.5 xxxx xxxxx xxxxx  9.6 xxxxx xxxxx 10.0 xxxxx
Shared LOS:     A    *     *     A    *     *     *    A     *     *    A     *
ApproachDel:    xxxxxx           xxxxxx              9.6            10.0
ApproachLOS:         *                *                A               A
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  129     5     1   75     3     2    8     7     3   11     4
ApproachDel:    xxxxxx           xxxxxx              9.6            10.0
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=17]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=252]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=252]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

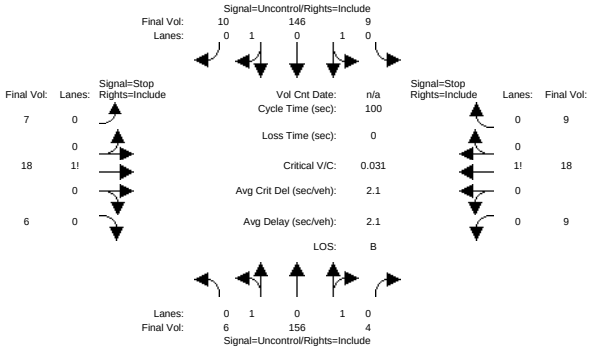
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  129     5     1   75     3     2    8     7     3   11     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             217
Minor Approach Volume:           18
Minor Approach Volume Threshold: 811
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6  156     4     9  146    10     7   18     6     9   18     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6  156     4     9  146    10     7   18     6     9   18     9
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6  156     4     9  146    10     7   18     6     9   18     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6  156     4     9  146    10     7   18     6     9   18     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6  156     4     9  146    10     7   18     6     9   18     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  156 xxxx xxxxx   160 xxxx xxxxx   268  341    78   270  344    80
Potent Cap.: 1436 xxxx xxxxx  1432 xxxx xxxxx   669  584   973   666  582   971
Move Cap.:   1436 xxxx xxxxx  1432 xxxx xxxxx   641  578   973   641  576   971
Volume/Cap:  0.00 xxxx  xxxx  0.01 xxxx  xxxx  0.01 0.03  0.01  0.01 0.03  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.3 xxxx xxxxx   0.5 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.5 xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  643 xxxxx  xxxx  660 xxxxx
SharedQueue:  0.0 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  0.2 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:  7.5 xxxx xxxxx   7.5 xxxx xxxxx xxxxx 10.9 xxxxx xxxxx 10.8 xxxxx
Shared LOS:     A    *     *     A    *     *     *    B     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             10.9            10.8
ApproachLOS:         *                *                B               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  156     4     9  146    10     7   18     6     9   18     9
ApproachDel:    xxxxxx           xxxxxx             10.9            10.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=398]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=36]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=398]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

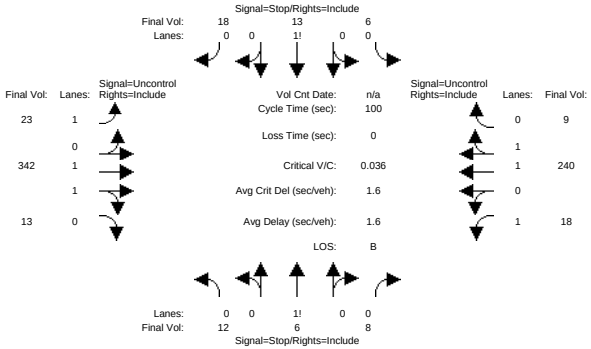
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  156     4     9  146    10     7   18     6     9   18     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             331
Minor Approach Volume:           36
Minor Approach Volume Threshold: 666
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1045: 15th St / G St




```
Street Name:            15th Street                     G Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      12    6     8     6   13    18    23  342    13    18  240     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   12    6     8     6   13    18    23  342    13    18  240     9
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   12    6     8     6   13    18    23  342    13    18  240     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    12    6     8     6   13    18    23  342    13    18  240     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   12    6     8     6   13    18    23  342    13    18  240     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  557  680   178   501  682   125   249 xxxx xxxxx   355 xxxx xxxxx
Potent Cap.:  417  376   841   458  375   909  1328 xxxx xxxxx  1215 xxxx xxxxx
Move Cap.:    388  364   841   437  363   909  1328 xxxx xxxxx  1215 xxxx xxxxx
Volume/Cap:  0.03 0.02  0.01  0.01 0.04  0.02  0.02 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.3 xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx   8.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  457 xxxxx  xxxx  534 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 13.4 xxxxx xxxxx 12.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      13.4             12.2            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1045 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   12    6     8     6   13    18    23  342    13    18  240     9
ApproachDel:      13.4             12.2            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=26]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=708]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=37]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=708]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

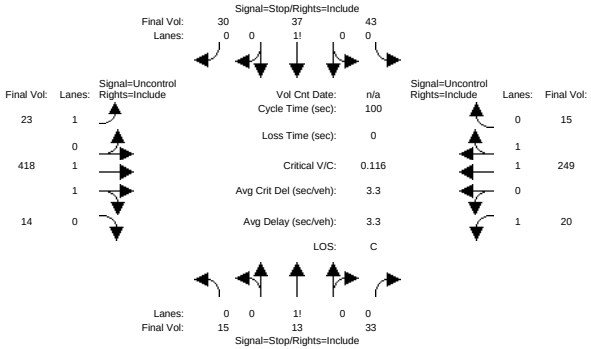
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1045 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   12    6     8     6   13    18    23  342    13    18  240     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             645
Minor Approach Volume:           37
Minor Approach Volume Threshold: 436
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1045: 15th St / G St




```
Street Name:            15th Street                     G Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   13    33    43   37    30    23  418    14    20  249    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15   13    33    43   37    30    23  418    14    20  249    15
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   15   13    33    43   37    30    23  418    14    20  249    15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    15   13    33    43   37    30    23  418    14    20  249    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   15   13    33    43   37    30    23  418    14    20  249    15
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  654  775   216   558  775   132   264 xxxx xxxxx   432 xxxx xxxxx
Potent Cap.:  356  331   795   417  331   899  1312 xxxx xxxxx  1138 xxxx xxxxx
Move Cap.:    305  320   795   377  320   899  1312 xxxx xxxxx  1138 xxxx xxxxx
Volume/Cap:  0.05 0.04  0.04  0.11 0.12  0.03  0.02 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.3 xxxx xxxxx   1.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx   8.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  465 xxxxx  xxxx  418 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.4 xxxxx xxxxx  1.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 13.9 xxxxx xxxxx 16.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    C     *     *    *     *     *    *     *
ApproachDel:      13.9             16.7            xxxxxx           xxxxxx
ApproachLOS:         B                C                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1045 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   15   13    33    43   37    30    23  418    14    20  249    15
ApproachDel:      13.9             16.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=61]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=910]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=110]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=910]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1045 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   15   13    33    43   37    30    23  418    14    20  249    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             739
Minor Approach Volume:           110
Minor Approach Volume Threshold: 389
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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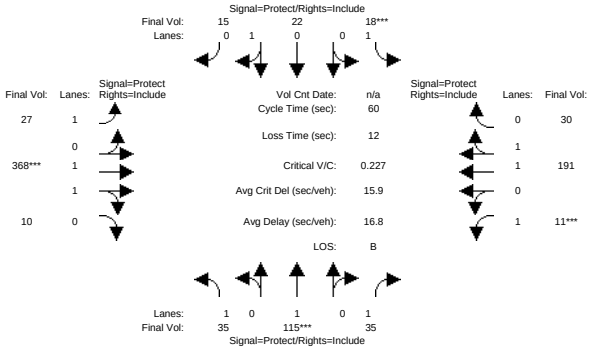
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1046: Main St / G St



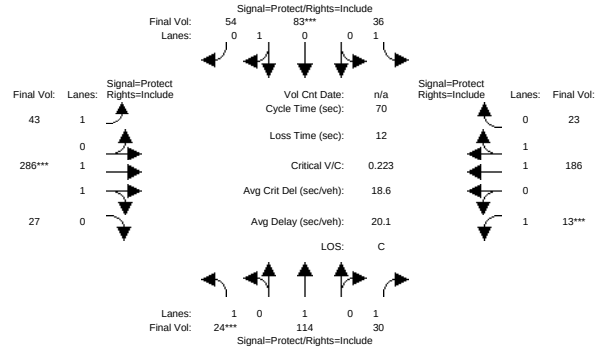
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	35	115	35	18	22	15	27	368	10	11	191	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	115	35	18	22	15	27	368	10	11	191	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	35	115	35	18	22	15	27	368	10	11	191	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	115	35	18	22	15	27	368	10	11	191	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	115	35	18	22	15	27	368	10	11	191	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	115	35	18	22	15	27	368	10	11	191	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.95	0.95	0.95	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	0.59	0.41	1.00	1.95	0.05	1.00	1.73	0.27
Final Sat.:	1805	1900	1615	1805	1061	723	1805	3500	95	1805	3058	480
Capacity Analysis Module:												
Vol/Sat:	0.02	0.06	0.02	0.01	0.02	0.02	0.01	0.11	0.11	0.01	0.06	0.06
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.21	0.21	0.12	0.19	0.19	0.20	0.36	0.36	0.12	0.28	0.28
Volume/Cap:	0.15	0.29	0.10	0.09	0.11	0.11	0.08	0.29	0.29	0.05	0.22	0.22
Delay/Veh:	23.3	20.5	19.4	23.8	20.2	20.2	19.8	13.9	13.9	23.7	16.7	16.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.3	20.5	19.4	23.8	20.2	20.2	19.8	13.9	13.9	23.7	16.7	16.7
LOS by Move:	C	C	B	C	C	C	B	B	B	C	B	B
HCM2kAvgQ:	17	51	15	9	16	16	11	70	70	4	40	40

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1046: Main St / G St



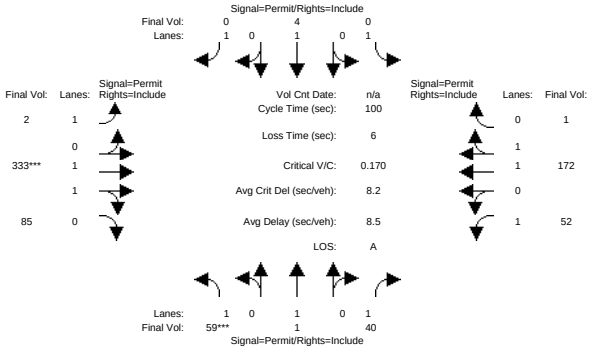
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	24	114	30	36	83	54	43	286	27	13	186	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	114	30	36	83	54	43	286	27	13	186	23
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	24	114	30	36	83	54	43	286	27	13	186	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	24	114	30	36	83	54	43	286	27	13	186	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	114	30	36	83	54	43	286	27	13	186	23
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	114	30	36	83	54	43	286	27	13	186	23
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	0.61	0.39	1.00	1.83	0.17	1.00	1.78	0.22
Final Sat.:	1805	1900	1615	1805	1083	705	1805	3256	307	1805	3161	391
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.02	0.02	0.08	0.08	0.02	0.09	0.09	0.01	0.06	0.06
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.23	0.23	0.16	0.29	0.29	0.18	0.34	0.34	0.10	0.26	0.26
Volume/Cap:	0.13	0.26	0.08	0.12	0.26	0.26	0.13	0.26	0.26	0.07	0.23	0.23
Delay/Veh:	29.1	22.3	21.2	25.3	19.2	19.2	24.3	17.0	17.0	28.7	20.7	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.1	22.3	21.2	25.3	19.2	19.2	24.3	17.0	17.0	28.7	20.7	20.7
LOS by Move:	C	C	C	C	B	B	C	B	B	C	C	C
HCM2kAvgQ:	14	54	14	18	60	60	21	67	67	6	45	45

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1047: 18th St / G St



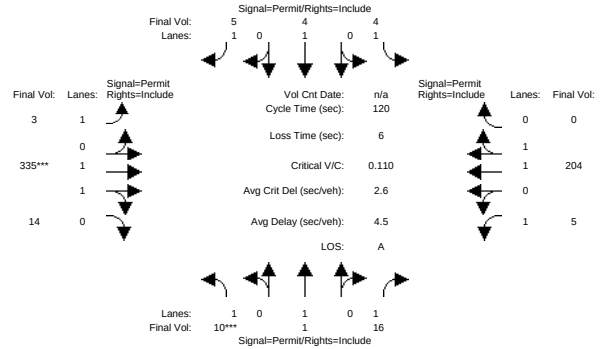
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	59	1	40	0	4	0	2	333	85	52	172	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	1	40	0	4	0	2	333	85	52	172	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	59	1	40	0	4	0	2	333	85	52	172	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	1	40	0	4	0	2	333	85	52	172	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	1	40	0	4	0	2	333	85	52	172	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	59	1	40	0	4	0	2	333	85	52	172	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	1.00	1.00	1.00	0.64	0.92	0.92	0.50	0.95	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.59	0.41	1.00	1.99	0.01
Final Sat.:	1455	1900	1615	1900	1900	1900	1208	2790	712	944	3586	21
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.02	0.00	0.00	0.00	0.00	0.12	0.12	0.06	0.05	0.05
Crit Moves:	****							****				
Green/Cycle:	0.24	0.24	0.24	0.00	0.24	0.00	0.70	0.70	0.70	0.70	0.70	0.70
Volume/Cap:	0.17	0.00	0.10	0.00	0.01	0.00	0.00	0.17	0.17	0.08	0.07	0.07
Delay/Veh:	30.5	29.0	29.9	0.0	29.1	0.0	4.5	5.1	5.1	4.8	4.7	4.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.5	29.0	29.9	0.0	29.1	0.0	4.5	5.1	5.1	4.8	4.7	4.7
LOS by Move:	C	C	C	A	C	A	A	A	A	A	A	A
HCM2kAvgQ:	38	1	25	0	2	0	0	56	56	14	22	22

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1047: 18th St / G St



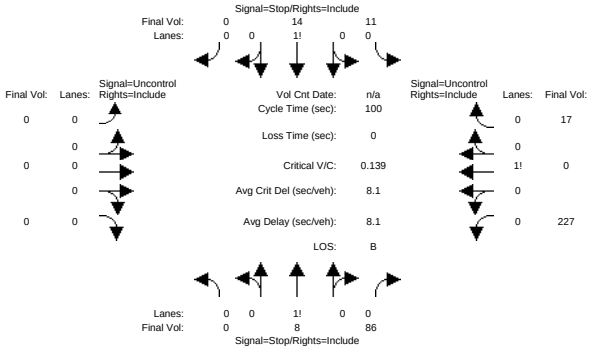
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	1	16	4	4	5	3	335	14	5	204	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1	16	4	4	5	3	335	14	5	204	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	1	16	4	4	5	3	335	14	5	204	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	1	16	4	4	5	3	335	14	5	204	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1	16	4	4	5	3	335	14	5	204	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1	16	4	4	5	3	335	14	5	204	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.62	0.94	0.94	0.54	0.95	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.92	0.08	1.00	2.00	0.00
Final Sat.:	1455	1900	1615	1459	1900	1615	1170	3444	144	1026	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.10	0.00	0.06	0.00
Crit Moves:	****							****				
Green/Cycle:	0.08	0.08	0.08	0.08	0.08	0.08	0.87	0.87	0.87	0.87	0.87	0.00
Volume/Cap:	0.08	0.01	0.12	0.03	0.03	0.04	0.00	0.11	0.11	0.01	0.07	0.00
Delay/Veh:	51.1	50.5	51.3	50.7	50.6	50.7	1.1	1.2	1.2	1.1	1.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.1	50.5	51.3	50.7	50.6	50.7	1.1	1.2	1.2	1.1	1.1	0.0
LOS by Move:	D	D	D	D	D	D	A	A	A	A	A	A
HCM2kAvgQ:	10	1	16	4	4	5	0	26	26	1	14	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1048: 15th St / D St




```
Street Name:            15th Street                     D Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    8    86    11   14     0     0    0     0   227    0    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    8    86    11   14     0     0    0     0   227    0    17
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    8    86    11   14     0     0    0     0   227    0    17
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    8    86    11   14     0     0    0     0   227    0    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    8    86    11   14     0     0    0     0   227    0    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  6.5   6.2   7.1  6.5 xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx  4.0   3.3   3.5  4.0 xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx  471     0   467  463 xxxxx  xxxx xxxx xxxxx     0 xxxx xxxxx
Potent Cap.: xxxx  494  1091   510  499 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Move Cap.:   xxxx  415  1091   407  420 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Volume/Cap:  xxxx 0.02  0.08  0.03 0.03  xxxx  xxxx xxxx  xxxx  0.14 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  12.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx   958   414 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx   0.3   0.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx   9.2  14.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     A     B    *     *     *    *     *     *    *     *
ApproachDel:       9.2             14.3           xxxxxx           xxxxxx
ApproachLOS:         A                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1048 15th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0    8    86    11   14     0     0    0     0   227    0    17
ApproachDel:       9.2             14.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=94]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=363]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=25]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=363]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

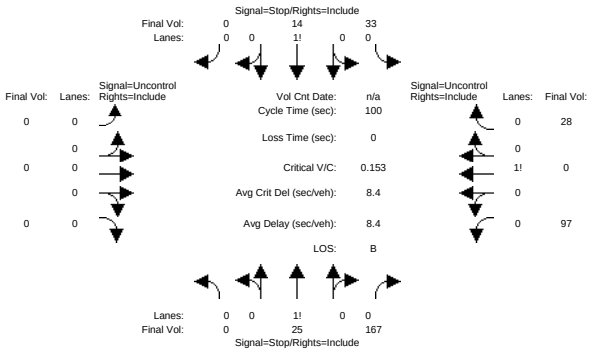
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1048 15th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0    8    86    11   14     0     0    0     0   227    0    17
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             244
Minor Approach Volume:            94
Minor Approach Volume Threshold: 596
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1048: 15th St / D St




```
Street Name:            15th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   25   167    33   14     0     0    0     0    97    0    28
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   25   167    33   14     0     0    0     0    97    0    28
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   25   167    33   14     0     0    0     0    97    0    28
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   25   167    33   14     0     0    0     0    97    0    28
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   25   167    33   14     0     0    0     0    97    0    28
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  6.5   6.2   7.1  6.5 xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx  4.0   3.3   3.5  4.0 xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx  222     0   221  208 xxxxx  xxxx xxxx xxxxx     0 xxxx xxxxx
Potent Cap.: xxxx  680  1091   740  692 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Move Cap.:   xxxx  638  1091   579  649 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Volume/Cap:  xxxx 0.04  0.15  0.06 0.02  xxxx  xxxx xxxx  xxxx  0.06 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   4.7 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx   998   598 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx   0.7   0.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx   9.5  11.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     A     B    *     *     *    *     *     *    *     *
ApproachDel:       9.5             11.5           xxxxxx           xxxxxx
ApproachLOS:         A                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
******************************************************************************
Intersection #1048 15th St / D St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   25   167    33   14     0     0    0     0    97    0    28
ApproachDel:       9.5             11.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=192]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=364]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=47]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=364]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

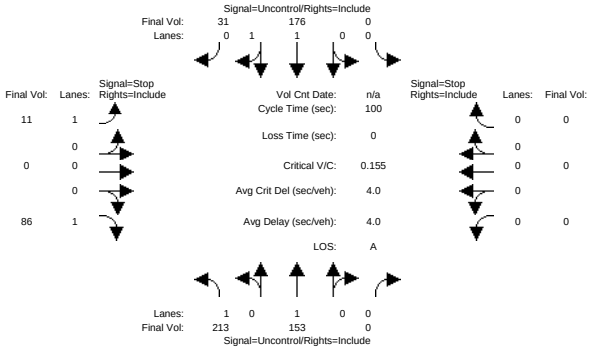
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
******************************************************************************
Intersection #1048 15th St / D St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   25   167    33   14     0     0    0     0    97    0    28
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             125
Minor Approach Volume:           192
Minor Approach Volume Threshold: 774
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1049: 16th St / D St




```
Street Name:            16th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     213  153     0     0  176    31    11    0    86     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  213  153     0     0  176    31    11    0    86     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  213  153     0     0  176    31    11    0    86     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   213  153     0     0  176    31    11    0    86     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  213  153     0     0  176    31    11    0    86     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  207 xxxx xxxxx  xxxx xxxx xxxxx   771 xxxx   104  xxxx xxxx xxxxx
Potent Cap.: 1376 xxxx xxxxx  xxxx xxxx xxxxx   371 xxxx   957  xxxx xxxx xxxxx
Move Cap.:   1376 xxxx xxxxx  xxxx xxxx xxxxx   327 xxxx   957  xxxx xxxx xxxxx
Volume/Cap:  0.15 xxxx  xxxx  xxxx xxxx  xxxx  0.03 xxxx  0.09  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   13.7 xxxx xxxxx  xxxx xxxx xxxxx   2.6 xxxx   7.4  xxxx xxxx xxxxx
Control Del:  8.1 xxxx xxxxx xxxxx xxxx xxxxx  16.4 xxxx   9.1 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     C    *     A     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             10.0           xxxxxx
ApproachLOS:         *                *                A                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1049 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:  213  153     0     0  176    31    11    0    86     0    0     0
ApproachDel:    xxxxxx           xxxxxx              10.0           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=97]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=670]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

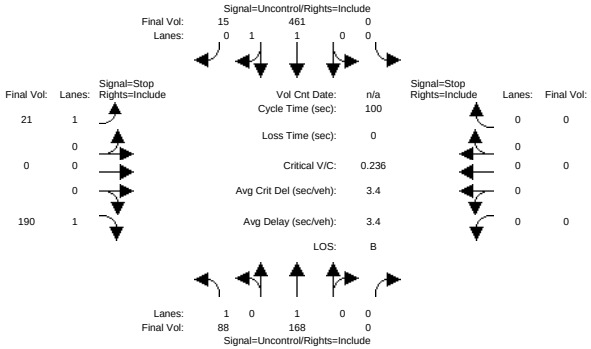
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1049 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:  213  153     0     0  176    31    11    0    86     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             573
Minor Approach Volume:           97
Minor Approach Volume Threshold: 614
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1049: 16th St / D St




```
Street Name:            16th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      88  168     0     0  461    15    21    0   190     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   88  168     0     0  461    15    21    0   190     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   88  168     0     0  461    15    21    0   190     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    88  168     0     0  461    15    21    0   190     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   88  168     0     0  461    15    21    0   190     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  476 xxxx xxxxx  xxxx xxxx xxxxx   813 xxxx   238  xxxx xxxx xxxxx
Potent Cap.: 1097 xxxx xxxxx  xxxx xxxx xxxxx   351 xxxx   806  xxxx xxxx xxxxx
Move Cap.:   1097 xxxx xxxxx  xxxx xxxx xxxxx   329 xxxx   806  xxxx xxxx xxxxx
Volume/Cap:  0.08 xxxx  xxxx  xxxx xxxx  xxxx  0.06 xxxx  0.24  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    6.5 xxxx xxxxx  xxxx xxxx xxxxx   5.1 xxxx  22.9  xxxx xxxx xxxxx
Control Del:  8.6 xxxx xxxxx xxxxx xxxx xxxxx  16.7 xxxx  10.8 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     C    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             11.4           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1049 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:   88  168     0     0  461    15    21    0   190     0    0     0
ApproachDel:    xxxxxx           xxxxxx              11.4           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=211]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=943]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1049 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:   88  168     0     0  461    15    21    0   190     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             732
Minor Approach Volume:           211
Minor Approach Volume Threshold: 508
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

MERCED STATION ANALYSIS

INTERSECTION

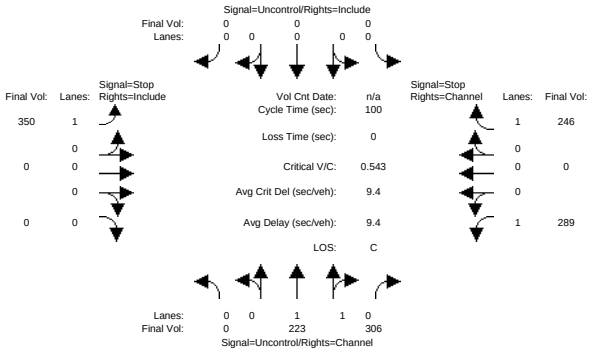
EXISTING WITH PROJECT_OPTION-A CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1001: 16th St / SR-59




```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  194   298     0    0     0   350    0     0   272    0   246
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  194   298     0    0     0   350    0     0   272    0   246
Added Vol:      0   29     8     0    0     0     0    0     0    17    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  223   306     0    0     0   350    0     0   289    0   246
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  223   306     0    0     0   350    0     0   289    0   246
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  223   306     0    0     0   350    0     0   289    0   246
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   112 xxxx xxxxx   376 xxxx   112
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   871 xxxx xxxxx   585 xxxx   947
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   645 xxxx xxxxx   585 xxxx   947
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.54 xxxx  xxxx  0.49 xxxx  0.26
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  81.8 xxxx xxxxx  68.2 xxxx  26.0
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  17.0 xxxx xxxxx  17.0 xxxx  10.1
LOS by Move:    *    *     *     *    *     *     C    *     *     C    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             17.0            13.8
ApproachLOS:         *                *                C               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  223   306     0    0     0   350    0     0   289    0   246
ApproachDel:    xxxxxx           xxxxxx             17.0            13.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=350]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1414]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=535]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1414]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

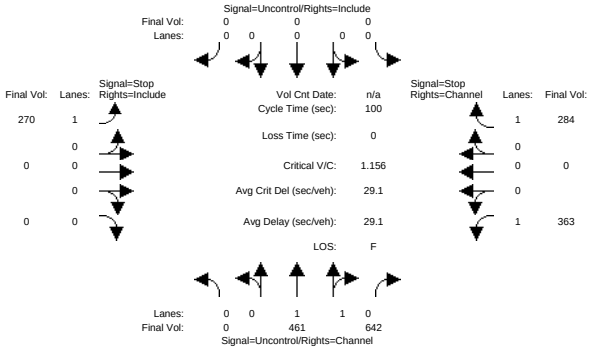
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  223   306     0    0     0   350    0     0   289    0   246
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             529
Minor Approach Volume:           535
Minor Approach Volume Threshold: 648
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1001: 16th St / SR-59




```
Street Name:            16th Street                     SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  427   625     0    0     0   270    0     0   355    0   284
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  427   625     0    0     0   270    0     0   355    0   284
Added Vol:      0   34    17     0    0     0     0    0     0     8    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  461   642     0    0     0   270    0     0   363    0   284
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  461   642     0    0     0   270    0     0   363    0   284
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  461   642     0    0     0   270    0     0   363    0   284
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   231 xxxx xxxxx   782 xxxx   231
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   729 xxxx xxxxx   314 xxxx   814
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   474 xxxx xxxxx   314 xxxx   814
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.57 xxxx  xxxx  1.16 xxxx  0.35
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  87.2 xxxx xxxxx   378 xxxx  39.3
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  22.1 xxxx xxxxx 136.2 xxxx  11.8
LOS by Move:    *    *     *     *    *     *     C    *     *     F    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             22.1            81.6
ApproachLOS:         *                *                C               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  461   642     0    0     0   270    0     0   363    0   284
ApproachDel:    xxxxxx           xxxxxx             22.1            81.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=270]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2020]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=14.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=647]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2020]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

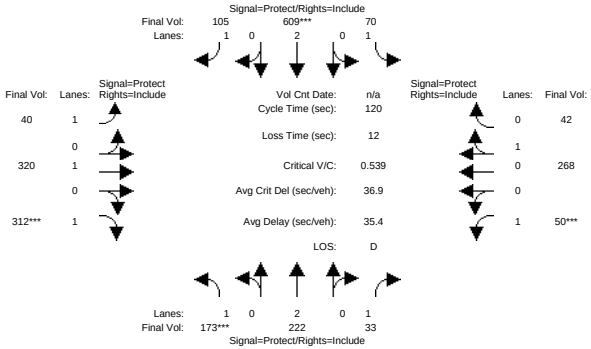
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  461   642     0    0     0   270    0     0   363    0   284
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1103
Minor Approach Volume:           647
Minor Approach Volume Threshold: 332
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

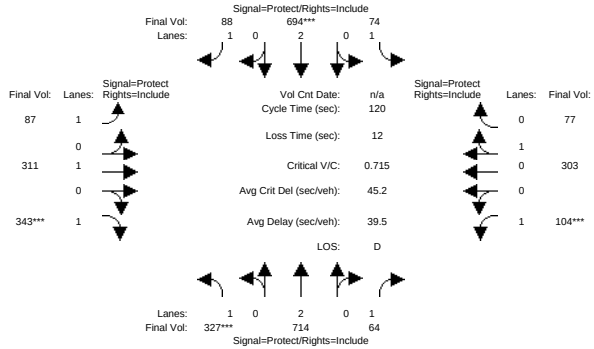



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     173  222    33    70  609   105    40  312   312    50  251    42
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  173  222    33    70  609   105    40  312   312    50  251    42
Added Vol:      0    0     0     0    0     0     0    8     0     0   17     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  173  222    33    70  609   105    40  320   312    50  268    42
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   173  222    33    70  609   105    40  320   312    50  268    42
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  173  222    33    70  609   105    40  320   312    50  268    42
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  173  222    33    70  609   105    40  320   312    50  268    42
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.98  0.98
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.86  0.14
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1610   252
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.06  0.02  0.04 0.17  0.07  0.02 0.17  0.19  0.03 0.17  0.17
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.18 0.29  0.29  0.20 0.31  0.31  0.11 0.36  0.36  0.06 0.31  0.31
Volume/Cap:  0.54 0.21  0.07  0.19 0.54  0.21  0.21 0.47  0.54  0.47 0.54  0.54
Delay/Veh:   47.0 32.7  31.3  40.2 34.9  30.7  49.4 30.5  32.0  58.1 35.7  35.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  47.0 32.7  31.3  40.2 34.9  30.7  49.4 30.5  32.0  58.1 35.7  35.7
LOS by Move:    D    C     C     D    C     C     D    C     C     E    D     D
HCM2kAvgQ:    143   78    21    54  250    71    37  229   237    61  244   244
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

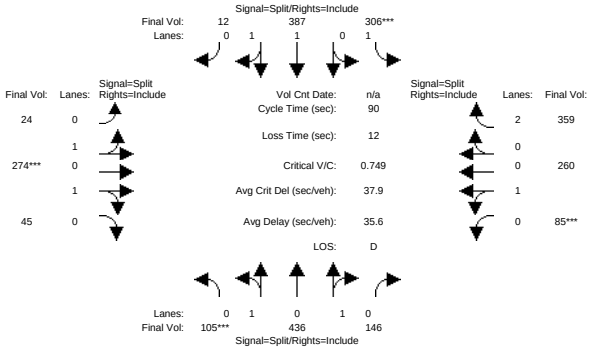



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     327  714    64    74  694    88    87  294   343   104  295    77
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  327  714    64    74  694    88    87  294   343   104  295    77
Added Vol:      0    0     0     0    0     0     0   17     0     0    8     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  327  714    64    74  694    88    87  311   343   104  303    77
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   327  714    64    74  694    88    87  311   343   104  303    77
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  327  714    64    74  694    88    87  311   343   104  303    77
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  327  714    64    74  694    88    87  311   343   104  303    77
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.97  0.97
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.80  0.20
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1470   373
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.20  0.04  0.04 0.19  0.05  0.05 0.16  0.21  0.06 0.21  0.21
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.25 0.40  0.40  0.12 0.27  0.27  0.08 0.30  0.30  0.08 0.29  0.29
Volume/Cap:  0.71 0.49  0.10  0.34 0.71  0.20  0.58 0.55  0.71  0.71 0.70  0.70
Delay/Veh:   46.2 26.9  22.3  49.5 42.3  34.1  58.5 36.6  42.7  69.3 41.7  41.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  46.2 26.9  22.3  49.5 42.3  34.1  58.5 36.6  42.7  69.3 41.7  41.7
LOS by Move:    D    C     C     D    D     C     E    D     D     E    D     D
HCM2kAvgQ:    271  245    34    69  331    63   100  247   311   131  334   334
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

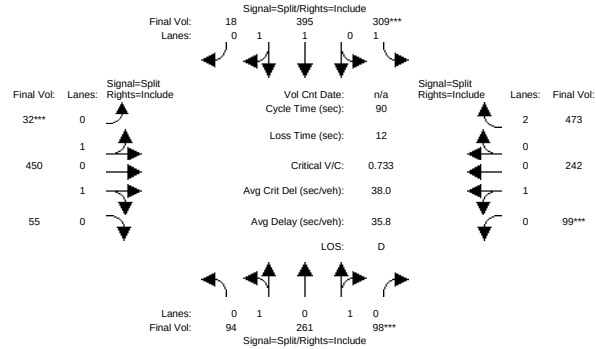



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  144   146  304  367    12   24  274    45   85  260   348
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   71  144   146  304  367    12   24  274    45   85  260   348
Added Vol:     34  292     0    2   20     0    0    0     0    0    0    11
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  105  436   146  306  387    12   24  274    45   85  260   359
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  105  436   146  306  387    12   24  274    45   85  260   359
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol: 105  436   146  306  387    12   24  274    45   85  260   359
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume: 105  436   146  306  387    12   24  274    45   85  260   359
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.91 0.91  0.91 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.31 1.27  0.42 1.00 1.94  0.06 0.14 1.60  0.26 0.25 0.75  2.00
Final Sat.:   530 2200   737 1805 3487   108  247 2818   463  462 1415  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.20 0.20  0.20 0.17 0.11  0.11 0.10 0.10  0.10 0.18 0.18  0.13
Crit Moves:  ****            ****            ****        ****
Green/Cycle: 0.26 0.26  0.26 0.23 0.23  0.23 0.13 0.13  0.13 0.25 0.25  0.25
Volume/Cap:  0.75 0.75  0.75 0.75 0.49  0.49 0.75 0.75  0.75 0.75 0.75  0.51
Delay/Veh:   33.8 33.8  33.8 39.9 30.8  30.8 44.4 44.4  44.4 38.1 38.1  30.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  33.8 33.8  33.8 39.9 30.8  30.8 44.4 44.4  44.4 38.1 38.1  30.0
LOS by Move:    C    C     C    D    C     C    D    D     D    D    D     C
HCM2kAvgQ:    271  271   271  240  137   137  166  166   166  263  263   136
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

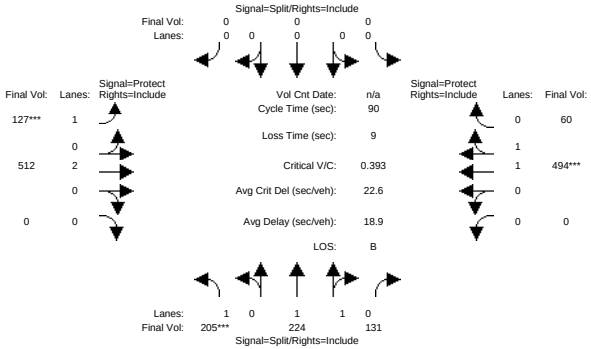



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      65  108    98  307  386    18   32  450    55   99  242   451
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   65  108    98  307  386    18   32  450    55   99  242   451
Added Vol:     29  153     0    2    9     0    0    0     0    0    0    22
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   94  261    98  309  395    18   32  450    55   99  242   473
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   94  261    98  309  395    18   32  450    55   99  242   473
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  94  261    98  309  395    18   32  450    55   99  242   473
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  94  261    98  309  395    18   32  450    55   99  242   473
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.91 0.91  0.91 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.42 1.15  0.43 1.00 1.91  0.09 0.12 1.68  0.20 0.29 0.71  2.00
Final Sat.:   718 1993   748 1805 3428   156  211 2971   363  544 1330  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.13 0.17 0.12  0.12 0.15 0.15  0.15 0.18 0.18  0.17
Crit Moves:             ****  ****            ****        ****
Green/Cycle: 0.18 0.18  0.18 0.23 0.23  0.23 0.21 0.21  0.21 0.25 0.25  0.25
Volume/Cap:  0.73 0.73  0.73 0.73 0.49  0.49 0.73 0.73  0.73 0.73 0.73  0.67
Delay/Veh:   39.5 39.5  39.5 38.4 30.3  30.3 37.2 37.2  37.2 37.0 37.0  33.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  39.5 39.5  39.5 38.4 30.3  30.3 37.2 37.2  37.2 37.0 37.0  33.0
LOS by Move:    D    D     D    D    C     C    D    D     D    D    D     C
HCM2kAvgQ:    198  198   198  238  141   141  223  223   223  255  255   197
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

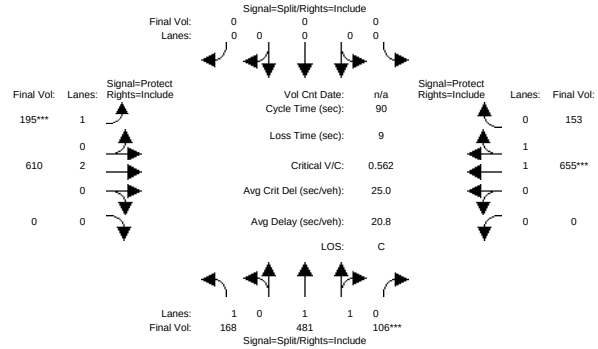



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     202   77   131     0    0     0   127  476     0     0  486    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  202   77   131     0    0     0   127  476     0     0  486    46
Added Vol:      3  147     0     0    0     0     0   36     0     0    8    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  205  224   131     0    0     0   127  512     0     0  494    60
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   205  224   131     0    0     0   127  512     0     0  494    60
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  205  224   131     0    0     0   127  512     0     0  494    60
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  205  224   131     0    0     0   127  512     0     0  494    60
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.90  0.90  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.93  0.93
Lanes:       1.00 1.26  0.74  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.78  0.22
Final Sat.:  1615 2153  1259     0    0     0  1805 3610     0     0 3168   385
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.10  0.10  0.00 0.00  0.00  0.07 0.14  0.00  0.00 0.16  0.16
Crit Moves:  ****                             ****                    ****
Green/Cycle: 0.32 0.32  0.32  0.00 0.00  0.00  0.18 0.58  0.00  0.00 0.40  0.40
Volume/Cap:  0.39 0.32  0.32  0.00 0.00  0.00  0.39 0.25  0.00  0.00 0.39  0.39
Delay/Veh:   24.1 23.2  23.2   0.0  0.0   0.0  33.4  9.5   0.0   0.0 19.5  19.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.1 23.2  23.2   0.0  0.0   0.0  33.4  9.5   0.0   0.0 19.5  19.5
LOS by Move:    C    C     C     A    A     A     C    A     A     A    B     B
HCM2kAvgQ:    115  100   100     0    0     0    86   91     0     0  139   139
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

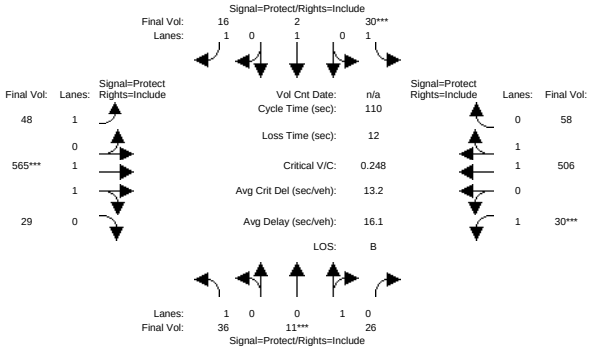



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156  173   106     0    0     0   195  579     0     0  645   136
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  156  173   106     0    0     0   195  579     0     0  645   136
Added Vol:     12  308     0     0    0     0     0   31     0     0   10    17
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  168  481   106     0    0     0   195  610     0     0  655   153
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   168  481   106     0    0     0   195  610     0     0  655   153
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  168  481   106     0    0     0   195  610     0     0  655   153
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  168  481   106     0    0     0   195  610     0     0  655   153
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.92  0.92  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.92  0.92
Lanes:       1.00 1.64  0.36  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.62  0.38
Final Sat.:  1615 2878   634     0    0     0  1805 3610     0     0 2844   664
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.17  0.17  0.00 0.00  0.00  0.11 0.17  0.00  0.00 0.23  0.23
Crit Moves:              ****                    ****                    ****
Green/Cycle: 0.30 0.30  0.30  0.00 0.00  0.00  0.19 0.60  0.00  0.00 0.41  0.41
Volume/Cap:  0.35 0.56  0.56  0.00 0.00  0.00  0.56 0.28  0.00  0.00 0.56  0.56
Delay/Veh:   25.2 27.4  27.4   0.0  0.0   0.0  35.0  8.6   0.0   0.0 20.9  20.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  25.2 27.4  27.4   0.0  0.0   0.0  35.0  8.6   0.0   0.0 20.9  20.9
LOS by Move:    C    C     C     A    A     A     C    A     A     A    C     C
HCM2kAvgQ:     96  194   194     0    0     0   140  106     0     0  221   221
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1005: 15th St / V St



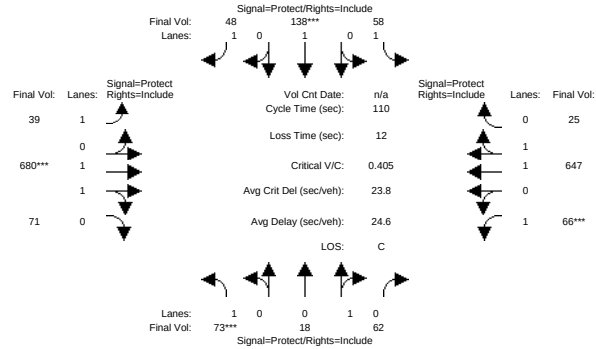
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	36	11	26	30	2	16	48	529	29	30	484	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	11	26	30	2	16	48	529	29	30	484	58
Added Vol:	0	0	0	0	0	0	0	36	0	0	22	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	11	26	30	2	16	48	565	29	30	506	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	11	26	30	2	16	48	565	29	30	506	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	11	26	30	2	16	48	565	29	30	506	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	11	26	30	2	16	48	565	29	30	506	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.79	0.21
Final Sat.:	1805	506	1195	1805	1900	1615	1805	3410	175	1805	3190	366
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.02	0.00	0.01	0.03	0.17	0.17	0.02	0.16	0.16
Crit Moves:		****		****				****		****		
Green/Cycle:	0.06	0.09	0.09	0.07	0.09	0.09	0.21	0.67	0.67	0.07	0.52	0.52
Volume/Cap:	0.31	0.24	0.24	0.25	0.01	0.11	0.13	0.25	0.25	0.25	0.30	0.30
Delay/Veh:	50.6	47.3	47.3	49.8	45.3	46.0	35.4	7.4	7.4	49.8	15.0	15.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.6	47.3	47.3	49.8	45.3	46.0	35.4	7.4	7.4	49.8	15.0	15.0
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	37	34	34	30	2	14	31	103	103	23	135	135

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1005: 15th St / V St



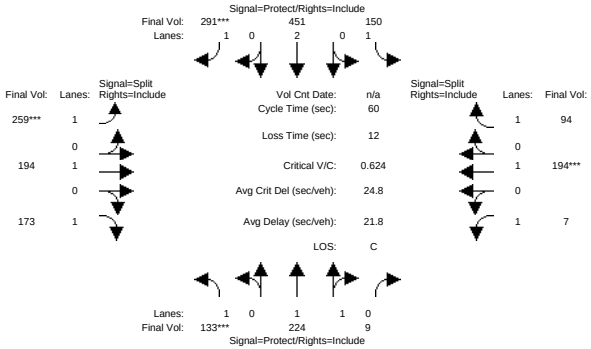
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	73	18	62	58	138	48	39	649	71	66	620	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	18	62	58	138	48	39	649	71	66	620	25
Added Vol:	0	0	0	0	0	0	0	31	0	0	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	18	62	58	138	48	39	680	71	66	647	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	18	62	58	138	48	39	680	71	66	647	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	18	62	58	138	48	39	680	71	66	647	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	18	62	58	138	48	39	680	71	66	647	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.23	0.77	1.00	1.00	1.00	1.00	1.81	0.19	1.00	1.93	0.07
Final Sat.:	1805	378	1302	1805	1900	1615	1805	3223	337	1805	3455	133
Capacity Analysis Module:												
Vol/Sat:	0.04	0.05	0.05	0.03	0.07	0.03	0.02	0.21	0.21	0.04	0.19	0.19
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.16	0.16	0.12	0.18	0.18	0.16	0.52	0.52	0.09	0.46	0.46
Volume/Cap:	0.40	0.29	0.29	0.28	0.40	0.17	0.14	0.40	0.40	0.40	0.41	0.41
Delay/Veh:	47.9	40.9	40.9	45.2	40.7	38.4	40.4	16.1	16.1	48.9	20.2	20.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.9	40.9	40.9	45.2	40.7	38.4	40.4	16.1	16.1	48.9	20.2	20.2
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	C
HCM2kAvgQ:	69	64	64	50	110	36	27	196	196	51	190	190

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1006: 16th St / V St



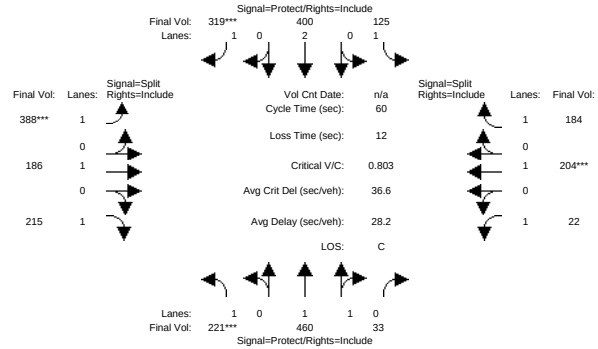
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	111	187	9	150	434	291	259	194	137	7	194	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	111	187	9	150	434	291	259	194	137	7	194	94
Added Vol:	22	37	0	0	17	0	0	0	36	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	133	224	9	150	451	291	259	194	173	7	194	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	133	224	9	150	451	291	259	194	173	7	194	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	133	224	9	150	451	291	259	194	173	7	194	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	133	224	9	150	451	291	259	194	173	7	194	94
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.92	0.08	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3450	139	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.06	0.06	0.08	0.12	0.18	0.14	0.10	0.11	0.00	0.10	0.06
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.24	0.24	0.17	0.29	0.29	0.23	0.23	0.23	0.17	0.17	0.17
Volume/Cap:	0.63	0.27	0.27	0.50	0.44	0.63	0.63	0.45	0.47	0.02	0.61	0.35
Delay/Veh:	31.1	18.8	18.8	24.0	17.7	21.3	23.9	20.6	20.9	20.9	26.7	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.1	18.8	18.8	24.0	17.7	21.3	23.9	20.6	20.9	20.9	26.7	22.9
LOS by Move:	C	B	B	C	B	C	C	C	C	C	C	C
HCM2kAvgQ:	61	45	45	80	99	145	110	76	69	3	111	48

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1006: 16th St / V St



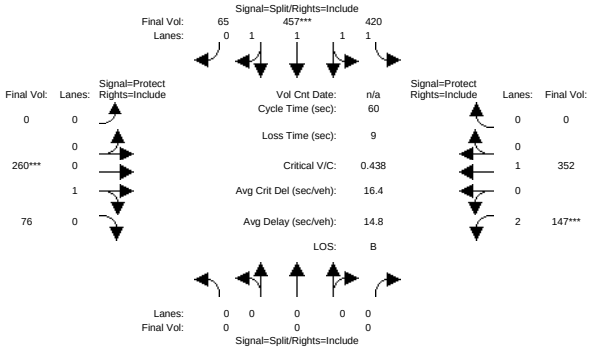
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	194	409	33	125	392	319	388	186	184	22	204	184
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	409	33	125	392	319	388	186	184	22	204	184
Added Vol:	27	51	0	0	8	0	0	0	31	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	221	460	33	125	400	319	388	186	215	22	204	184
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	221	460	33	125	400	319	388	186	215	22	204	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	221	460	33	125	400	319	388	186	215	22	204	184
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	221	460	33	125	400	319	388	186	215	22	204	184
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.87	0.13	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3335	239	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.12	0.14	0.14	0.07	0.11	0.20	0.21	0.10	0.13	0.01	0.11	0.11
Crit Moves:	****					****	****				****	
Green/Cycle:	0.14	0.22	0.22	0.16	0.23	0.23	0.25	0.25	0.25	0.17	0.17	0.17
Volume/Cap:	0.84	0.62	0.62	0.44	0.47	0.84	0.84	0.38	0.52	0.07	0.64	0.68
Delay/Veh:	46.5	22.5	22.5	24.1	20.2	37.8	34.7	19.0	20.5	21.2	27.9	30.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.5	22.5	22.5	24.1	20.2	37.8	34.7	19.0	20.5	21.2	27.9	30.6
LOS by Move:	D	C	C	C	C	D	C	B	C	C	C	C
HCM2kAvgQ:	114	109	109	66	97	218	190	69	85	10	120	118

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1007: 13th St / R St



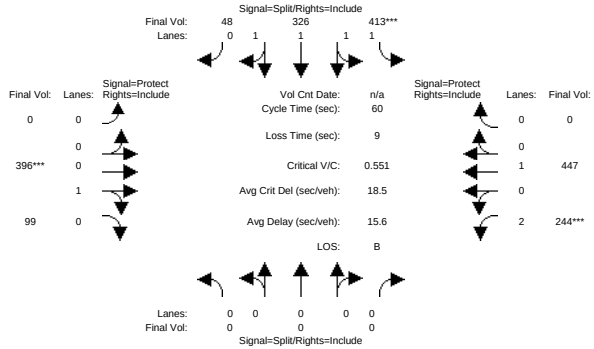
Street Name:	13th Street									R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	337	229	65	0	260	76	147	352	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	337	229	65	0	260	76	147	352	0
Added Vol:	0	0	0	83	228	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	420	457	65	0	260	76	147	352	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	420	457	65	0	260	76	147	352	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	420	457	65	0	260	76	147	352	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	420	457	65	0	260	76	147	352	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.84	0.84	0.84	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	1.78	1.94	0.28	0.00	0.77	0.23	2.00	1.00	0.00
Final Sat.:	0	0	0	2848	3099	441	0	1425	416	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.15	0.15	0.15	0.00	0.18	0.18	0.04	0.19	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.33	0.33	0.33	0.00	0.41	0.41	0.12	0.52	0.00
Volume/Cap:	0.00	0.00	0.00	0.45	0.45	0.45	0.00	0.45	0.45	0.36	0.35	0.00
Delay/Veh:	0.0	0.0	0.0	16.1	16.1	16.1	0.0	13.4	13.4	25.0	8.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.1	16.1	16.1	0.0	13.4	13.4	25.0	8.6	0.0
LOS by Move:	A	A	A	B	B	B	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	105	105	105	0	122	122	32	93	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1007: 13th St / R St



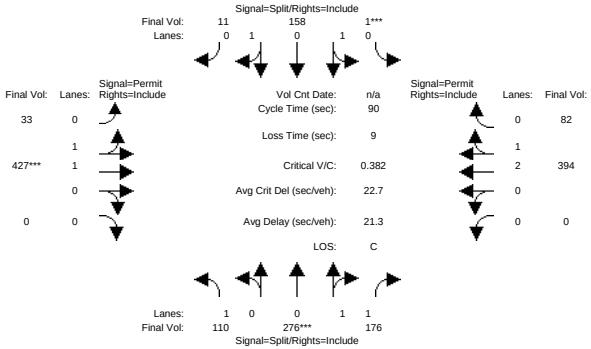
Street Name:	13th Street									R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	371	206	48	0	396	99	244	447	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	371	206	48	0	396	99	244	447	0
Added Vol:	0	0	0	42	120	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	413	326	48	0	396	99	244	447	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	413	326	48	0	396	99	244	447	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	413	326	48	0	396	99	244	447	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	413	326	48	0	396	99	244	447	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.83	0.83	0.83	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.74	0.26	0.00	0.80	0.20	2.00	1.00	0.00
Final Sat.:	0	0	0	3156	2751	405	0	1479	370	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.12	0.12	0.00	0.27	0.27	0.07	0.24	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.24	0.24	0.24	0.00	0.49	0.49	0.13	0.61	0.00
Volume/Cap:	0.00	0.00	0.00	0.55	0.50	0.50	0.00	0.55	0.55	0.55	0.38	0.00
Delay/Veh:	0.0	0.0	0.0	20.5	20.0	20.0	0.0	11.6	11.6	26.1	6.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	20.5	20.0	20.0	0.0	11.6	11.6	26.1	6.1	0.0
LOS by Move:	A	A	A	C	C	C	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	112	98	98	0	175	175	56	103	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

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Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     110  276   176    1   36    11   33  344     0    0  394    68
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  110  276   176    1   36    11   33  344     0    0  394    68
Added Vol:      0    0     0    0  122     0    0   83     0    0    0    14
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  110  276   176    1  158    11   33  427     0    0  394    82
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   110  276   176    1  158    11   33  427     0    0  394    82
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  110  276   176    1  158    11   33  427     0    0  394    82
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  110  276   176    1  158    11   33  427     0    0  394    82
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.85 0.85  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.01 1.86  0.13 0.14 1.86  0.00 0.00 2.48  0.52
Final Sat.:  1805 1790  1790   21 3322   231  232 3006     0    0 4182   870
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.15  0.10 0.05 0.05  0.05 0.14 0.14  0.00 0.00 0.09  0.09
Crit Moves:        ****        ****            ****
Green/Cycle: 0.40 0.40  0.40 0.12 0.12  0.12 0.37 0.37  0.00 0.00 0.37  0.37
Volume/Cap:  0.15 0.38  0.24 0.38 0.38  0.38 0.38 0.38  0.00 0.00 0.25  0.25
Delay/Veh:   17.1 19.1  17.8 36.8 36.8  36.8 20.9 20.9   0.0  0.0 19.7  19.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  17.1 19.1  17.8 36.8 36.8  36.8 20.9 20.9   0.0  0.0 19.7  19.7
LOS by Move:    B    B     B    D    D     D    C    C     A    A    B     B
HCM2kAvgQ:     48  137    81   66   66    66  118  118     0    0   80    80
Note: Queue reported is the distance per lane in feet.
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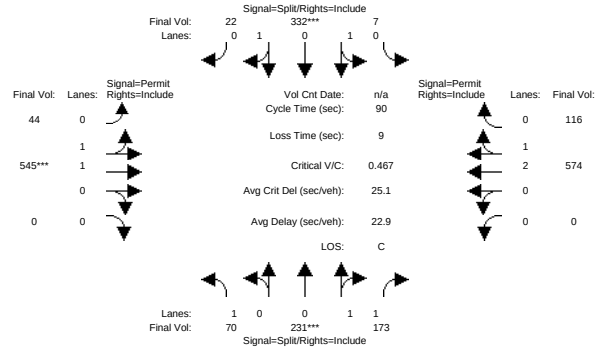
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

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Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      70  231   173    7   86    22   44  503     0    0  574    99
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   70  231   173    7   86    22   44  503     0    0  574    99
Added Vol:      0    0     0    0  246     0    0   42     0    0    0    17
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   70  231   173    7  332    22   44  545     0    0  574   116
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   70  231   173    7  332    22   44  545     0    0  574   116
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   70  231   173    7  332    22   44  545     0    0  574   116
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   70  231   173    7  332    22   44  545     0    0  574   116
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.82 0.82  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.04 1.84  0.12 0.15 1.85  0.00 0.00 2.50  0.50
Final Sat.:  1805 1778  1778   69 3287   218  232 2879     0    0 4207   850
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.13  0.10 0.10 0.10  0.10 0.19 0.19  0.00 0.00 0.14  0.14
Crit Moves:        ****            ****            ****
Green/Cycle: 0.28 0.28  0.28 0.22 0.22  0.22 0.41 0.41  0.00 0.00 0.41  0.41
Volume/Cap:  0.14 0.47  0.35 0.47 0.47  0.47 0.47 0.47  0.00 0.00 0.34  0.34
Delay/Veh:   24.5 27.3  26.2 31.2 31.2  31.2 19.9 19.9   0.0  0.0 18.5  18.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  24.5 27.3  26.2 31.2 31.2  31.2 19.9 19.9   0.0  0.0 18.5  18.5
LOS by Move:    C    C     C    C    C     C    B    B     A    A    B     B
HCM2kAvgQ:     37  141   100  125  125   125  152  152     0    0  115   115
Note: Queue reported is the distance per lane in feet.
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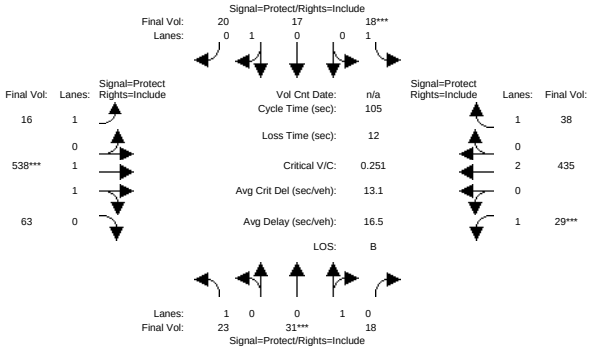
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1009: 15th St / R St



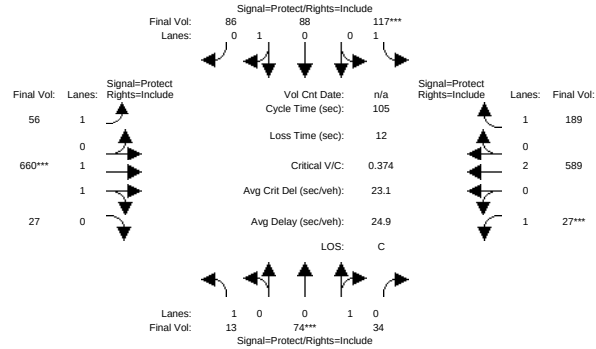
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	23	31	16	18	17	20	16	502	16	23	421	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	31	16	18	17	20	16	502	16	23	421	38
Added Vol:	0	0	2	0	0	0	0	36	47	6	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	23	31	18	18	17	20	16	538	63	29	435	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	31	18	18	17	20	16	538	63	29	435	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	31	18	18	17	20	16	538	63	29	435	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	31	18	18	17	20	16	538	63	29	435	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.95	0.85
Lanes:	1.00	0.63	0.37	1.00	0.46	0.54	1.00	1.79	0.21	1.00	2.00	1.00
Final Sat.:	1805	1136	660	1805	802	944	1805	3180	372	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.01	0.02	0.02	0.01	0.17	0.17	0.02	0.12	0.02
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.10	0.10	0.07	0.10	0.10	0.25	0.65	0.65	0.07	0.46	0.46
Volume/Cap:	0.18	0.26	0.26	0.15	0.21	0.21	0.03	0.26	0.26	0.24	0.26	0.05
Delay/Veh:	46.6	44.0	44.0	46.8	44.0	44.0	29.5	7.9	7.9	47.5	17.5	15.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.6	44.0	44.0	46.8	44.0	44.0	29.5	7.9	7.9	47.5	17.5	15.7
LOS by Move:	D	D	D	D	D	D	C	A	A	D	B	B
HCM2kAvgQ:	21	42	42	17	31	31	9	105	105	22	108	16

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1009: 15th St / R St



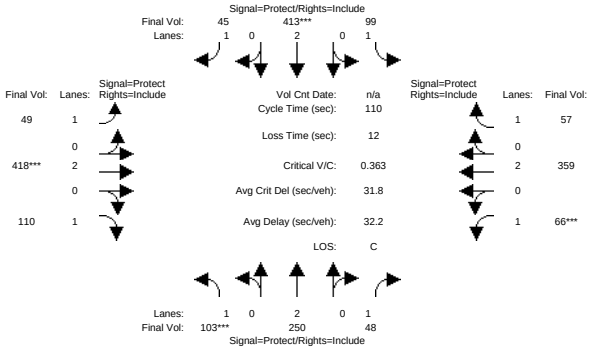
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	13	74	28	117	88	86	56	629	15	25	572	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	74	28	117	88	86	56	629	15	25	572	189
Added Vol:	0	0	6	0	0	0	0	31	12	2	17	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	74	34	117	88	86	56	660	27	27	589	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	74	34	117	88	86	56	660	27	27	589	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	74	34	117	88	86	56	660	27	27	589	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	74	34	117	88	86	56	660	27	27	589	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.93	0.93	0.95	0.94	0.94	0.95	0.95	0.85
Lanes:	1.00	0.69	0.31	1.00	0.51	0.49	1.00	1.92	0.08	1.00	2.00	1.00
Final Sat.:	1805	1241	570	1805	890	870	1805	3447	141	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.06	0.06	0.10	0.10	0.03	0.19	0.19	0.01	0.16	0.12
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.15	0.15	0.17	0.19	0.19	0.16	0.50	0.50	0.07	0.40	0.40
Volume/Cap:	0.06	0.39	0.39	0.39	0.51	0.51	0.19	0.39	0.39	0.22	0.41	0.29
Delay/Veh:	40.1	40.8	40.8	39.7	39.3	39.3	38.2	16.6	16.6	47.4	22.8	21.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.1	40.8	40.8	39.7	39.3	39.3	38.2	16.6	16.6	47.4	22.8	21.7
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	C
HCM2kAvgQ:	10	86	86	91	139	139	37	174	174	20	172	99

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1010: 16th St / R St



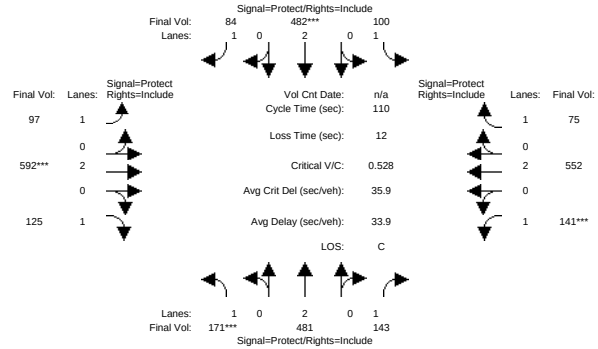
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	89	191	44	99	360	45	49	416	74	61	353	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	191	44	99	360	45	49	416	74	61	353	57
Added Vol:	14	59	4	0	53	0	0	2	36	5	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	250	48	99	413	45	49	418	110	66	359	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	103	250	48	99	413	45	49	418	110	66	359	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	250	48	99	413	45	49	418	110	66	359	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	250	48	99	413	45	49	418	110	66	359	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.03	0.05	0.11	0.03	0.03	0.12	0.07	0.04	0.10	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.28	0.28	0.19	0.31	0.31	0.16	0.32	0.32	0.10	0.26	0.26
Volume/Cap:	0.36	0.25	0.11	0.28	0.36	0.09	0.17	0.36	0.21	0.36	0.39	0.14
Delay/Veh:	42.2	31.0	29.7	38.2	29.4	26.6	39.8	29.1	27.6	47.4	34.1	31.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.2	31.0	29.7	38.2	29.4	26.6	39.8	29.1	27.6	47.4	34.1	31.7
LOS by Move:	D	C	C	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	84	86	30	68	136	25	34	137	65	51	127	35

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1010: 16th St / R St



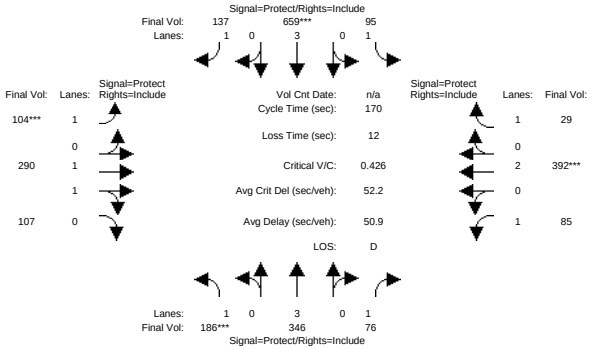
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	154	403	138	100	443	84	97	586	94	137	550	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	154	403	138	100	443	84	97	586	94	137	550	75
Added Vol:	17	78	5	0	39	0	0	6	31	4	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	171	481	143	100	482	84	97	592	125	141	552	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	171	481	143	100	482	84	97	592	125	141	552	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	171	481	143	100	482	84	97	592	125	141	552	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	171	481	143	100	482	84	97	592	125	141	552	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.09	0.06	0.13	0.05	0.05	0.16	0.08	0.08	0.15	0.05
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.29	0.29	0.14	0.25	0.25	0.13	0.31	0.31	0.15	0.32	0.32
Volume/Cap:	0.53	0.46	0.30	0.40	0.53	0.21	0.40	0.53	0.25	0.53	0.47	0.14
Delay/Veh:	42.5	32.1	30.6	44.1	36.0	32.6	44.6	31.7	28.6	45.3	30.0	26.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	32.1	30.6	44.1	36.0	32.6	44.6	31.7	28.6	45.3	30.0	26.5
LOS by Move:	D	C	C	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	145	178	96	74	179	53	73	211	75	109	190	43

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1011: Olive Ave / R St



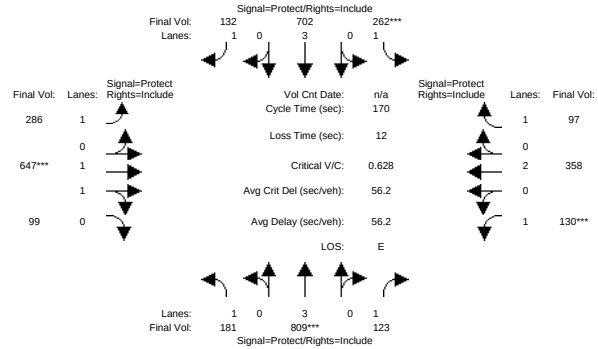
Street Name:	Olive Avenue									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	186		346	76	95		659	137	104		285	107	85		381	29
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	186		346	76	95		659	137	104		285	107	85		381	29
Added Vol:	0		0	0	0		0	0	0		5	0	0		11	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	186		346	76	95		659	137	104		290	107	85		392	29
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	186		346	76	95		659	137	104		290	107	85		392	29
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	186		346	76	95		659	137	104		290	107	85		392	29
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	186		346	76	95		659	137	104		290	107	85		392	29
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.91	0.85	0.95		0.91	0.85	0.95		0.91	0.91	0.95		0.95	0.85
Lanes:	1.00		3.00	1.00	1.00		3.00	1.00	1.00		1.46	0.54	1.00		2.00	1.00
Final Sat.:	1805		5187	1615	1805		5187	1615	1805		2532	934	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.10		0.07	0.05	0.05		0.13	0.08	0.06		0.11	0.11	0.05		0.11	0.02
Crit Moves:	****						****		****						****	
Green/Cycle:	0.24		0.30	0.30	0.24		0.30	0.30	0.14		0.28	0.28	0.11		0.25	0.25
Volume/Cap:	0.43		0.22	0.16	0.22		0.43	0.28	0.43		0.41	0.41	0.41		0.43	0.07
Delay/Veh:	55.2		44.5	43.7	52.4		48.2	46.1	68.7		50.6	50.6	71.5		53.3	48.2
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	55.2		44.5	43.7	52.4		48.2	46.1	68.7		50.6	50.6	71.5		53.3	48.2
LOS by Move:	E		D	D	D		D	D	E		D	D	E		D	D
HCM2kAvgQ:	196		117	68	94		240	129	131		219	219	110		222	28

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1011: Olive Ave / R St



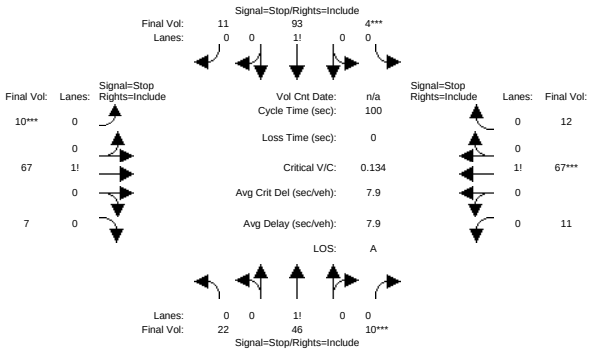
Street Name:	Olive Avenue									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	181		809	123	262		702	132	286		636	99	130		353	97
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	181		809	123	262		702	132	286		636	99	130		353	97
Added Vol:	0		0	0	0		0	0	0		11	0	0		5	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	181		809	123	262		702	132	286		647	99	130		358	97
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	181		809	123	262		702	132	286		647	99	130		358	97
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	181		809	123	262		702	132	286		647	99	130		358	97
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	181		809	123	262		702	132	286		647	99	130		358	97
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.91	0.85	0.95		0.91	0.85	0.95		0.93	0.93	0.95		0.95	0.85
Lanes:	1.00		3.00	1.00	1.00		3.00	1.00	1.00		1.73	0.27	1.00		2.00	1.00
Final Sat.:	1805		5187	1615	1805		5187	1615	1805		3068	469	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.10		0.16	0.08	0.15		0.14	0.08	0.16		0.21	0.21	0.07		0.10	0.06
Crit Moves:			****		****						****		****			
Green/Cycle:	0.20		0.25	0.25	0.23		0.28	0.28	0.28		0.34	0.34	0.11		0.17	0.17
Volume/Cap:	0.49		0.63	0.31	0.63		0.49	0.30	0.57		0.63	0.63	0.63		0.57	0.35
Delay/Veh:	60.9		57.9	52.4	61.8		51.9	49.0	54.4		48.6	48.6	77.8		65.8	62.6
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	60.9		57.9	52.4	61.8		51.9	49.0	54.4		48.6	48.6	77.8		65.8	62.6
LOS by Move:	E		E	D	E		D	D	D		D	D	E		E	E
HCM2kAvgQ:	199		331	123	294		265	127	322		430	430	183		235	114

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #1012: 15th St / O St

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Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8    44    10     4    40    11    10    67     7    11    67    12
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    8    44    10     4    40    11    10    67     7    11    67    12
Added Vol:     14     2     0     0    53     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   22    46    10     4    93    11    10    67     7    11    67    12
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    22    46    10     4    93    11    10    67     7    11    67    12
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   22    46    10     4    93    11    10    67     7    11    67    12
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   22    46    10     4    93    11    10    67     7    11    67    12
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.28  0.59  0.13  0.04  0.86  0.10  0.12  0.80  0.08  0.12  0.75  0.13
Final Sat.:   223   467   101    30   694    82    94   630    66    97   593   106
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10  0.10  0.10  0.13  0.13  0.13  0.11  0.11  0.11  0.11  0.11  0.11
Crit Moves:              ****  ****              ****                    ****
Delay/Veh:    7.8   7.8   7.8   7.9   7.9   7.9   7.9   7.9   7.9   7.9   7.9   7.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.8   7.8   7.8   7.9   7.9   7.9   7.9   7.9   7.9   7.9   7.9   7.9
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        7.8              7.9              7.9              7.9
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:         7.8              7.9              7.9              7.9
LOS by Appr:          A                A                A                A
AllWayAvgQ:   2.5   2.5   2.5   3.6   3.6   3.6   2.7   2.7   2.7   2.9   2.9   2.9
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
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Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   22   46   10     4   93   11    10   67     7    11   67   12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             186
Minor Approach Volume:           90
Minor Approach Volume Threshold: 668
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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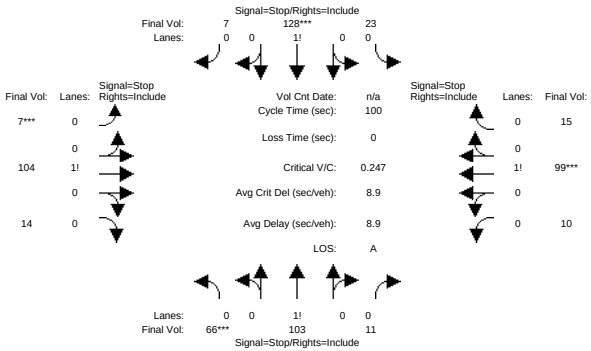
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #1012: 15th St / O St



Street Name:	15th Street									O Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Volume Module:																				
Base Vol:	9		97		11	23		115		7	7		104		14	10		99		15
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	9		97		11	23		115		7	7		104		14	10		99		15
Added Vol:	57		6		0	0		13		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	66		103		11	23		128		7	7		104		14	10		99		15
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	66		103		11	23		128		7	7		104		14	10		99		15
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	66		103		11	23		128		7	7		104		14	10		99		15
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	66		103		11	23		128		7	7		104		14	10		99		15
Saturation Flow Module:																				
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Lanes:	0.37	0.57	0.06		0.15	0.81	0.04		0.06	0.83	0.11	0.08	0.80		0.12					
Final Sat.:	267		417		45	106		590		32	40		587		79	57		563		85
Capacity Analysis Module:																				
Vol/Sat:	0.25	0.25	0.25		0.22	0.22	0.22		0.18	0.18	0.18	0.18	0.18		0.18					
Crit Moves:	****					****			****				****							
Delay/Veh:	9.2		9.2		9.2	8.9		8.9		8.9	8.7		8.7		8.7	8.7		8.7		8.7
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00					
AdjDel/Veh:	9.2		9.2		9.2	8.9		8.9		8.9	8.7		8.7		8.7	8.7		8.7		8.7
LOS by Move:	A		A		A	A		A		A	A		A		A	A		A		A
ApproachDel:	9.2					8.9					8.7					8.7				
Delay Adj:	1.00					1.00					1.00					1.00				
ApprAdjDel:	9.2					8.9					8.7					8.7				
LOS by Appr:	A					A					A					A				
AllWayAvgQ:	7.3		7.3		7.3	6.2		6.2		6.2	4.7		4.7		4.7	4.6		4.6		4.6

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1012 15th St / O St

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0
Initial Vol:	66		103	11	23		128	7	7		104	14	10		99	15

Major Street Volume: 338
Minor Approach Volume: 125
Minor Approach Volume Threshold: 509

SIGNAL WARRANT DISCLAIMER

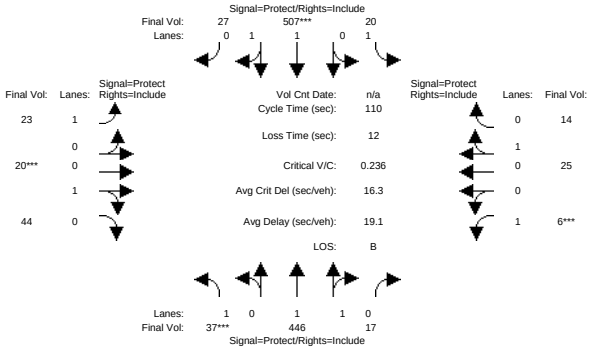
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1013: 16th St / O St



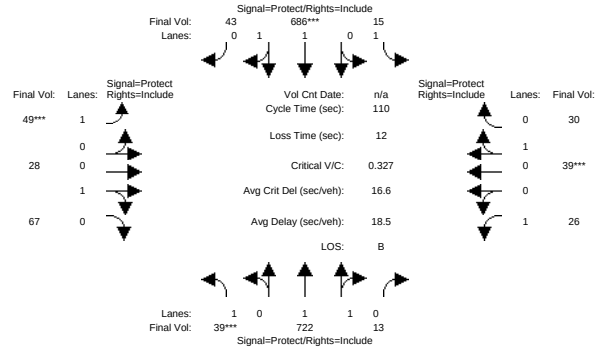
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	37	369	17	20	413	27	23	20	44	6	25	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	369	17	20	413	27	23	20	44	6	25	14
Added Vol:	0	77	0	0	94	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	37	446	17	20	507	27	23	20	44	6	25	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	446	17	20	507	27	23	20	44	6	25	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	446	17	20	507	27	23	20	44	6	25	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	446	17	20	507	27	23	20	44	6	25	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.93	0.07	1.00	1.90	0.10	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3457	132	1805	3400	181	1805	533	1172	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.01	0.15	0.15	0.01	0.04	0.04	0.00	0.02	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.08	0.45	0.45	0.22	0.60	0.60	0.09	0.15	0.15	0.06	0.13	0.13
Volume/Cap:	0.25	0.28	0.28	0.05	0.25	0.25	0.14	0.25	0.25	0.05	0.17	0.17
Delay/Veh:	48.2	18.9	18.9	33.6	10.6	10.6	46.8	41.8	41.8	48.6	43.3	43.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.2	18.9	18.9	33.6	10.6	10.6	46.8	41.8	41.8	48.6	43.3	43.3
LOS by Move:	D	B	B	C	B	B	D	D	D	D	D	D
HCM2kAvgQ:	35	127	127	13	110	110	20	51	51	6	32	32

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1013: 16th St / O St



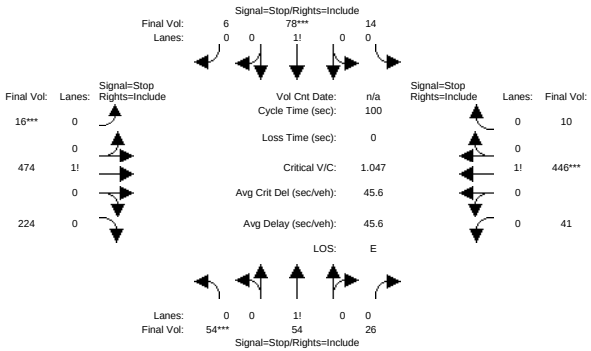
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	39	623	13	15	613	43	49	28	67	26	39	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	623	13	15	613	43	49	28	67	26	39	30
Added Vol:	0	99	0	0	73	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	722	13	15	686	43	49	28	67	26	39	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	722	13	15	686	43	49	28	67	26	39	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	722	13	15	686	43	49	28	67	26	39	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	722	13	15	686	43	49	28	67	26	39	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.88	0.12	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3536	64	1805	3366	211	1805	501	1198	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.02	0.20	0.20	0.01	0.20	0.20	0.03	0.06	0.06	0.01	0.04	0.04
Crit Moves:	****				****		****				****	
Green/Cycle:	0.07	0.53	0.53	0.16	0.62	0.62	0.08	0.12	0.12	0.08	0.12	0.12
Volume/Cap:	0.33	0.39	0.39	0.05	0.33	0.33	0.33	0.47	0.47	0.17	0.33	0.33
Delay/Veh:	50.6	15.7	15.7	38.9	9.9	9.9	48.8	47.0	47.0	47.5	45.3	45.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.6	15.7	15.7	38.9	9.9	9.9	48.8	47.0	47.0	47.5	45.3	45.3
LOS by Move:	D	B	B	D	A	A	D	D	D	D	D	D
HCM2kAvgQ:	40	192	192	11	151	151	47	89	89	24	60	60

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #1014: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    38    18    14    25     6    16   337     6     7   343    10
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2    38    18    14    25     6    16   337     6     7   343    10
Added Vol:     52    16     8     0    53     0     0   137   218    34   103     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   54    54    26    14    78     6    16   474   224    41   446    10
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    54    54    26    14    78     6    16   474   224    41   446    10
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   54    54    26    14    78     6    16   474   224    41   446    10
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   54    54    26    14    78     6    16   474   224    41   446    10
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.41  0.40  0.19  0.14  0.80  0.06  0.02  0.67  0.31  0.08  0.90  0.02
Final Sat.:   197   197    95    68   377    29    15   453   214    52   564    13
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.27  0.27  0.27  0.21  0.21  0.21  1.05  1.05  1.05  0.79  0.79  0.79
Crit Moves:  ****                    ****        ****                    ****
Delay/Veh:   12.4  12.4  12.4  11.8  11.8  11.8  70.0  70.0  70.0  26.2  26.2  26.2
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  12.4  12.4  12.4  11.8  11.8  11.8  70.0  70.0  70.0  26.2  26.2  26.2
LOS by Move:    B     B     B     B     B     B     F     F     F     D     D     D
ApproachDel:       12.4              11.8              70.0              26.2
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        12.4              11.8              70.0              26.2
LOS by Appr:          B                 B                 F                 D
AllWayAvgQ:   8.2   8.2   8.2   5.6   5.6   5.6   292   292 292.0  76.3  76.3  76.3
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
```



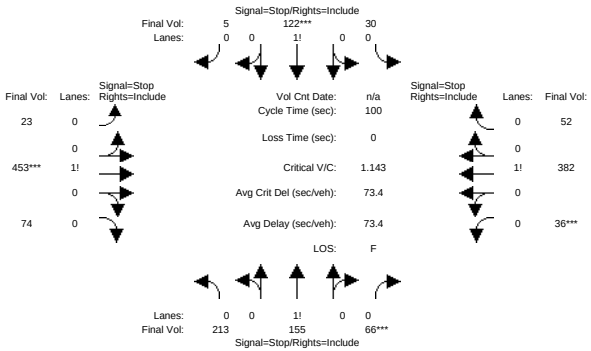
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   54   54    26    14   78     6    16  474   224    41  446    10
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1211
Minor Approach Volume:           134
Minor Approach Volume Threshold: 168
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #1014: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    92    32    30   109     5    23   346    20    28   250    52
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    5    92    32    30   109     5    23   346    20    28   250    52
Added Vol:    208    63    34     0    13     0     0   107    54     8   132     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  213   155    66    30   122     5    23   453    74    36   382    52
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:   213   155    66    30   122     5    23   453    74    36   382    52
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  213   155    66    30   122     5    23   453    74    36   382    52
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:  213   155    66    30   122     5    23   453    74    36   382    52
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.49  0.36  0.15  0.19  0.78  0.03  0.04  0.83  0.13  0.08  0.81  0.11
Final Sat.:   228   166    71    75   306    13    20   396    65    37   388    53
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.94  0.94  0.94  0.40  0.40  0.40  1.14  1.14  1.14  0.98  0.98  0.98
Crit Moves:              ****        ****              ****        ****
Delay/Veh:   53.9  53.9  53.9  17.5  17.5  17.5 112.4   112 112.4  64.5  64.5  64.5
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  53.9  53.9  53.9  17.5  17.5  17.5 112.4   112 112.4  64.5  64.5  64.5
LOS by Move:    F     F     F     C     C     C     F     F     F     F     F     F
ApproachDel:       53.9             17.5            112.4             64.5
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:        53.9             17.5            112.4             64.5
LOS by Appr:          F                C                F                F
AllWayAvgQ:   139   139 139.1  15.3 15.3  15.3   341   341 340.8   179   179 178.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  213  155    66    30  122     5    23  453    74    36  382    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1020
Minor Approach Volume:           434
Minor Approach Volume Threshold: 214
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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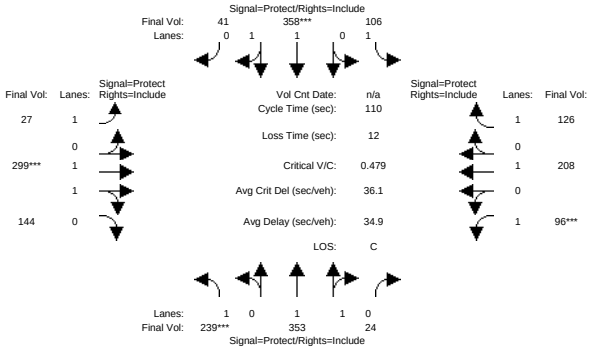
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1015: 16th St / M St



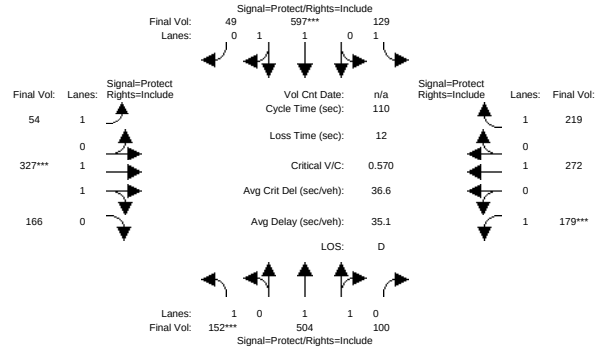
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	124		278	20	105		274	32	25		282	18	91		195	126
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	124		278	20	105		274	32	25		282	18	91		195	126
Added Vol:	115		75	4	1		84	9	2		17	126	5		13	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	239		353	24	106		358	41	27		299	144	96		208	126
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	239		353	24	106		358	41	27		299	144	96		208	126
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	239		353	24	106		358	41	27		299	144	96		208	126
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	239		353	24	106		358	41	27		299	144	96		208	126
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.94	0.94	0.95		0.94	0.94	0.95		0.90	0.90	0.95		1.00	0.85
Lanes:	1.00		1.87	0.13	1.00		1.79	0.21	1.00		1.35	0.65	1.00		1.00	1.00
Final Sat.:	1805		3346	228	1805		3190	365	1805		2317	1116	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.13		0.11	0.11	0.06		0.11	0.11	0.01		0.13	0.13	0.05		0.11	0.08
Crit Moves:	****						****				****		****			
Green/Cycle:	0.28		0.32	0.32	0.19		0.23	0.23	0.14		0.27	0.27	0.11		0.24	0.24
Volume/Cap:	0.48		0.33	0.33	0.31		0.48	0.48	0.11		0.48	0.48	0.48		0.46	0.32
Delay/Veh:	33.9		28.7	28.7	38.6		36.8	36.8	41.5		34.1	34.1	47.7		36.3	34.9
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	33.9		28.7	28.7	38.6		36.8	36.8	41.5		34.1	34.1	47.7		36.3	34.9
LOS by Move:	C		C	C	D		D	D	D		C	C	D		D	C
HCM2kAvgQ:	162		121	121	80		161	161	21		172	172	75		145	84

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1015: 16th St / M St



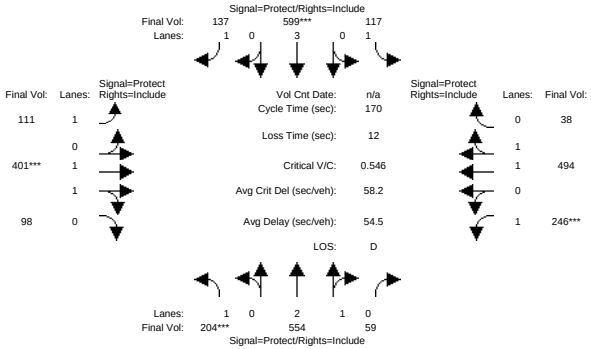
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	30		415	95	129		526	47	45		314	47	175		256	218
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	30		415	95	129		526	47	45		314	47	175		256	218
Added Vol:	122		89	5	0		71	2	9		13	119	4		16	1
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	152		504	100	129		597	49	54		327	166	179		272	219
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	152		504	100	129		597	49	54		327	166	179		272	219
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	152		504	100	129		597	49	54		327	166	179		272	219
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	152		504	100	129		597	49	54		327	166	179		272	219
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.93	0.93	0.95		0.94	0.94	0.95		0.90	0.90	0.95		1.00	0.85
Lanes:	1.00		1.67	0.33	1.00		1.85	0.15	1.00		1.33	0.67	1.00		1.00	1.00
Final Sat.:	1805		2937	583	1805		3299	271	1805		2272	1154	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.08		0.17	0.17	0.07		0.18	0.18	0.03		0.14	0.14	0.10		0.14	0.14
Crit Moves:	****						****				****		****			
Green/Cycle:	0.15		0.33	0.33	0.14		0.32	0.32	0.13		0.25	0.25	0.17		0.29	0.29
Volume/Cap:	0.57		0.52	0.52	0.52		0.57	0.57	0.23		0.57	0.57	0.57		0.49	0.46
Delay/Veh:	46.6		30.4	30.4	46.2		32.0	32.0	43.3		36.8	36.8	44.2		32.6	32.3
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	46.6		30.4	30.4	46.2		32.0	32.0	43.3		36.8	36.8	44.2		32.6	32.3
LOS by Move:	D		C	C	D		C	C	D		D	D	D		C	C
HCM2kAvgQ:	115		206	206	117		248	248	44		205	205	137		183	146

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1016: Olive Ave / M St

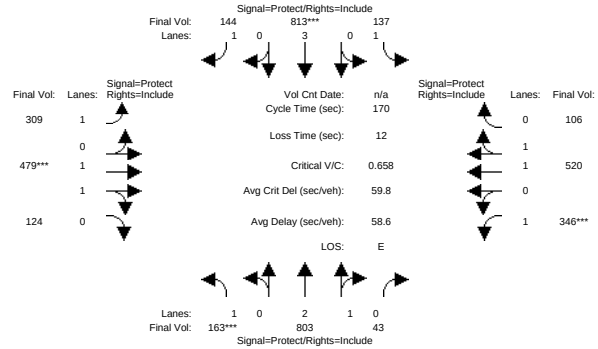



```
Street Name:            Olive Avenue                            M Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     204 554  59   117 599 137   111 396  98   246 483  38
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  204 554  59   117 599 137   111 396  98   246 483  38
Added Vol:      0   0   0     0   0   0     0   5   0     0  11   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:  204 554  59   117 599 137   111 401  98   246 494  38
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   204 554  59   117 599 137   111 401  98   246 494  38
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  204 554  59   117 599 137   111 401  98   246 494  38
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  204 554  59   117 599 137   111 401  98   246 494  38
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.90 0.90 0.95 0.91 0.85 0.95 0.92 0.92 0.95 0.94 0.94
Lanes:       1.00 2.71 0.29 1.00 3.00 1.00 1.00 1.61 0.39 1.00 1.86 0.14
Final Sat.:  1805 4622  492 1805 5187 1615 1805 2817  688 1805 3315  255
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.12 0.12 0.06 0.12 0.08 0.06 0.14 0.14 0.14 0.15 0.15
Crit Moves:  ****                ****             ****             ****
Green/Cycle: 0.21 0.27 0.27 0.15 0.21 0.21 0.15 0.26 0.26 0.25 0.36 0.36
Volume/Cap:  0.55 0.44 0.44 0.44 0.55 0.40 0.41 0.55 0.55 0.55 0.41 0.41
Delay/Veh:   61.9 51.4 51.4 67.3 60.3 58.5 66.6 54.8 54.8 56.8 40.9 40.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  61.9 51.4 51.4 67.3 60.3 58.5 66.6 54.8 54.8 56.8 40.9 40.9
LOS by Move:    E    D    D    E    E    E    E    D    D    E    D    D
HCM2kAvgQ:    228  230  230  134  246  147  136  296  296  281  265  265
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1016: Olive Ave / M St

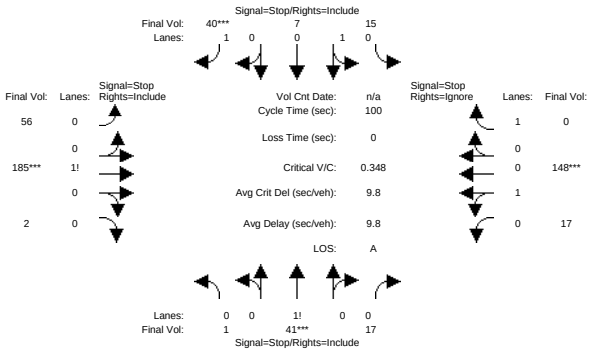



```
Street Name:            Olive Avenue                            M Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     163 803  43   137 813 144   309 468 124   346 515 106
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  163 803  43   137 813 144   309 468 124   346 515 106
Added Vol:      0   0   0     0   0   0     0  11   0     0   5   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:  163 803  43   137 813 144   309 479 124   346 520 106
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   163 803  43   137 813 144   309 479 124   346 520 106
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  163 803  43   137 813 144   309 479 124   346 520 106
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  163 803  43   137 813 144   309 479 124   346 520 106
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.90 0.90 0.95 0.91 0.85 0.95 0.92 0.92 0.95 0.93 0.93
Lanes:       1.00 2.85 0.15 1.00 3.00 1.00 1.00 1.59 0.41 1.00 1.66 0.34
Final Sat.:  1805 4884  262 1805 5187 1615 1805 2779  719 1805 2924  596
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.16 0.16 0.08 0.16 0.09 0.17 0.17 0.17 0.19 0.18 0.18
Crit Moves:  ****                ****             ****             ****
Green/Cycle: 0.14 0.26 0.26 0.12 0.24 0.24 0.27 0.26 0.26 0.29 0.28 0.28
Volume/Cap:  0.66 0.64 0.64 0.64 0.66 0.37 0.63 0.66 0.66 0.66 0.63 0.63
Delay/Veh:   75.9 57.2 57.2 77.8 59.8 54.7 57.1 57.7 57.7 55.8 54.6 54.6
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  75.9 57.2 57.2 77.8 59.8 54.7 57.1 57.7 57.7 55.8 54.6 54.6
LOS by Move:    E    E    E    E    E    D    E    E    E    E    D    D
HCM2kAvgQ:    197  346  346  169  342  149  360  378  378  403  380  380
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1    41    17    15     7    40    56   185     2    17   148    52
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    1    41    17    15     7    40    56   185     2    17   148    52
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    1    41    17    15     7    40    56   185     2    17   148    52
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
PHF Volume:     1    41    17    15     7    40    56   185     2    17   148     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    1    41    17    15     7    40    56   185     2    17   148     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
FinalVolume:    1    41    17    15     7    40    56   185     2    17   148     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.02  0.69  0.29  0.68  0.32  1.00  0.23  0.76  0.01  0.10  0.90  1.00
Final Sat.:    11   431   179   390   182   685   161   532     6    71   621   809
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10  0.10  0.10  0.04  0.04  0.06  0.35  0.35  0.35  0.24  0.24  0.00
Crit Moves:        ****                    ****        ****              ****
Delay/Veh:    9.0   9.0   9.0   8.8   8.8   7.9  10.7  10.7  10.7   9.3   9.3   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.0   9.0   9.0   8.8   8.8   7.9  10.7  10.7  10.7   9.3   9.3   0.0
LOS by Move:    A     A     A     A     A     A     B     B     B     A     A     *
ApproachDel:        9.0               8.2              10.7               9.3
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         9.0               8.2              10.7               9.3
LOS by Appr:          A                 A                 B                 A
AllWayAvgQ:   2.3   2.3   2.3   0.9   0.9   1.3  12.6  12.6  12.6   7.4   7.4   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



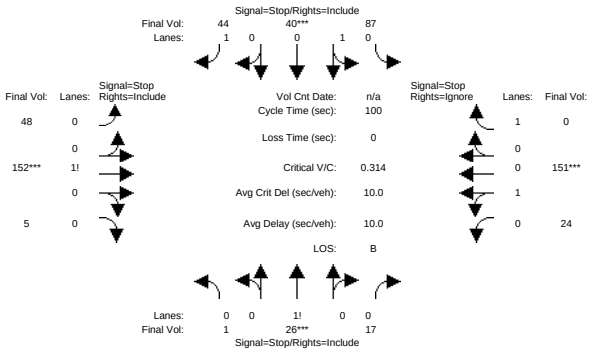
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   41    17    15     7    40    56  185     2    17  148    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             460
Minor Approach Volume:           62
Minor Approach Volume Threshold: 708
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue              Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   26    17    87   40    44    48  152     5    24  151    45
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   26    17    87   40    44    48  152     5    24  151    45
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   26    17    87   40    44    48  152     5    24  151    45
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     1   26    17    87   40    44    48  152     5    24  151     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1   26    17    87   40    44    48  152     5    24  151     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    1   26    17    87   40    44    48  152     5    24  151     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.69 0.31  1.00  0.23 0.75  0.02  0.14 0.86  1.00
Final Sat.:    14  359   234   400  184   701   153  485    16    89  560   751
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.07  0.22 0.22  0.06  0.31 0.31  0.31  0.27 0.27  0.00
Crit Moves:        ****              ****              ****              ****
Delay/Veh:    8.9  8.9   8.9  10.1 10.1   7.8  10.7 10.7  10.7   9.9  9.9   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.9  8.9   8.9  10.1 10.1   7.8  10.7 10.7  10.7   9.9  9.9   0.0
LOS by Move:    A    A     A     B    B     A     B    B     B     A    A     *
ApproachDel:       8.9               9.5              10.7               9.9
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:        8.9               9.5              10.7               9.9
LOS by Appr:         A                 A                 B                 A
AllWayAvgQ:   1.7  1.7   1.7   6.2  6.2   1.5  10.6 10.6  10.6   8.5  8.5   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



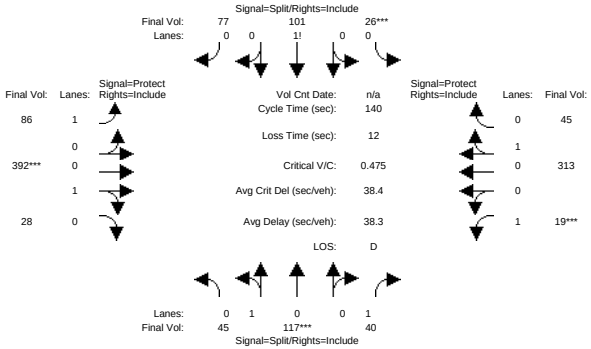
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   26    17    87   40    44    48  152     5    24  151    45
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             425
Minor Approach Volume:           171
Minor Approach Volume Threshold: 742
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1018: Childs Ave / Martin Luther King Wy



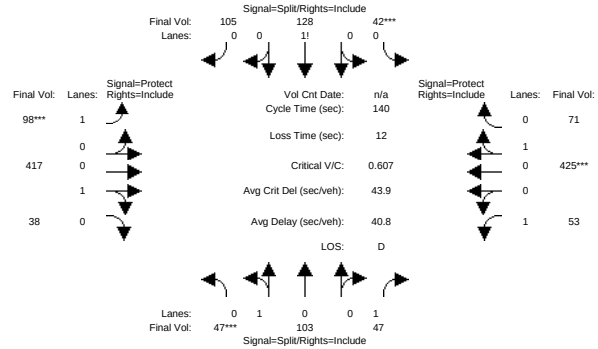
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	45	117	40	26	101	77	86	354	27	19	294	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	117	40	26	101	77	86	354	27	19	294	45
Added Vol:	0	0	0	0	0	0	0	38	1	0	19	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	45	117	40	26	101	77	86	392	28	19	313	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	45	117	40	26	101	77	86	392	28	19	313	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	45	117	40	26	101	77	86	392	28	19	313	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	45	117	40	26	101	77	86	392	28	19	313	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.13	0.49	0.38	1.00	0.93	0.07	1.00	0.87	0.13
Final Sat.:	520	1353	1615	228	887	676	1805	1756	125	1805	1630	234
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.02	0.11	0.11	0.11	0.05	0.22	0.22	0.01	0.19	0.19
Crit Moves:		****		****				****		****		
Green/Cycle:	0.18	0.18	0.18	0.23	0.23	0.23	0.10	0.46	0.46	0.05	0.40	0.40
Volume/Cap:	0.49	0.49	0.14	0.49	0.49	0.49	0.46	0.49	0.49	0.21	0.48	0.48
Delay/Veh:	53.1	53.1	48.9	47.5	47.5	47.5	60.7	27.2	27.2	65.0	31.6	31.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.1	53.1	48.9	47.5	47.5	47.5	60.7	27.2	27.2	65.0	31.6	31.6
LOS by Move:	D	D	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	165	165	37	195	195	195	98	310	310	19	274	274

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1018: Childs Ave / Martin Luther King Wy



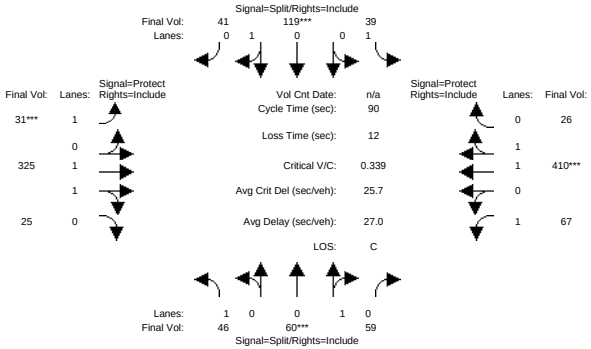
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	46	103	47	42	128	105	98	398	38	53	387	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	103	47	42	128	105	98	398	38	53	387	71
Added Vol:	1	0	0	0	0	0	0	19	0	0	38	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	103	47	42	128	105	98	417	38	53	425	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	103	47	42	128	105	98	417	38	53	425	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	103	47	42	128	105	98	417	38	53	425	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	103	47	42	128	105	98	417	38	53	425	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.31	0.69	1.00	0.15	0.47	0.38	1.00	0.92	0.08	1.00	0.86	0.14
Final Sat.:	586	1285	1615	273	832	682	1805	1719	157	1805	1594	266
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.03	0.15	0.15	0.15	0.05	0.24	0.24	0.03	0.27	0.27
Crit Moves:	****			****			****				****	
Green/Cycle:	0.13	0.13	0.13	0.25	0.25	0.25	0.09	0.44	0.44	0.09	0.44	0.44
Volume/Cap:	0.61	0.61	0.22	0.61	0.61	0.61	0.61	0.55	0.55	0.33	0.61	0.61
Delay/Veh:	61.6	61.6	54.8	48.5	48.5	48.5	67.9	30.0	30.0	60.8	31.3	31.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.6	61.6	54.8	48.5	48.5	48.5	67.9	30.0	30.0	60.8	31.3	31.3
LOS by Move:	E	E	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	172	172	48	272	272	272	125	358	358	51	393	393

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1019: 13th St / Martin Luther King Wy



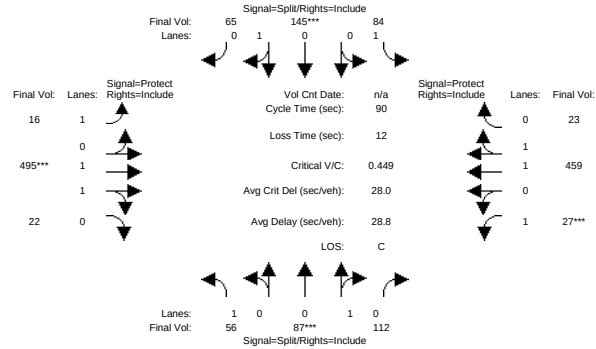
Street Name:	13th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	46		60		59	37		119		32	13		325		25	67		410		26
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	46		60		59	37		119		32	13		325		25	67		410		26
Added Vol:	0		0		0	2		0		9	18		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	46		60		59	39		119		41	31		325		25	67		410		26
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	46		60		59	39		119		41	31		325		25	67		410		26
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	46		60		59	39		119		41	31		325		25	67		410		26
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	46		60		59	39		119		41	31		325		25	67		410		26
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.93		0.93	0.95		0.96		0.96	0.95		0.94		0.94	0.95		0.94		0.94
Lanes:	1.00		0.50		0.50	1.00		0.74		0.26	1.00		1.86		0.14	1.00		1.88		0.12
Final Sat.:	1805		887		872	1805		1359		468	1805		3315		255	1805		3364		213
Capacity Analysis Module:																				
Vol/Sat:	0.03		0.07		0.07	0.02		0.09		0.09	0.02		0.10		0.10	0.04		0.12		0.12
Crit Moves:			****					****			****							****		
Green/Cycle:	0.19		0.19		0.19	0.25		0.25		0.25	0.08		0.25		0.25	0.17		0.35		0.35
Volume/Cap:	0.13		0.35		0.35	0.09		0.35		0.35	0.22		0.39		0.39	0.21		0.35		0.35
Delay/Veh:	30.3		32.1		32.1	26.0		28.3		28.3	39.7		28.4		28.4	32.2		22.0		22.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	30.3		32.1		32.1	26.0		28.3		28.3	39.7		28.4		28.4	32.2		22.0		22.0
LOS by Move:	C		C		C	C		C		C	D		C		C	C		C		C
HCM2kAvgQ:	28		78		78	21		96		96	19		102		102	38		114		114

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1019: 13th St / Martin Luther King Wy



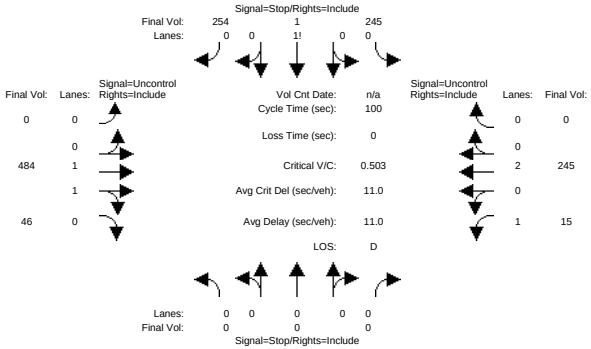
Street Name:	13th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	56		87		112	75		145		47	7		495		22	27		459		23
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	56		87		112	75		145		47	7		495		22	27		459		23
Added Vol:	0		0		0	9		0		18	9		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	56		87		112	84		145		65	16		495		22	27		459		23
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	56		87		112	84		145		65	16		495		22	27		459		23
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	56		87		112	84		145		65	16		495		22	27		459		23
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	56		87		112	84		145		65	16		495		22	27		459		23
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.92		0.92	0.95		0.95		0.95	0.95		0.94		0.94	0.95		0.94		0.94
Lanes:	1.00		0.44		0.56	1.00		0.69		0.31	1.00		1.91		0.09	1.00		1.90		0.10
Final Sat.:	1805		761		980	1805		1252		561	1805		3436		153	1805		3414		171
Capacity Analysis Module:																				
Vol/Sat:	0.03		0.11		0.11	0.05		0.12		0.12	0.01		0.14		0.14	0.01		0.13		0.13
Crit Moves:			****					****					****			****				
Green/Cycle:	0.24		0.24		0.24	0.24		0.24		0.24	0.14		0.30		0.30	0.08		0.24		0.24
Volume/Cap:	0.13		0.47		0.47	0.19		0.47		0.47	0.06		0.47		0.47	0.19		0.56		0.56
Delay/Veh:	26.9		30.1		30.1	27.2		29.9		29.9	33.7		25.8		25.8	39.5		30.7		30.7
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	26.9		30.1		30.1	27.2		29.9		29.9	33.7		25.8		25.8	39.5		30.7		30.7
LOS by Move:	C		C		C	C		C		C	C		C		C	D		C		C
HCM2kAvgQ:	31		128		128	47		134		134	9		147		147	17		152		152

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   165    1   254     0  484    44    15  245     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   165    1   254     0  484    44    15  245     0
Added Vol:      0    0     0    80    0     0     0    0     2     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   245    1   254     0  484    46    15  245     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   245    1   254     0  484    46    15  245     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   245    1   254     0  484    46    15  245     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   517  805   123  xxxx xxxx xxxxx   530 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   493  318   912  xxxx xxxx xxxxx  1048 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   487  314   912  xxxx xxxx xxxxx  1048 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.50 0.00  0.28  xxxx xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  637 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  7.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 28.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    D     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             28.1           xxxxxx           xxxxxx
ApproachLOS:         *               D                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   245    1   254     0  484    46    15  245     0
ApproachDel:    xxxxxx              28.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=500]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1290]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

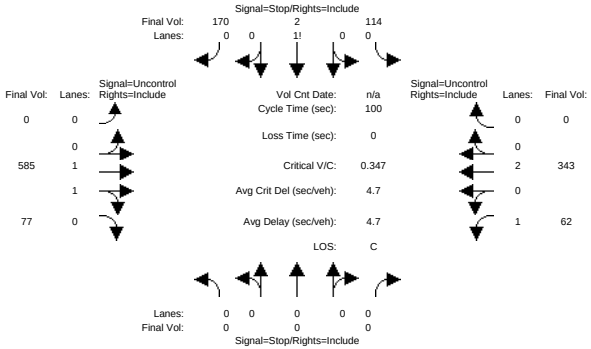
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   245    1   254     0  484    46    15  245     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             790
Minor Approach Volume:           500
Minor Approach Volume Threshold: 366
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    94    2   170     0  585    68    62  343     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    94    2   170     0  585    68    62  343     0
Added Vol:      0    0     0    20    0     0     0    0     9     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   114    2   170     0  585    77    62  343     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   114    2   170     0  585    77    62  343     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   114    2   170     0  585    77    62  343     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   760 1129   172  xxxx xxxx xxxxx   662 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   347  206   849  xxxx xxxx xxxxx   936 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   329  192   849  xxxx xxxx xxxxx   936 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.35 0.01  0.20  xxxx xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  513 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 20.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             20.5           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   114    2   170     0  585    77    62  343     0
ApproachDel:    xxxxxx              20.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=286]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1353]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

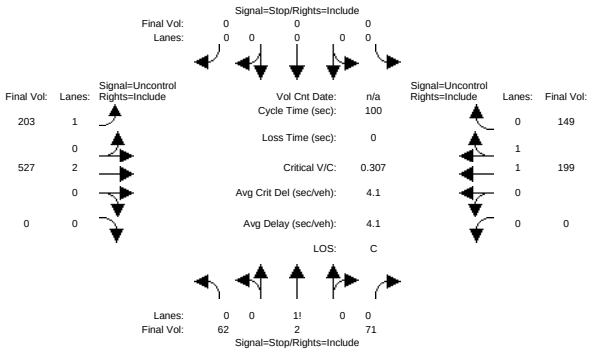
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   114    2   170     0  585    77    62  343     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1067
Minor Approach Volume:           286
Minor Approach Volume Threshold: 262
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62    2    71     0    0     0   203  447     0     0  199   137
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62    2    71     0    0     0   203  447     0     0  199   137
Added Vol:      0    0     0     0    0     0     0   80     0     0    0    12
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   62    2    71     0    0     0   203  527     0     0  199   149
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    62    2    71     0    0     0   203  527     0     0  199   149
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62    2    71     0    0     0   203  527     0     0  199   149
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1033 1281   264  xxxx xxxx xxxxx   348 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  232  167   741  xxxx xxxx xxxxx  1222 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    202  139   741  xxxx xxxx xxxxx  1222 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.31 0.01  0.10  xxxx xxxx  xxxx  0.17 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  14.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  324 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 23.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      23.8           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   62    2    71     0    0     0   203  527     0     0  199   149
ApproachDel:      23.8           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=135]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1213]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   62    2    71     0    0     0   203  527     0     0  199   149
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1078
Minor Approach Volume:           135
Minor Approach Volume Threshold: 259
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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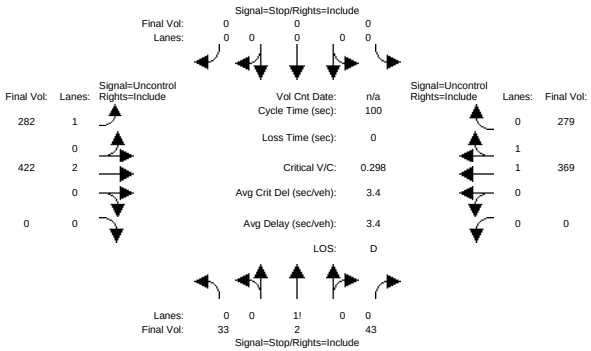
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    2    43     0    0     0   282  402     0     0  369   232
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   33    2    43     0    0     0   282  402     0     0  369   232
Added Vol:      0    0     0     0    0     0     0   20     0     0    0    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   33    2    43     0    0     0   282  422     0     0  369   279
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    33    2    43     0    0     0   282  422     0     0  369   279
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   33    2    43     0    0     0   282  422     0     0  369   279
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1171 1634   211  xxxx xxxx xxxxx   648 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  189  102   801  xxxx xxxx xxxxx   947 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    145   72   801  xxxx xxxx xxxxx   947 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.23 0.03  0.05  xxxx xxxx  xxxx  0.30 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  31.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  253 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 25.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    *     *     *    *     *     *    *     *
ApproachDel:      25.5           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         D                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   282  422     0     0  369   279
ApproachDel:      25.5           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=78]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1430]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

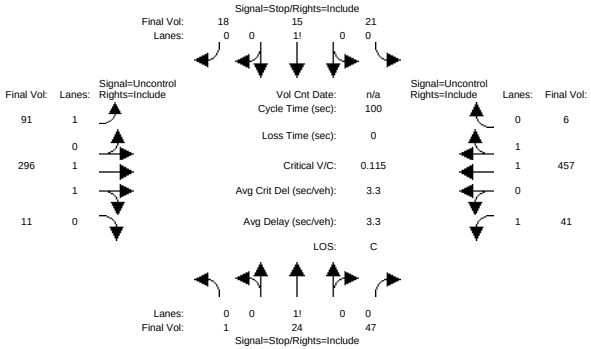
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   282  422     0     0  369   279
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1352
Minor Approach Volume:           78
Minor Approach Volume Threshold: 181
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   15    47    21   15     6    11  296    11    41  457     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   15    47    21   15     6    11  296    11    41  457     6
Added Vol:      0    9     0     0    0    12    80    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   24    47    21   15    18    91  296    11    41  457     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1   24    47    21   15    18    91  296    11    41  457     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1   24    47    21   15    18    91  296    11    41  457     6
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  802 1029   154   884 1031   232   463 xxxx xxxxx   307 xxxx xxxxx
Potent Cap.:  279  236   871   243  235   777  1109 xxxx xxxxx  1265 xxxx xxxxx
Move Cap.:    236  209   871   192  209   777  1109 xxxx xxxxx  1265 xxxx xxxxx
Volume/Cap:  0.00 0.11  0.05  0.11 0.07  0.02  0.08 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   6.7 xxxx xxxxx   2.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx   7.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  417 xxxxx  xxxx  264 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  0.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 15.4 xxxxx xxxxx 22.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     *    *     *     *    *     *
ApproachDel:      15.4             22.1           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   24    47    21   15    18    91  296    11    41  457     6
ApproachDel:      15.4             22.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=72]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1028]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=54]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1028]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   24    47    21   15    18    91  296    11    41  457     6
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             902
Minor Approach Volume:           72
Minor Approach Volume Threshold: 320
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
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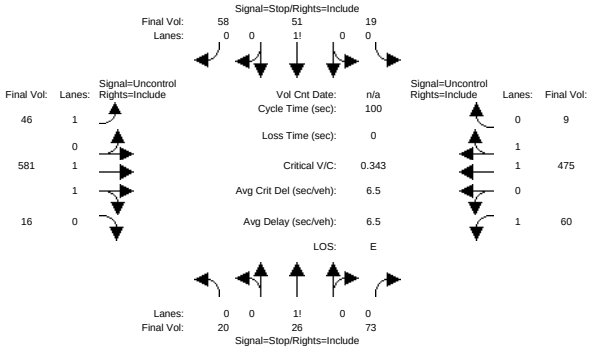
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20   24    73    19   51    11    26  581    16    60  475     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   20   24    73    19   51    11    26  581    16    60  475     9
Added Vol:      0    2     0     0    0    47    20    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20   26    73    19   51    58    46  581    16    60  475     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20   26    73    19   51    58    46  581    16    60  475     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20   26    73    19   51    58    46  581    16    60  475     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1064 1285   299   995 1289   242   484 xxxx xxxxx   597 xxxx xxxxx
Potent Cap.:  180  166   704   202  165   765  1089 xxxx xxxxx   989 xxxx xxxxx
Move Cap.:    113  149   704   145  149   765  1089 xxxx xxxxx   989 xxxx xxxxx
Volume/Cap:  0.18 0.17  0.10  0.13 0.34  0.08  0.04 xxxx  xxxx  0.06 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.3 xxxx xxxxx   4.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx   8.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  262 xxxxx  xxxx  233 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.2 xxxxx xxxxx  3.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 29.7 xxxxx xxxxx 37.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    E     *     *    *     *     *    *     *
ApproachDel:      29.7             37.8           xxxxxx           xxxxxx
ApproachLOS:         D                E                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   26    73    19   51    58    46  581    16    60  475     9
ApproachDel:      29.7             37.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=119]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1434]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=128]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1434]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

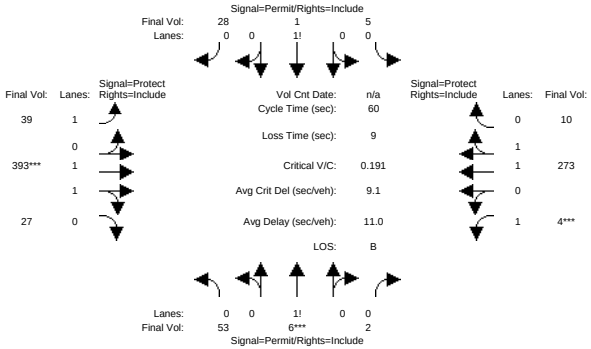
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   26    73    19   51    58    46  581    16    60  475     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1187
Minor Approach Volume:           128
Minor Approach Volume Threshold: 226
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1023: 15th St / Martin Luther King Wy



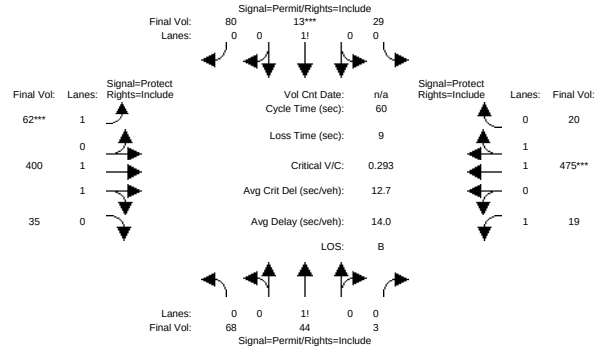
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	6	2	5	1	28	39	393	27	4	273	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	6	2	5	1	28	39	393	27	4	273	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	6	2	5	1	28	39	393	27	4	273	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	6	2	5	1	28	39	393	27	4	273	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	6	2	5	1	28	39	393	27	4	273	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	6	2	5	1	28	39	393	27	4	273	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	0.76	0.76	0.86	0.86	0.86	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.87	0.10	0.03	0.15	0.03	0.82	1.00	1.87	0.13	1.00	1.93	0.07
Final Sat.:	1253	142	47	240	48	1345	1805	3344	230	1805	3465	127
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.12	0.12	0.00	0.08	0.08
Crit Moves:		****						****		****		
Green/Cycle:	0.19	0.19	0.19	0.19	0.19	0.19	0.27	0.54	0.54	0.12	0.39	0.39
Volume/Cap:	0.22	0.22	0.22	0.11	0.11	0.11	0.08	0.22	0.22	0.02	0.20	0.20
Delay/Veh:	20.7	20.7	20.7	20.1	20.1	20.1	16.4	7.3	7.3	23.5	12.4	12.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.7	20.7	20.7	20.1	20.1	20.1	16.4	7.3	7.3	23.5	12.4	12.4
LOS by Move:	C	C	C	C	C	C	B	A	A	C	B	B
HCM2kAvgQ:	28	28	28	15	15	15	13	52	52	2	44	44

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1023: 15th St / Martin Luther King Wy



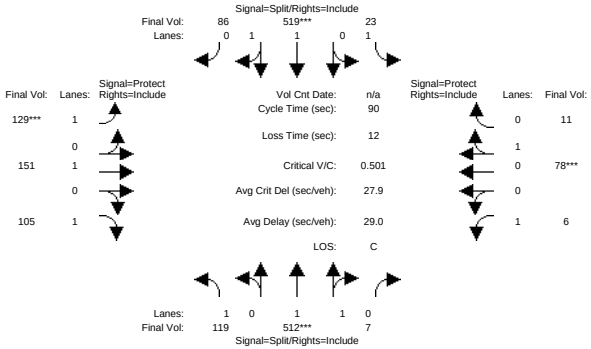
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	68	44	3	29	13	80	62	400	35	19	475	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	68	44	3	29	13	80	62	400	35	19	475	20
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68	44	3	29	13	80	62	400	35	19	475	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	44	3	29	13	80	62	400	35	19	475	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	44	3	29	13	80	62	400	35	19	475	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	44	3	29	13	80	62	400	35	19	475	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.79	0.79	0.79	0.84	0.84	0.84	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	0.59	0.38	0.03	0.24	0.11	0.65	1.00	1.84	0.16	1.00	1.92	0.08
Final Sat.:	890	576	39	379	170	1046	1805	3280	287	1805	3443	145
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.08	0.08	0.08	0.03	0.12	0.12	0.01	0.14	0.14
Crit Moves:					****		****				****	
Green/Cycle:	0.26	0.26	0.26	0.26	0.26	0.26	0.12	0.35	0.35	0.24	0.47	0.47
Volume/Cap:	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.35	0.35	0.04	0.29	0.29
Delay/Veh:	18.1	18.1	18.1	18.1	18.1	18.1	25.0	14.8	14.8	17.4	9.8	9.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.1	18.1	18.1	18.1	18.1	18.1	25.0	14.8	14.8	17.4	9.8	9.8
LOS by Move:	B	B	B	B	B	B	C	B	B	B	A	A
HCM2kAvgQ:	49	49	49	51	51	51	26	76	76	6	70	70

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1024: 16th St / Martin Luther King Wy

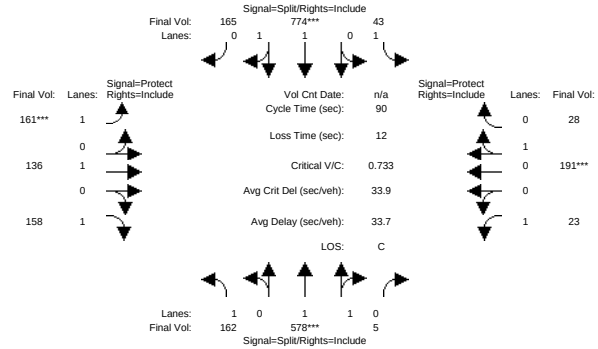



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119  318     7   23  304    86  129  151   105    6   78    11
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  119  318     7   23  304    86  129  151   105    6   78    11
Added Vol:      0  194     0    0  215     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  119  512     7   23  519    86  129  151   105    6   78    11
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   119  512     7   23  519    86  129  151   105    6   78    11
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  119  512     7   23  519    86  129  151   105    6   78    11
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  119  512     7   23  519    86  129  151   105    6   78    11
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.93  0.93 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.97  0.03 1.00 1.72  0.28 1.00 1.00  1.00 1.00 0.88  0.12
Final Sat.:  1805 3554    49 1805 3032   502 1805 1900  1615 1805 1634   230
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.14  0.14 0.01 0.17  0.17 0.07 0.08  0.07 0.00 0.05  0.05
Crit Moves:        ****            ****        ****                ****
Green/Cycle: 0.28 0.28  0.28 0.33 0.33  0.33 0.14 0.15  0.15 0.10 0.11  0.11
Volume/Cap:  0.23 0.51  0.51 0.04 0.51  0.51 0.51 0.54  0.44 0.03 0.43  0.43
Delay/Veh:   25.1 27.6  27.6 20.2 24.4  24.4 37.6 37.6  36.3 36.4 38.8  38.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  25.1 27.6  27.6 20.2 24.4  24.4 37.6 37.6  36.3 36.4 38.8  38.8
LOS by Move:    C    C     C    C    C     C    D    D     D    D    D     D
HCM2kAvgQ:     65  169   169   10  172   172   82   96    65    4   57    57
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1024: 16th St / Martin Luther King Wy

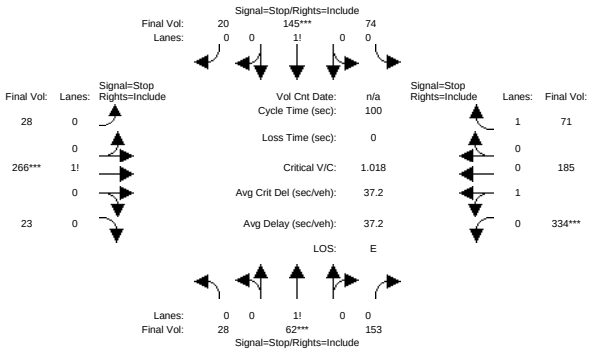



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     162  363     5   43  580   165  161  136   158   23  191    28
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  162  363     5   43  580   165  161  136   158   23  191    28
Added Vol:      0  215     0    0  194     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  162  578     5   43  774   165  161  136   158   23  191    28
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   162  578     5   43  774   165  161  136   158   23  191    28
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  162  578     5   43  774   165  161  136   158   23  191    28
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  162  578     5   43  774   165  161  136   158   23  191    28
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.93  0.93 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.98  0.02 1.00 1.65  0.35 1.00 1.00  1.00 1.00 0.87  0.13
Final Sat.:  1805 3575    31 1805 2898   618 1805 1900  1615 1805 1626   238
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.16  0.16 0.02 0.27  0.27 0.09 0.07  0.10 0.01 0.12  0.12
Crit Moves:        ****            ****        ****                ****
Green/Cycle: 0.22 0.22  0.22 0.36 0.36  0.36 0.12 0.17  0.17 0.12 0.16  0.16
Volume/Cap:  0.41 0.73  0.73 0.07 0.73  0.73 0.73 0.43  0.59 0.11 0.73  0.73
Delay/Veh:   30.7 36.2  36.2 18.7 27.0  27.0 50.1 34.7  38.2 35.8 45.0  45.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  30.7 36.2  36.2 18.7 27.0  27.0 50.1 34.7  38.2 35.8 45.0  45.0
LOS by Move:    C    D     D    B    C     C    D    C     D    D    D     D
HCM2kAvgQ:    103  237   237   18  296   296  114   82   102   14  151   151
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #1025: 13th St / G St



Street Name:	13th Street									G Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Volume Module:																				
Base Vol:	28		62		153	74		145		20	28		265		23	334		185		71
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Initial Bse:	28		62		153	74		145		20	28		265		23	334		185		71
Added Vol:	0		0		0	0		0		0	0		1		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	28		62		153	74		145		20	28		266		23	334		185		71
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	
PHF Volume:	28		62		153	74		145		20	28		266		23	334		185		71
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	28		62		153	74		145		20	28		266		23	334		185		71
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	
FinalVolume:	28		62		153	74		145		20	28		266		23	334		185		71
Saturation Flow Module:																				
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Lanes:	0.12	0.25	0.63		0.31	0.61	0.08		0.09	0.84	0.07	0.64		0.36	1.00					
Final Sat.:	57		126		311	146		287		40	45		427		37	328		182		596
Capacity Analysis Module:																				
Vol/Sat:	0.49	0.49	0.49		0.51	0.51	0.51		0.62	0.62	0.62	1.02		1.02	0.12					
Crit Moves:		****				****				****			****							
Delay/Veh:	15.9	15.9	15.9		16.9	16.9	16.9		19.7	19.7	19.7	71.0		71.0	9.6					
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00					
AdjDel/Veh:	15.9	15.9	15.9		16.9	16.9	16.9		19.7	19.7	19.7	71.0		71.0	9.6					
LOS by Move:	C		C		C	C		C		C	C		C		F	F				A
ApproachDel:		15.9					16.9					19.7					63.6			
Delay Adj:		1.00					1.00					1.00					1.00			
ApprAdjDel:		15.9					16.9					19.7					63.6			
LOS by Appr:		C					C					C					F			
AllWayAvgQ:	20.4	20.4	20.4		21.6	21.6	21.6		34.7	34.7	34.7	217		217	3.4					

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1025 13th St / G St

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0	0	1	0	0 1
Initial Vol:	28		62	153	74		145	20	28		266	23	334		185	71

Major Street Volume: 907
Minor Approach Volume: 243
Minor Approach Volume Threshold: 318

SIGNAL WARRANT DISCLAIMER

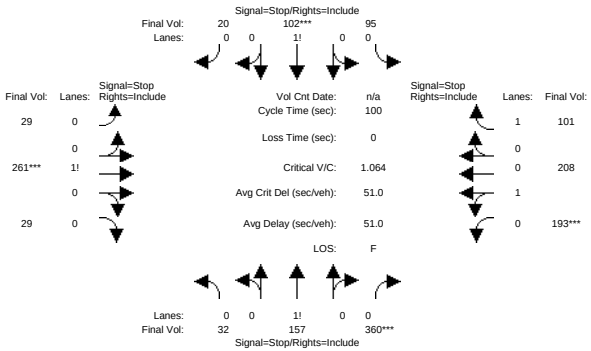
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #1025: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      32   157   360    95   102    20    29   261    29   193   207   101
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   32   157   360    95   102    20    29   261    29   193   207   101
Added Vol:      0     0     0     0     0     0     0     0     0     0     1     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   32   157   360    95   102    20    29   261    29   193   208   101
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    32   157   360    95   102    20    29   261    29   193   208   101
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   32   157   360    95   102    20    29   261    29   193   208   101
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   32   157   360    95   102    20    29   261    29   193   208   101
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.06  0.29  0.65  0.44  0.47  0.09  0.09  0.82  0.09  0.48  0.52  1.00
Final Sat.:    30   148   338   181   194    38    40   363    40   211   228   495
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.06  1.06  1.06  0.53  0.53  0.53  0.72  0.72  0.72  0.91  0.91  0.20
Crit Moves:               ****        ****              ****        ****
Delay/Veh:   83.8  83.8  83.8  19.4  19.4  19.4  27.6  27.6  27.6  51.7  51.7  11.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  83.8  83.8  83.8  19.4  19.4  19.4  27.6  27.6  27.6  51.7  51.7  11.7
LOS by Move:    F     F     F     C     C     C     D     D     D     F     F     B
ApproachDel:       83.8              19.4              27.6              43.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        83.8              19.4              27.6              43.7
LOS by Appr:          F                 C                 D                 E
AllWayAvgQ:   265  265 264.7  23.1 23.1  23.1  51.3 51.3  51.3   125   125   6.3
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1025 13th St / G St
*******************************************************************************
```



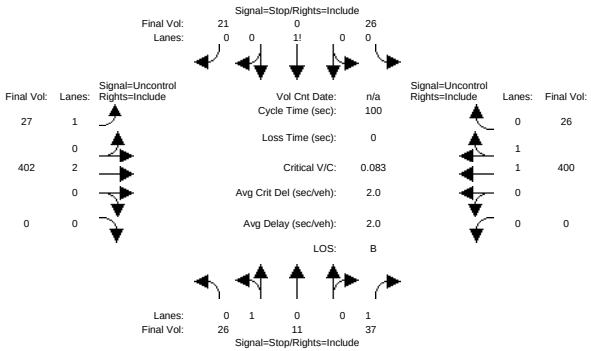
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   32  157   360    95  102    20    29  261    29   193  208   101
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             821
Minor Approach Volume:           549
Minor Approach Volume Threshold: 353
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26    2    37    26    0    21    27  401     0     0  394    26
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26    2    37    26    0    21    27  401     0     0  394    26
Added Vol:      0    9     0     0    0     0     0    1     0     0    6     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26   11    37    26    0    21    27  402     0     0  400    26
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26   11    37    26    0    21    27  402     0     0  400    26
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26   11    37    26    0    21    27  402     0     0  400    26
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  656  882   201   674  869   213   426 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  355  287   813   345  292   798  1144 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    339  280   813   313  285   798  1144 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.08 0.04  0.05  0.08 0.00  0.03  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.6  xxxx xxxx xxxxx   1.8 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx   9.6 xxxxx xxxx xxxxx   8.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     A     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  319 xxxx xxxxx  xxxx  430 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.4 xxxx xxxxx xxxxx  0.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 17.7 xxxx xxxxx xxxxx 14.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:      13.7             14.4            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   26   11    37    26    0    21    27  402     0     0  400    26
ApproachDel:      13.7             14.4            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=74]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=976]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=47]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=976]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

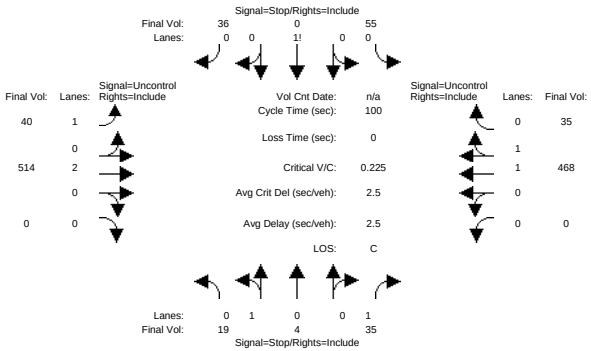
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   26   11    37    26    0    21    27  402     0     0  400    26
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             855
Minor Approach Volume:           74
Minor Approach Volume Threshold: 441
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      19    2    35    55    0    36    40  514     0     0  459    35
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   19    2    35    55    0    36    40  514     0     0  459    35
Added Vol:      0    2     0     0    0     0     0    0     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   19    4    35    55    0    36    40  514     0     0  468    35
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    19    4    35    55    0    36    40  514     0     0  468    35
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   19    4    35    55    0    36    40  514     0     0  468    35
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  828 1097   257   825 1080   252   503 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  267  215   748   268  220   754  1072 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    247  207   748   245  212   754  1072 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.08 0.02  0.05  0.22 0.00  0.05  0.04 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.7  xxxx xxxx xxxxx   2.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  10.0 xxxxx xxxx xxxxx   8.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  239 xxxx xxxxx  xxxx  334 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.3 xxxx xxxxx xxxxx  1.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 21.7 xxxx xxxxx xxxxx 19.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:      14.7             19.8           xxxxxx           xxxxxx
ApproachLOS:         B                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   19    4    35    55    0    36    40  514     0     0  468    35
ApproachDel:      14.7             19.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=58]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1206]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=91]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1206]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

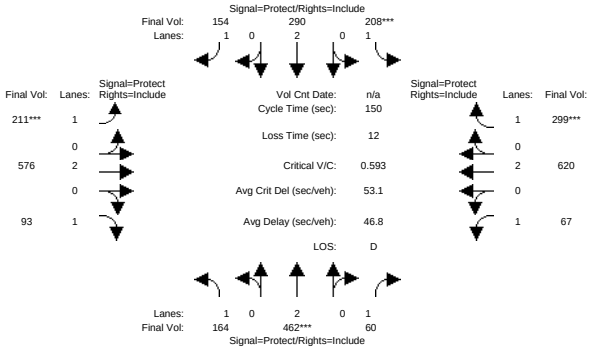
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   19    4    35    55    0    36    40  514     0     0  468    35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1057
Minor Approach Volume:           91
Minor Approach Volume Threshold: 266
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1028: Olive Ave / G St



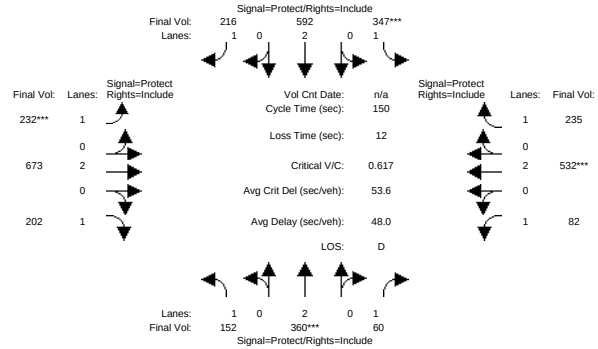
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	158	462	60	208	290	154	211	573	90	67	615	299
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	158	462	60	208	290	154	211	573	90	67	615	299
Added Vol:	6	0	0	0	0	0	0	3	3	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	164	462	60	208	290	154	211	576	93	67	620	299
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	164	462	60	208	290	154	211	576	93	67	620	299
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	164	462	60	208	290	154	211	576	93	67	620	299
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	164	462	60	208	290	154	211	576	93	67	620	299
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.04	0.12	0.08	0.10	0.12	0.16	0.06	0.04	0.17	0.19
Crit Moves:		****		****			****					****
Green/Cycle:	0.20	0.22	0.22	0.19	0.21	0.21	0.20	0.39	0.39	0.12	0.31	0.31
Volume/Cap:	0.45	0.59	0.17	0.59	0.38	0.45	0.59	0.40	0.15	0.32	0.55	0.59
Delay/Veh:	53.7	54.1	48.1	57.7	51.2	52.7	57.4	32.9	29.3	61.9	43.4	45.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.7	54.1	48.1	57.7	51.2	52.7	57.4	32.9	29.3	61.9	43.4	45.4
LOS by Move:	D	D	D	E	D	D	E	C	C	E	D	D
HCM2kAvgQ:	170	262	56	212	143	148	234	244	67	76	312	297

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1028: Olive Ave / G St



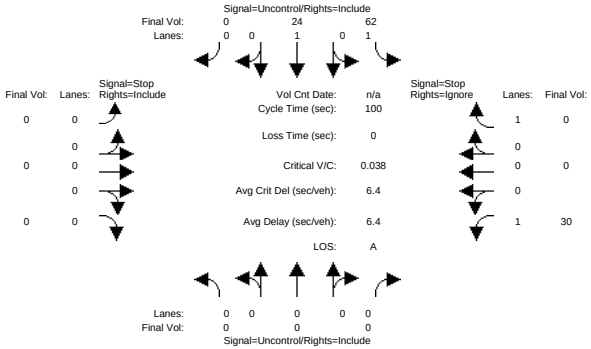
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	149	360	60	347	592	216	232	668	196	82	529	235
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	360	60	347	592	216	232	668	196	82	529	235
Added Vol:	3	0	0	0	0	0	0	5	6	0	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	152	360	60	347	592	216	232	673	202	82	532	235
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	152	360	60	347	592	216	232	673	202	82	532	235
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	152	360	60	347	592	216	232	673	202	82	532	235
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	152	360	60	347	592	216	232	673	202	82	532	235
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.10	0.04	0.19	0.16	0.13	0.13	0.19	0.13	0.05	0.15	0.15
Crit Moves:		****		****			****					****
Green/Cycle:	0.16	0.16	0.16	0.31	0.31	0.31	0.21	0.36	0.36	0.09	0.24	0.24
Volume/Cap:	0.52	0.62	0.23	0.62	0.52	0.43	0.62	0.52	0.35	0.51	0.62	0.61
Delay/Veh:	59.5	60.6	55.2	46.1	42.9	41.5	57.0	38.4	35.8	67.8	52.3	53.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.5	60.6	55.2	46.1	42.9	41.5	57.0	38.4	35.8	67.8	52.3	53.7
LOS by Move:	E	E	E	D	D	D	E	D	D	E	D	D
HCM2kAvgQ:	171	220	62	326	280	187	257	318	168	105	298	254

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    51   24     0     0    0     0    30    0   161
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    51   24     0     0    0     0    30    0   161
Added Vol:      0    0     0    11    0     0     0    0     0     0    0    21
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    62   24     0     0    0     0    30    0   182
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0    62   24     0     0    0     0    30    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    62   24     0     0    0     0    30    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   148 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   849 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   824 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.04 xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   3.0 xxxx xxxxx  xxxx xxxx xxxxx   2.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx   9.5 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.5
ApproachLOS:         *                *                *                A
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0    62   24     0     0    0     0    30    0   182
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.5
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=212]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=298]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0    62   24     0     0    0     0    30    0   182
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             86
Minor Approach Volume:          212
Minor Approach Volume Threshold: 1429
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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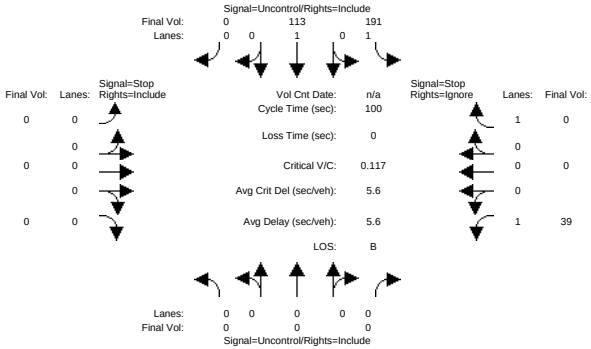
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   170  113     0     0    0     0    39    0    96
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   170  113     0     0    0     0    39    0    96
Added Vol:      0    0     0    21    0     0     0    0     0     0    0    11
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   191  113     0     0    0     0    39    0   107
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   191  113     0     0    0     0    39    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   191  113     0     0    0     0    39    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   495 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   537 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   489 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.12 xxxx  xxxx  xxxx xxxx  xxxx  0.08 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   9.9 xxxx xxxxx  xxxx xxxx xxxxx   6.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  13.0 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             13.0
ApproachLOS:         *                *                *                B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   191  113     0     0    0     0    39    0   107
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             13.0
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=146]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=450]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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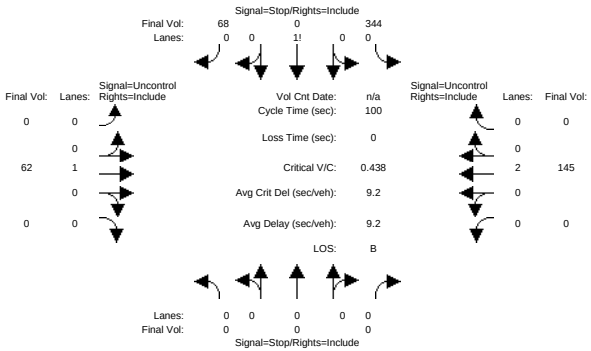
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   191  113     0     0    0     0    39    0   107
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             304
Minor Approach Volume:           146
Minor Approach Volume Threshold: 886
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   344    0    68     0   51     0     0  124     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   344    0    68     0   51     0     0  124     0
Added Vol:      0    0     0     0    0     0     0   11     0     0   21     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   344    0    68     0   62     0     0  145     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   344    0    68     0   62     0     0  145     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   344    0    68     0   62     0     0  145     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   207  207    73  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   786  693   995  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   786  693   995  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.44 0.00  0.07  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  814 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 13.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             13.9           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0    68     0   62     0     0  145     0
ApproachDel:    xxxxxx             13.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=412]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=619]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0    68     0   62     0     0  145     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             207
Minor Approach Volume:           412
Minor Approach Volume Threshold: 827
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
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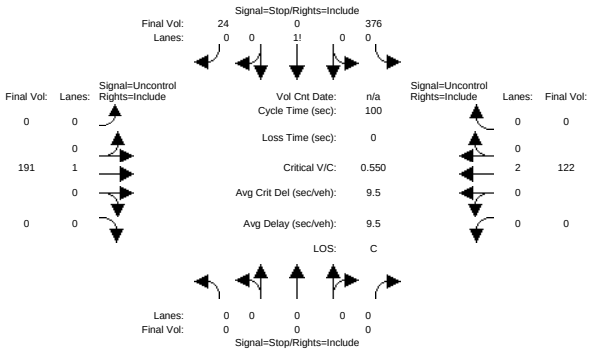
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   376    0    24     0  170     0     0  111     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   376    0    24     0  170     0     0  111     0
Added Vol:      0    0     0     0    0     0     0   21     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   376    0    24     0  191     0     0  122     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   376    0    24     0  191     0     0  122     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   376    0    24     0  191     0     0  122     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   313  313    61  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   684  606  1010  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   684  606  1010  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.55 0.00  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  697 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 16.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             16.9           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    24     0  191     0     0  122     0
ApproachDel:    xxxxxx              16.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=400]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=713]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    24     0  191     0     0  122     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             313
Minor Approach Volume:           400
Minor Approach Volume Threshold: 685
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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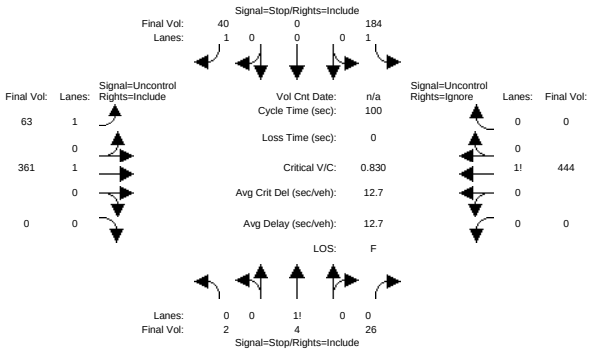
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    3    26   184    0    40    63  350     0     0  423   439
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    3    26   184    0    40    63  350     0     0  423   439
Added Vol:      0    1     0     0    0     0     0   11     0     0   21     1
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    4    26   184    0    40    63  361     0     0  444   440
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2    4    26   184    0    40    63  361     0     0  444     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    4    26   184    0    40    63  361     0     0  444     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  951  931   361   946 xxxx   444   444 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  242  269   688   243 xxxx   618  1127 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    216  254   688   222 xxxx   618  1127 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.01 0.02  0.04  0.83 xxxx  0.06  0.06 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   157 xxxx   5.2   4.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  69.8 xxxx  11.2   8.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     B     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  510 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     *    *     *
ApproachDel:      12.5             59.4            xxxxxx            xxxxxx
ApproachLOS:         B                F                 *                 *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    2    4    26   184    0    40    63  361     0     0  444   440
ApproachDel:      12.5             59.4            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1564]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=224]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1564]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    2    4    26   184    0    40    63  361     0     0  444   440
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1308
Minor Approach Volume:           224
Minor Approach Volume Threshold: 259
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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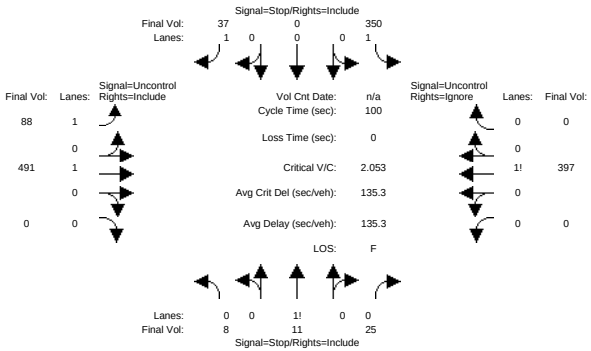
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8   11    25   349    0    37    88  470     0     0  386   312
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    8   11    25   349    0    37    88  470     0     0  386   312
Added Vol:      0    0     0     1    0     0     0   21     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    8   11    25   350    0    37    88  491     0     0  397   312
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     8   11    25   350    0    37    88  491     0     0  397     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    8   11    25   350    0    37    88  491     0     0  397     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1083 1064   491  1082 xxxx   397   397 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  197  225   582   197 xxxx   657  1173 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    175  208   582   170 xxxx   657  1173 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.05 0.05  0.04  2.05 xxxx  0.06  0.08 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   681 xxxx   4.5   6.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 538.2 xxxx  10.8   8.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     B     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  311 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 18.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      18.5            487.8           xxxxxx           xxxxxx
ApproachLOS:         C                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    8   11    25   350    0    37    88  491     0     0  397   312
ApproachDel:      18.5            487.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=44]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1719]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=52.4]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=387]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1719]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

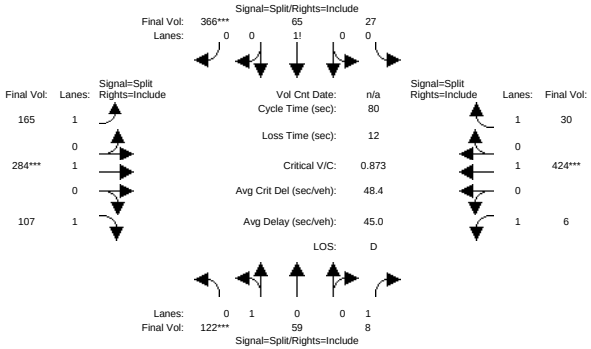
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    8   11    25   350    0    37    88  491     0     0  397   312
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1288
Minor Approach Volume:           387
Minor Approach Volume Threshold: 265
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

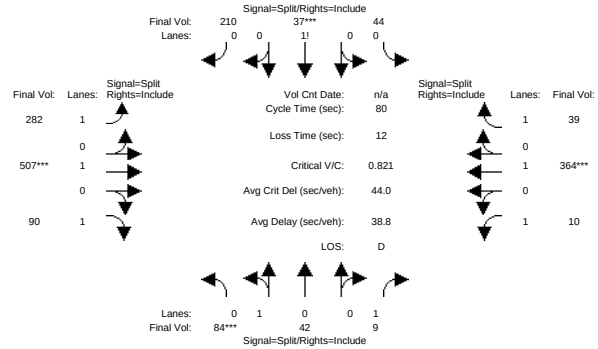



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     122   59     8   27   65   366  165  273   107    6  402    30
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  122   59     8   27   65   366  165  273   107    6  402    30
Added Vol:      0    0     0    0    0     0    0   11     0    0   22     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  122   59     8   27   65   366  165  284   107    6  424    30
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   122   59     8   27   65   366  165  284   107    6  424    30
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  122   59     8   27   65   366  165  284   107    6  424    30
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  122   59     8   27   65   366  165  284   107    6  424    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.89 0.89  0.89 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.06 0.14  0.80 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1238  599  1615  100  240  1350 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.00 0.27 0.27  0.27 0.09 0.15  0.07 0.00 0.22  0.02
Crit Moves:  ****                      ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.31 0.31  0.31 0.17 0.17  0.17 0.25 0.25  0.25
Volume/Cap:  0.79 0.79  0.04 0.89 0.89  0.89 0.54 0.89  0.39 0.01 0.89  0.07
Delay/Veh:   50.5 50.5  30.9 43.4 43.4  43.4 32.5 57.1  30.6 22.5 46.9  22.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  50.5 50.5  30.9 43.4 43.4  43.4 32.5 57.1  30.6 22.5 46.9  22.9
LOS by Move:    D    D     C    D    D     D    C    E     C    C    D     C
HCM2kAvgQ:    163  163     5  362  362   362  112  257    69    3  344    15
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

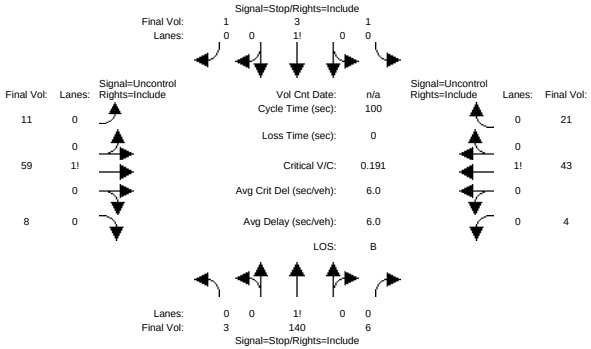



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      84   42     9   44   37   210  282  485    90   10  353    39
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   84   42     9   44   37   210  282  485    90   10  353    39
Added Vol:      0    0     0    0    0     0    0   22     0    0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   84   42     9   44   37   210  282  507    90   10  364    39
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    84   42     9   44   37   210  282  507    90   10  364    39
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   84   42     9   44   37   210  282  507    90   10  364    39
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   84   42     9   44   37   210  282  507    90   10  364    39
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.90 0.90  0.90 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.15 0.13  0.72 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1226  613  1615  258  217  1229 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.01 0.17 0.17  0.17 0.16 0.27  0.06 0.01 0.19  0.02
Crit Moves:  ****                      ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.20 0.20  0.20 0.31 0.31  0.31 0.22 0.22  0.22
Volume/Cap:  0.55 0.55  0.04 0.87 0.87  0.87 0.51 0.87  0.18 0.03 0.87  0.11
Delay/Veh:   35.7 35.7  30.9 51.8 51.8  51.8 23.5 39.3  20.5 24.5 47.3  25.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  35.7 35.7  30.9 51.8 51.8  51.8 23.5 39.3  20.5 24.5 47.3  25.0
LOS by Move:    D    D     C    D    D     D    C    D     C    C    D     C
HCM2kAvgQ:     94   94     6  253  253   253  154  378    42    5  298    20
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                          O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3   18     6     1     3     1    11   59     8     4   43     7
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3   18     6     1     3     1    11   59     8     4   43     7
Added Vol:      0  122     0     0     0     0     0    0     0     0    0    14
PasserByVol:    0    0     0     0     0     0     0    0     0     0    0     0
Initial Fut:    3  140     6     1     3     1    11   59     8     4   43    21
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3  140     6     1     3     1    11   59     8     4   43    21
Reduct Vol:     0    0     0     0     0     0     0    0     0     0    0     0
FinalVolume:    3  140     6     1     3     1    11   59     8     4   43    21
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  149  157    63   220  151    54    64 xxxx xxxxx    67 xxxx xxxxx
Potent Cap.:  824  739  1007   741  745  1019  1551 xxxx xxxxx  1547 xxxx xxxxx
Move Cap.:    815  732  1007   624  738  1019  1551 xxxx xxxxx  1547 xxxx xxxxx
Volume/Cap:  0.00 0.19  0.01  0.00 0.00  0.00  0.01 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  741 xxxxx  xxxx  752 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.7 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 11.1 xxxxx xxxxx  9.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    A     *     *    *     *     *    *     *
ApproachDel:      11.1               9.8            xxxxxx            xxxxxx
ApproachLOS:         B                 A                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3  140     6     1     3     1    11   59     8     4   43    21
ApproachDel:      11.1               9.8            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=149]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=300]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=300]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

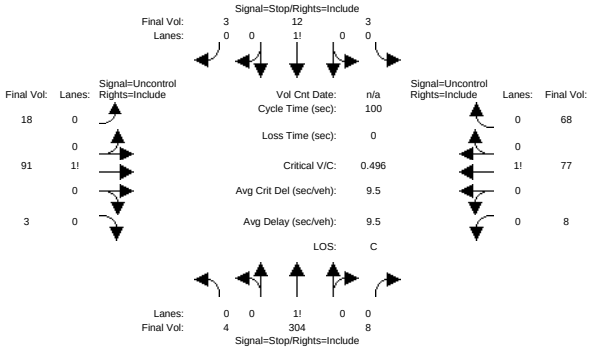
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3  140     6     1     3     1    11   59     8     4   43    21
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             146
Minor Approach Volume:           149
Minor Approach Volume Threshold: 733
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                          O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   58     8     3   12     3    18   91     3     8   77    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   58     8     3   12     3    18   91     3     8   77    11
Added Vol:      0  246     0     0    0     0     0    0     0     0    0    57
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4  304     8     3   12     3    18   91     3     8   77    68
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4  304     8     3   12     3    18   91     3     8   77    68
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4  304     8     3   12     3    18   91     3     8   77    68
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  263  290    93   412  257   111   145 xxxx xxxxx    94 xxxx xxxxx
Potent Cap.:  694  624   970   554  651   948  1450 xxxx xxxxx  1513 xxxx xxxxx
Move Cap.:    673  613   970   331  639   948  1450 xxxx xxxxx  1513 xxxx xxxxx
Volume/Cap:  0.01 0.50  0.01  0.01 0.02  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.9 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  619 xxxxx  xxxx  581 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.9 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 16.7 xxxxx xxxxx 11.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     *    *     *     *    *     *
ApproachDel:      16.7             11.4            xxxxxx           xxxxxx
ApproachLOS:         C                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  304     8     3   12     3    18   91     3     8   77    68
ApproachDel:      16.7             11.4            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=316]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=599]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=599]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

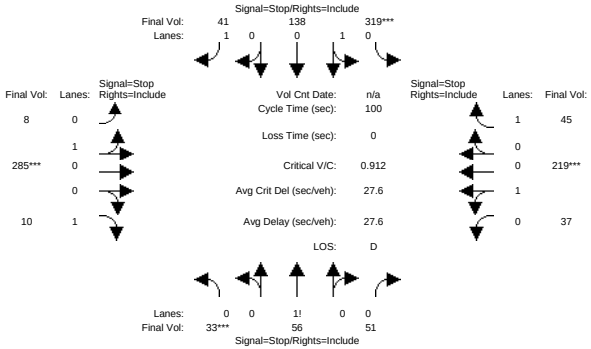
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  304     8     3   12     3    18   91     3     8   77    68
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             265
Minor Approach Volume:           316
Minor Approach Volume Threshold: 574
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    56    33    91   138    41     8   266    10    25   209    45
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   33    56    33    91   138    41     8   266    10    25   209    45
Added Vol:      0     0    18   228     0     0     0    19     0    12    10     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   33    56    51   319   138    41     8   285    10    37   219    45
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    33    56    51   319   138    41     8   285    10    37   219    45
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   33    56    51   319   138    41     8   285    10    37   219    45
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   33    56    51   319   138    41     8   285    10    37   219    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.24  0.40  0.36  0.70  0.30  1.00  0.03  0.97  1.00  0.14  0.86  1.00
Final Sat.:   104   177   161   350   151   579    13   461   522    67   399   518
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.32  0.32  0.32  0.91  0.91  0.07  0.62  0.62  0.02  0.55  0.55  0.09
Crit Moves:  ****              ****                    ****              ****
Delay/Veh:   13.6  13.6  13.6  46.1  46.1   9.2  20.0  20.0   9.4  17.9  17.9   9.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  13.6  13.6  13.6  46.1  46.1   9.2  20.0  20.0   9.4  17.9  17.9   9.9
LOS by Move:    B     B     B     E     E     A     C     C     A     C     C     A
ApproachDel:      13.6              43.0              19.6              16.7
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       13.6              43.0              19.6              16.7
LOS by Appr:         B                 E                 C                 C
AllWayAvgQ:   9.5   9.5   9.5   126   126   1.8  32.9  32.9   0.4  25.3  25.3   2.1
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



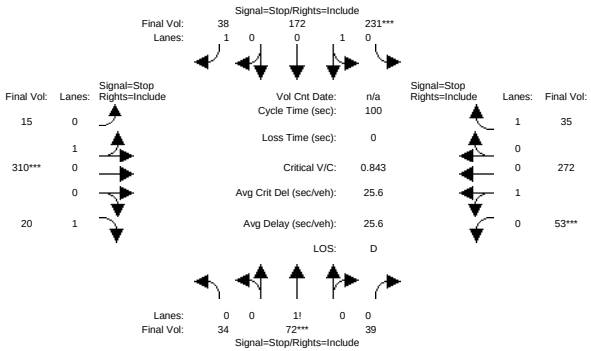
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   33   56    51   319  138    41     8  285    10    37  219    45
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             638
Minor Approach Volume:           303
Minor Approach Volume Threshold: 567
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      34    72    30   111   172    38    15   300    20    26   253    35
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   34    72    30   111   172    38    15   300    20    26   253    35
Added Vol:      0     0     9   120     0     0     0    10     0    27    19     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   34    72    39   231   172    38    15   310    20    53   272    35
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    34    72    39   231   172    38    15   310    20    53   272    35
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   34    72    39   231   172    38    15   310    20    53   272    35
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   34    72    39   231   172    38    15   310    20    53   272    35
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.23  0.50  0.27  0.57  0.43  1.00  0.05  0.95  1.00  0.16  0.84  1.00
Final Sat.:    96   203   110   274   204   544    22   452   518    77   395   520
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35  0.35  0.35  0.84  0.84  0.07  0.69  0.69  0.04  0.69  0.69  0.07
Crit Moves:        ****        ****                    ****        ****
Delay/Veh:   14.6  14.6  14.6  36.7  36.7   9.6  23.2  23.2   9.6  23.5  23.5   9.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  14.6  14.6  14.6  36.7  36.7   9.6  23.2  23.2   9.6  23.5  23.5   9.7
LOS by Move:    B     B     B     E     E     A     C     C     A     C     C     A
ApproachDel:       14.6              34.4              22.5              22.2
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        14.6              34.4              22.5              22.2
LOS by Appr:          B                 D                 C                 C
AllWayAvgQ:  10.4  10.4  10.4  88.4  88.4   1.8  43.4  43.4   0.9  44.1  44.1   1.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



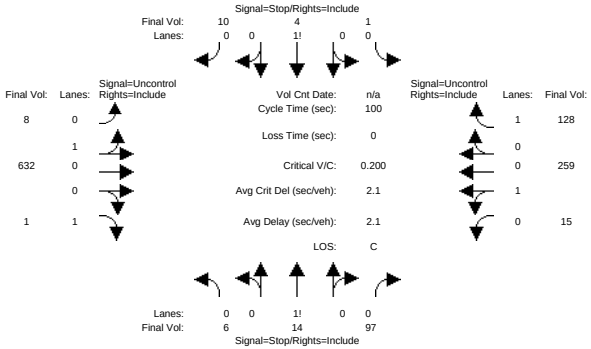
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   34   72   39   231  172   38    15  310   20    53  272   35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             705
Minor Approach Volume:           441
Minor Approach Volume Threshold: 524
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   14     7     1    4    10     8  366     1     3  238     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   14     7     1    4    10     8  366     1     3  238     6
Added Vol:      0    0    90     0    0     0     0  266     0    12   21   122
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6   14    97     1    4    10     8  632     1    15  259   128
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6   14    97     1    4    10     8  632     1    15  259   128
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6   14    97     1    4    10     8  632     1    15  259   128
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1008 1065   632   993  938   259   387 xxxx xxxxx   633 xxxx xxxxx
Potent Cap.:  221  224   484   226  266   785  1183 xxxx xxxxx   960 xxxx xxxxx
Move Cap.:    212  219   484   169  260   785  1183 xxxx xxxxx   960 xxxx xxxxx
Volume/Cap:  0.03 0.06  0.20  0.01 0.02  0.01  0.01 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx   1.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx   8.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  400 xxxxx  xxxx  441 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.2 xxxxx xxxxx  0.1 xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 17.7 xxxxx xxxxx 13.5 xxxxx   8.1 xxxx xxxxx   8.8 xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     A    *     *     A    *     *
ApproachDel:      17.7             13.5           xxxxxx           xxxxxx
ApproachLOS:         C                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14    97     1    4    10     8  632     1    15  259   128
ApproachDel:      17.7             13.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=117]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1175]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1175]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

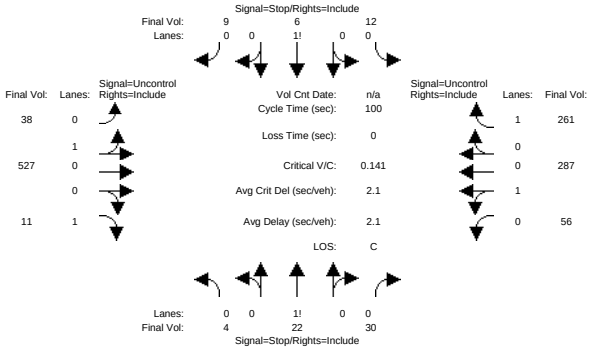
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14    97     1    4    10     8  632     1    15  259   128
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1043
Minor Approach Volume:           117
Minor Approach Volume Threshold: 270
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   22     8    12    6     9    38  388    11     9  240    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   22     8    12    6     9    38  388    11     9  240    15
Added Vol:      0    0    22     0    0     0     0  139     0    47   47   246
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4   22    30    12    6     9    38  527    11    56  287   261
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4   22    30    12    6     9    38  527    11    56  287   261
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4   22    30    12    6     9    38  527    11    56  287   261
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1140 1263   527  1034 1013   287   548 xxxx xxxxx   538 xxxx xxxxx
Potent Cap.:  180  171   555   212  241   757  1032 xxxx xxxxx  1040 xxxx xxxxx
Move Cap.:    162  156   555   167  219   757  1032 xxxx xxxxx  1040 xxxx xxxxx
Volume/Cap:  0.02 0.14  0.05  0.07 0.03  0.01  0.04 xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.9 xxxx xxxxx   4.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.6 xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  254 xxxxx  xxxx  243 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.8 xxxxx xxxxx  0.4 xxxxx   0.1 xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx 23.1 xxxxx xxxxx 21.7 xxxxx   8.6 xxxx xxxxx   8.7 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      23.1             21.7            xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22    30    12    6     9    38  527    11    56  287   261
ApproachDel:      23.1             21.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1263]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1263]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

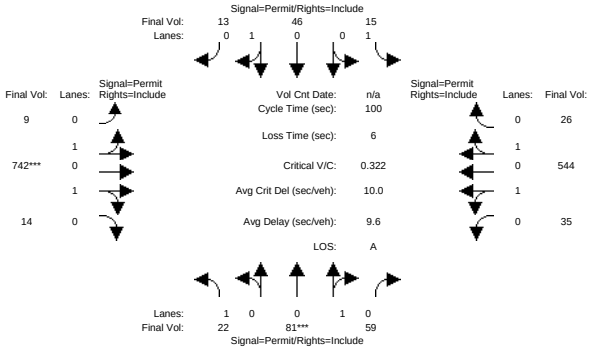
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22    30    12    6     9    38  527    11    56  287   261
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1180
Minor Approach Volume:           56
Minor Approach Volume Threshold: 228
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1036: Main St / M St



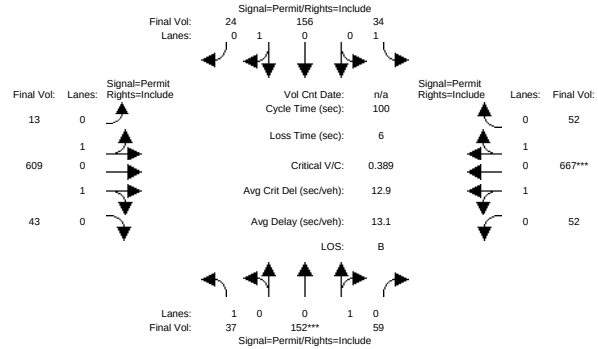
Street Name:	Main Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	10	10	10		10	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	19	81	59		15	46	13		9	721	13		35	529	26	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	19	81	59		15	46	13		9	721	13		35	529	26	
Added Vol:	3	0	0		0	0	0		0	21	1		0	15	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	22	81	59		15	46	13		9	742	14		35	544	26	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	22	81	59		15	46	13		9	742	14		35	544	26	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	22	81	59		15	46	13		9	742	14		35	544	26	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	22	81	59		15	46	13		9	742	14		35	544	26	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.72	0.94	0.94		0.57	0.97	0.97		0.90	0.90	0.90		0.83	0.83	0.83	
Lanes:	1.00	0.58	0.42		1.00	0.78	0.22		0.02	1.94	0.04		0.11	1.80	0.09	
Final Sat.:	1368	1030	750		1085	1432	405		40	3306	62		182	2836	136	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.08	0.08		0.01	0.03	0.03		0.22	0.22	0.22		0.19	0.19	0.19	
Crit Moves:		****								****						
Green/Cycle:	0.24	0.24	0.24		0.24	0.24	0.24		0.70	0.70	0.70		0.70	0.70	0.70	
Volume/Cap:	0.07	0.32	0.32		0.06	0.13	0.13		0.32	0.32	0.32		0.28	0.28	0.28	
Delay/Veh:	29.1	31.5	31.5		29.1	29.7	29.7		6.0	6.0	6.0		5.8	5.8	5.8	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	29.1	31.5	31.5		29.1	29.7	29.7		6.0	6.0	6.0		5.8	5.8	5.8	
LOS by Move:	C	C	C		C	C	C		A	A	A		A	A	A	
HCM2kAvgQ:	14	92	92		9	36	36		118	118	118		90	90	90	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1036: Main St / M St



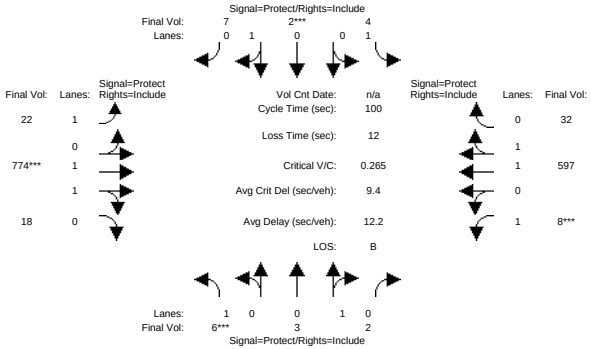
Street Name:	Main Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	10	10	10		10	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	36	152	59		34	156	24		13	594	40		52	646	52	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	36	152	59		34	156	24		13	594	40		52	646	52	
Added Vol:	1	0	0		0	0	0		0	15	3		0	21	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	37	152	59		34	156	24		13	609	43		52	667	52	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	37	152	59		34	156	24		13	609	43		52	667	52	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	37	152	59		34	156	24		13	609	43		52	667	52	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	37	152	59		34	156	24		13	609	43		52	667	52	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.53	0.96	0.96		0.49	0.98	0.98		0.88	0.88	0.88		0.81	0.81	0.81	
Lanes:	1.00	0.72	0.28		1.00	0.87	0.13		0.04	1.83	0.13		0.13	1.74	0.13	
Final Sat.:	1015	1311	509		927	1614	248		65	3063	216		209	2674	209	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.12	0.12		0.04	0.10	0.10		0.20	0.20	0.20		0.25	0.25	0.25	
Crit Moves:		****												****		
Green/Cycle:	0.30	0.30	0.30		0.30	0.30	0.30		0.64	0.64	0.64		0.64	0.64	0.64	
Volume/Cap:	0.12	0.39	0.39		0.12	0.32	0.32		0.31	0.31	0.31		0.39	0.39	0.39	
Delay/Veh:	25.7	28.3	28.3		25.8	27.6	27.6		8.1	8.1	8.1		8.7	8.7	8.7	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	25.7	28.3	28.3		25.8	27.6	27.6		8.1	8.1	8.1		8.7	8.7	8.7	
LOS by Move:	C	C	C		C	C	C		A	A	A		A	A	A	
HCM2kAvgQ:	22	132	132		21	109	109		116	116	116		146	146	146	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1037: 18th St / M St



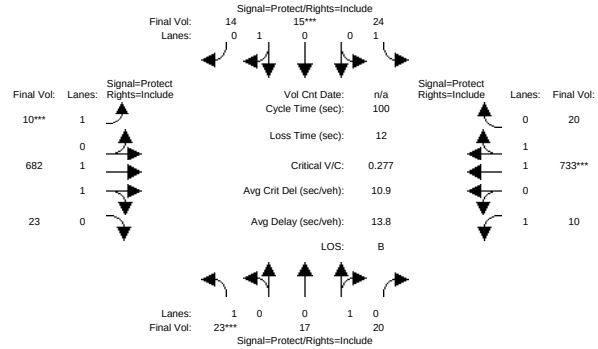
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	2		3		2	4		2		7	22		769		2	8		586		32
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	2		3		2	4		2		7	22		769		2	8		586		32
Added Vol:	4		0		0	0		0		0	0		5		16	0		11		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	6		3		2	4		2		7	22		774		18	8		597		32
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	6		3		2	4		2		7	22		774		18	8		597		32
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	6		3		2	4		2		7	22		774		18	8		597		32
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	6		3		2	4		2		7	22		774		18	8		597		32
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.94		0.94	0.95		0.88		0.88	0.95		0.95		0.95	0.95		0.94		0.94
Lanes:	1.00		0.60		0.40	1.00		0.22		0.78	1.00		1.95		0.05	1.00		1.90		0.10
Final Sat.:	1805		1072		714	1805		373		1305	1805		3517		82	1805		3399		182
Capacity Analysis Module:																				
Vol/Sat:	0.00		0.00		0.00	0.00		0.01		0.01	0.01		0.22		0.22	0.00		0.18		0.18
Crit Moves:	****							****					****			****				
Green/Cycle:	0.07		0.10		0.10	0.07		0.10		0.10	0.20		0.64		0.64	0.07		0.51		0.51
Volume/Cap:	0.05		0.03		0.03	0.03		0.05		0.05	0.06		0.34		0.34	0.06		0.35		0.35
Delay/Veh:	43.5		40.7		40.7	43.4		40.9		40.9	32.3		8.4		8.4	43.6		14.8		14.8
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	43.5		40.7		40.7	43.4		40.9		40.9	32.3		8.4		8.4	43.6		14.8		14.8
LOS by Move:	D		D		D	D		D		D	C		A		A	D		B		B
HCM2kAvgQ:	5		4		4	3		6		6	13		144		144	7		150		150

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1037: 18th St / M St



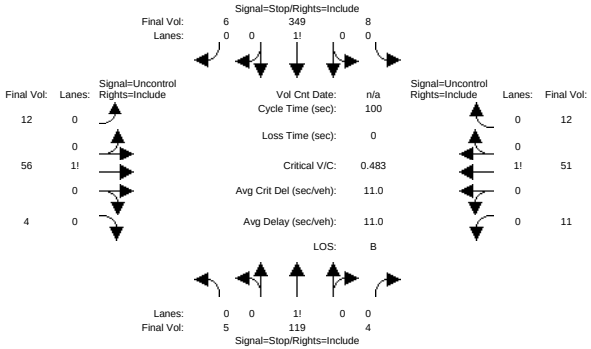
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	7		17		20	24		15		14	10		671		19	10		728		20
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	7		17		20	24		15		14	10		671		19	10		728		20
Added Vol:	16		0		0	0		0		0	0		11		4	0		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	23		17		20	24		15		14	10		682		23	10		733		20
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	23		17		20	24		15		14	10		682		23	10		733		20
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	23		17		20	24		15		14	10		682		23	10		733		20
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	23		17		20	24		15		14	10		682		23	10		733		20
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.92		0.92	0.95		0.93		0.93	0.95		0.95		0.95	0.95		0.95		0.95
Lanes:	1.00		0.46		0.54	1.00		0.52		0.48	1.00		1.93		0.07	1.00		1.95		0.05
Final Sat.:	1805		802		944	1805		912		851	1805		3475		117	1805		3500		95
Capacity Analysis Module:																				
Vol/Sat:	0.01		0.02		0.02	0.01		0.02		0.02	0.01		0.20		0.20	0.01		0.21		0.21
Crit Moves:	****							****			****					****				
Green/Cycle:	0.07		0.10		0.10	0.07		0.10		0.10	0.07		0.52		0.52	0.19		0.64		0.64
Volume/Cap:	0.18		0.21		0.21	0.19		0.16		0.16	0.08		0.38		0.38	0.03		0.33		0.33
Delay/Veh:	44.5		42.0		42.0	44.6		41.6		41.6	43.8		14.3		14.3	33.3		8.3		8.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	44.5		42.0		42.0	44.6		41.6		41.6	43.8		14.3		14.3	33.3		8.3		8.3
LOS by Move:	D		D		D	D		D		D	D		B		B	C		A		A
HCM2kAvgQ:	21		30		30	17		20		20	7		163		163	6		137		137

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5   43     4     8   44     6    12   56     4    11   51    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    5   43     4     8   44     6    12   56     4    11   51    12
Added Vol:      0   76     0     0  305     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    5  119     4     8  349     6    12   56     4    11   51    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     5  119     4     8  349     6    12   56     4    11   51    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    5  119     4     8  349     6    12   56     4    11   51    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  339  167    58   223  163    57    63 xxxx xxxxx    60 xxxx xxxxx
Potent Cap.:  619  729  1014   738  733  1015  1553 xxxx xxxxx  1556 xxxx xxxxx
Move Cap.:    378  719  1014   634  722  1015  1553 xxxx xxxxx  1556 xxxx xxxxx
Volume/Cap:  0.01 0.17  0.00  0.01 0.48  0.01  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx   0.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  700 xxxxx  xxxx  723 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.7 xxxxx xxxxx  2.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 11.3 xxxxx xxxxx 14.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      11.3             14.9           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5  119     4     8  349     6    12   56     4    11   51    12
ApproachDel:      11.3             14.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=128]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=637]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=363]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=637]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5  119     4     8  349     6    12   56     4    11   51    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             146
Minor Approach Volume:           363
Minor Approach Volume Threshold: 733
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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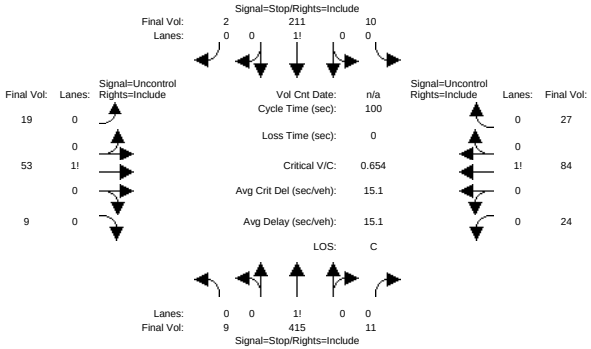
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9  110    11    10  135     2    19   53     9    24   84    27
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9  110    11    10  135     2    19   53     9    24   84    27
Added Vol:      0  305     0     0   76     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    9  415    11    10  211     2    19   53     9    24   84    27
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9  415    11    10  211     2    19   53     9    24   84    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    9  415    11    10  211     2    19   53     9    24   84    27
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  348  255    58   454  246    98   111 xxxx xxxxx    62 xxxx xxxxx
Potent Cap.:  611  653  1014   520  660   964  1492 xxxx xxxxx  1554 xxxx xxxxx
Move Cap.:    445  634  1014   239  641   964  1492 xxxx xxxxx  1554 xxxx xxxxx
Volume/Cap:  0.02 0.65  0.01  0.04 0.33  0.00  0.01 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   1.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  635 xxxxx  xxxx  598 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  5.4 xxxxx xxxxx  1.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 22.1 xxxxx xxxxx 14.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     *    *     *     *    *     *
ApproachDel:      22.1             14.6            xxxxxx           xxxxxx
ApproachLOS:         C                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  415    11    10  211     2    19   53     9    24   84    27
ApproachDel:      22.1             14.6            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=435]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=874]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=223]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=874]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  415    11    10  211     2    19   53     9    24   84    27
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             216
Minor Approach Volume:           435
Minor Approach Volume Threshold: 628
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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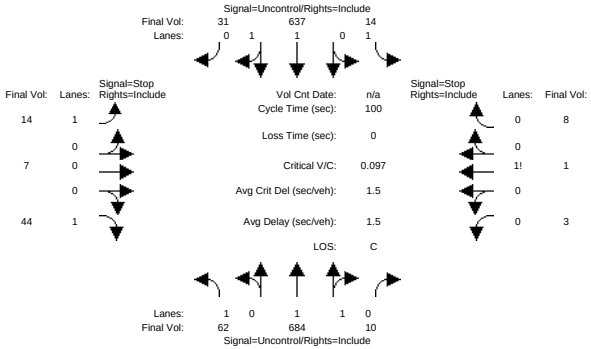
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62  490    10    14  422    31    14    7    44     3    1     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62  490    10    14  422    31    14    7    44     3    1     8
Added Vol:      0  194     0     0  215     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   62  684    10    14  637    31    14    7    44     3    1     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    62  684    10    14  637    31    14    7    44     3    1     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62  684    10    14  637    31    14    7    44     3    1     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  668 xxxx xxxxx   694 xxxx xxxxx  1147 1499   334  1163 1509   347
Potent Cap.:  931 xxxx xxxxx   911 xxxx xxxxx   156  124   668   152  122   655
Move Cap.:    931 xxxx xxxxx   911 xxxx xxxxx   144  114   668   127  112   655
Volume/Cap:  0.07 xxxx  xxxx  0.02 xxxx  xxxx  0.10 0.06  0.07  0.02 0.01  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    5.3 xxxx xxxxx   1.2 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.1 xxxx xxxxx   9.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   132 xxxx   400  xxxx  268 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.5 xxxx   0.4 xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  37.3 xxxx  15.3 xxxxx 19.0 xxxxx
Shared LOS:     *    *     *     *    *     *     E    *     C     *    C     *
ApproachDel:    xxxxxx           xxxxxx             21.7             19.0
ApproachLOS:         *                *                C                C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   62  684    10    14  637    31    14    7    44     3    1     8
ApproachDel:    xxxxxx           xxxxxx             21.7             19.0
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=65]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1515]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1515]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
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signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   62  684    10    14  637    31    14    7    44     3    1     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1438
Minor Approach Volume:           65
Minor Approach Volume Threshold: 218
-------------------------------------------------------------------------------
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a traffic signal in the future.  Intersections that exceed this warrant
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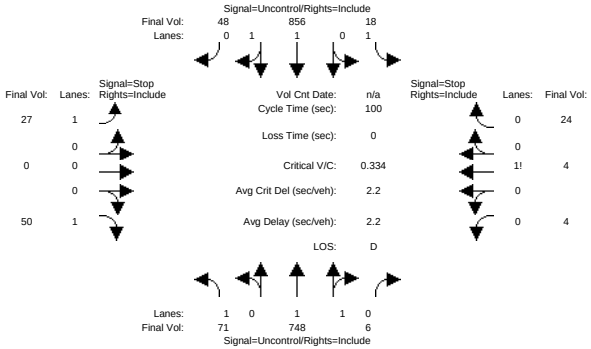
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  533     6    18  662    48    27    0    50     4    4    24
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   71  533     6    18  662    48    27    0    50     4    4    24
Added Vol:      0  215     0     0  194     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   71  748     6    18  856    48    27    0    50     4    4    24
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    71  748     6    18  856    48    27    0    50     4    4    24
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   71  748     6    18  856    48    27    0    50     4    4    24
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  904 xxxx xxxxx   754 xxxx xxxxx  1434 xxxx   452  1357 1833   377
Potent Cap.:  761 xxxx xxxxx   865 xxxx xxxxx    96 xxxx   560   110   77   626
Move Cap.:    761 xxxx xxxxx   865 xxxx xxxxx    81 xxxx   560    91   68   626
Volume/Cap:  0.09 xxxx  xxxx  0.02 xxxx  xxxx  0.33 xxxx  0.09  0.04 0.06  0.04
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    7.7 xxxx xxxxx   1.6 xxxx xxxxx  31.7 xxxx   7.3  xxxx xxxx xxxxx
Control Del: 10.2 xxxx xxxxx   9.2 xxxx xxxxx  70.5 xxxx  12.1 xxxxx xxxx xxxxx
LOS by Move:    B    *     *     A    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  228 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.5 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 23.4 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             32.5            23.4
ApproachLOS:         *                *                D               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   71  748     6    18  856    48    27    0    50     4    4    24
ApproachDel:    xxxxxx           xxxxxx             32.5            23.4
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=77]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1856]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1856]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   71  748     6    18  856    48    27    0    50     4    4    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1747
Minor Approach Volume:           77
Minor Approach Volume Threshold: 134 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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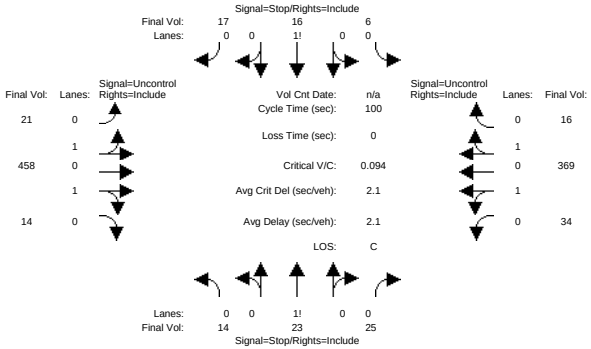
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      14   23    25     6   16     7     2  440    14    34  360    16
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   14   23    25     6   16     7     2  440    14    34  360    16
Added Vol:      0    0     0     0    0    10    19   18     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   14   23    25     6   16    17    21  458    14    34  369    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    14   23    25     6   16    17    21  458    14    34  369    16
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   14   23    25     6   16    17    21  458    14    34  369    16
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  768  960   236   728  959   193   385 xxxx xxxxx   472 xxxx xxxxx
Potent Cap.:  295  259   772   315  259   823  1185 xxxx xxxxx  1100 xxxx xxxxx
Move Cap.:    264  246   772   273  246   823  1185 xxxx xxxxx  1100 xxxx xxxxx
Volume/Cap:  0.05 0.09  0.03  0.02 0.06  0.02  0.02 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.4 xxxx xxxxx   2.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  347 xxxxx  xxxx  362 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  0.4 xxxxx   0.1 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 17.6 xxxxx xxxxx 16.1 xxxxx   8.1 xxxx xxxxx   8.4 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      17.6             16.1           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   23    25     6   16    17    21  458    14    34  369    16
ApproachDel:      17.6             16.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1013]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=39]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1013]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

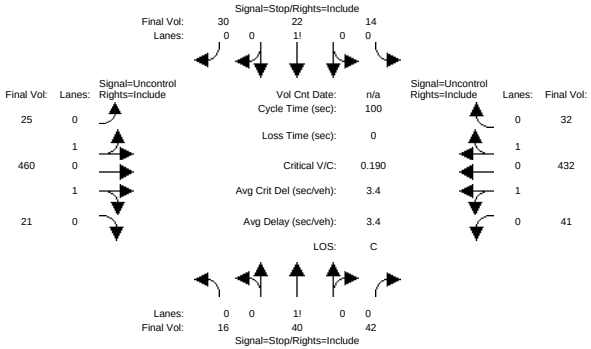
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   23    25     6   16    17    21  458    14    34  369    16
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             912
Minor Approach Volume:           62
Minor Approach Volume Threshold: 317
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      16   40    42    14   22    11    15  451    21    41  414    32
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   16   40    42    14   22    11    15  451    21    41  414    32
Added Vol:      0    0     0     0    0    19    10    9     0     0   18     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   16   40    42    14   22    30    25  460    21    41  432    32
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    16   40    42    14   22    30    25  460    21    41  432    32
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   16   40    42    14   22    30    25  460    21    41  432    32
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  830 1067   241   830 1061   232   464 xxxx xxxxx   481 xxxx xxxxx
Potent Cap.:  266  224   767   266  226   776  1108 xxxx xxxxx  1092 xxxx xxxxx
Move Cap.:    225  210   767   205  212   776  1108 xxxx xxxxx  1092 xxxx xxxxx
Volume/Cap:  0.07 0.19  0.05  0.07 0.10  0.04  0.02 xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.7 xxxx xxxxx   2.9 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  310 xxxxx  xxxx  313 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.3 xxxxx xxxxx  0.8 xxxxx   0.1 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 21.9 xxxxx xxxxx 19.5 xxxxx   8.3 xxxx xxxxx   8.4 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      21.9             19.5           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   40    42    14   22    30    25  460    21    41  432    32
ApproachDel:      21.9             19.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=98]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1175]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=66]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1175]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

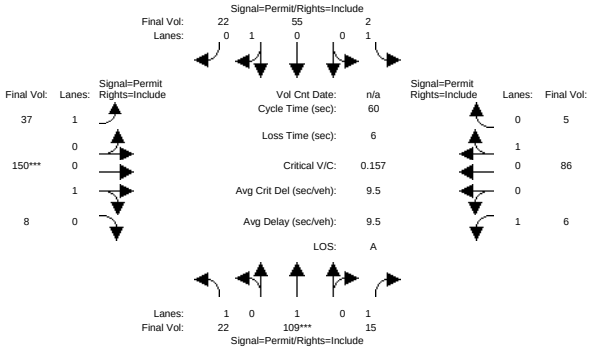
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   40    42    14   22    30    25  460    21    41  432    32
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1011
Minor Approach Volume:           98
Minor Approach Volume Threshold: 281
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1041: Main St / Martin Luther King Wy



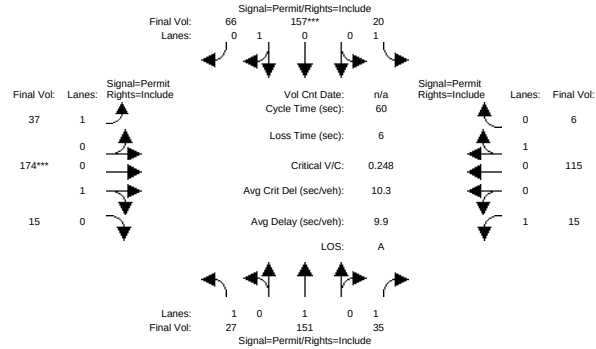
Street Name:	Main Street									Martin Luther King Way							
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	22		106		15	2		54		22	37		150		8	6		86		5
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	22		106		15	2		54		22	37		150		8	6		86		5
Added Vol:	0		3		0	0		1		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	22		109		15	2		55		22	37		150		8	6		86		5
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	22		109		15	2		55		22	37		150		8	6		86		5
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	22		109		15	2		55		22	37		150		8	6		86		5
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	22		109		15	2		55		22	37		150		8	6		86		5
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.71		1.00		0.85	0.68		0.96		0.96	0.70		0.99		0.99	0.65		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.71		0.29	1.00		0.95		0.05	1.00		0.95		0.05
Final Sat.:	1341		1900		1615	1298		1299		520	1322		1789		95	1237		1781		104
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.06		0.01	0.00		0.04		0.04	0.03		0.08		0.08	0.00		0.05		0.05
Crit Moves:			****										****							
Green/Cycle:	0.37		0.37		0.37	0.37		0.37		0.37	0.53		0.53		0.53	0.53		0.53		0.53
Volume/Cap:	0.04		0.16		0.03	0.00		0.12		0.12	0.05		0.16		0.16	0.01		0.09		0.09
Delay/Veh:	12.3		12.9		12.2	12.1		12.7		12.7	6.7		7.2		7.2	6.5		6.9		6.9
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	12.3		12.9		12.2	12.1		12.7		12.7	6.7		7.2		7.2	6.5		6.9		6.9
LOS by Move:	B		B		B	B		B		B	A		A		A	A		A		A
HCM2kAvgQ:	7		35		5	1		25		25	8		36		36	1		21		21

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1041: Main St / Martin Luther King Wy



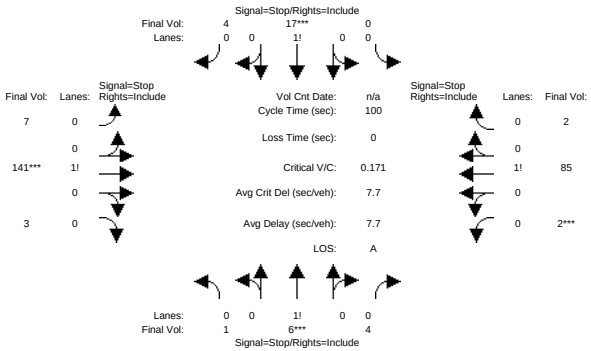
Street Name:	Main Street									Martin Luther King Way							
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	27		150		35	20		154		66	37		174		15	15		115		6
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	27		150		35	20		154		66	37		174		15	15		115		6
Added Vol:	0		1		0	0		3		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	27		151		35	20		157		66	37		174		15	15		115		6
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	27		151		35	20		157		66	37		174		15	15		115		6
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	27		151		35	20		157		66	37		174		15	15		115		6
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	27		151		35	20		157		66	37		174		15	15		115		6
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.59		1.00		0.85	0.66		0.96		0.96	0.68		0.99		0.99	0.60		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.70		0.30	1.00		0.92		0.08	1.00		0.95		0.05
Final Sat.:	1112		1900		1615	1245		1279		538	1283		1728		149	1142		1793		94
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.08		0.02	0.02		0.12		0.12	0.03		0.10		0.10	0.01		0.06		0.06
Crit Moves:								****					****							
Green/Cycle:	0.49		0.49		0.49	0.49		0.49		0.49	0.41		0.41		0.41	0.41		0.41		0.41
Volume/Cap:	0.05		0.16		0.04	0.03		0.25		0.25	0.07		0.25		0.25	0.03		0.16		0.16
Delay/Veh:	7.9		8.4		7.9	7.8		8.9		8.9	11.0		12.0		12.0	10.8		11.4		11.4
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	7.9		8.4		7.9	7.8		8.9		8.9	11.0		12.0		12.0	10.8		11.4		11.4
LOS by Move:	A		A		A	A		A		A	B		B		B	B		B		B
HCM2kAvgQ:	7		39		9	5		62		62	10		55		55	5		37		37

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1     2     4     0     1     4     7   141     3     2    85     2
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    1     2     4     0     1     4     7   141     3     2    85     2
Added Vol:      0     4     0     0    16     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    1     6     4     0    17     4     7   141     3     2    85     2
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     1     6     4     0    17     4     7   141     3     2    85     2
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    1     6     4     0    17     4     7   141     3     2    85     2
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    1     6     4     0    17     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.09  0.55  0.36  0.00  0.81  0.19  0.05  0.93  0.02  0.02  0.96  0.02
Final Sat.:    74   442   295     0   646   152    41   822    17    20   829    20
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01  0.01  0.01  xxxx  0.03  0.03  0.17  0.17  0.17  0.10  0.10  0.10
Crit Moves:        ****              ****              ****        ****
Delay/Veh:    7.3   7.3   7.3   0.0   7.4   7.4   7.9   7.9   7.9   7.6   7.6   7.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.3   7.3   7.3   0.0   7.4   7.4   7.9   7.9   7.9   7.6   7.6   7.6
LOS by Move:    A     A     A     *     A     A     A     A     A     A     A     A
ApproachDel:        7.3               7.4               7.9               7.6
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.3               7.4               7.9               7.6
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   0.3   0.3   0.3   0.6   0.6   0.6   5.1   5.1   5.1   2.8   2.8   2.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



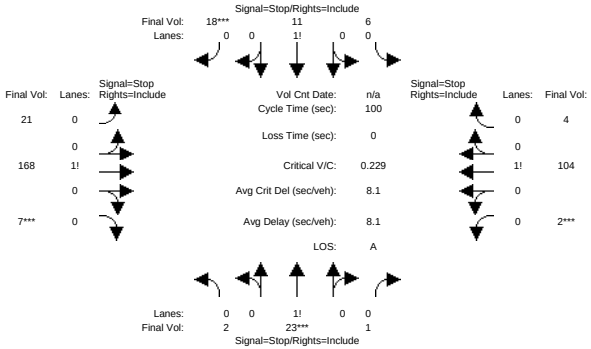
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    1     6     4     0    17     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             240
Minor Approach Volume:           21
Minor Approach Volume Threshold: 600
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    7     1     6    7    18    21  168     7     2  104     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    7     1     6    7    18    21  168     7     2  104     4
Added Vol:      0   16     0     0    4     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   23     1     6   11    18    21  168     7     2  104     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2   23     1     6   11    18    21  168     7     2  104     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   23     1     6   11    18    21  168     7     2  104     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    2   23     1     6   11    18    21  168     7     2  104     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.08 0.88  0.04  0.17 0.31  0.52  0.11 0.86  0.03  0.02 0.94  0.04
Final Sat.:    57  656    29   135  247   405    92  734    31    15  793    31
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.04  0.04  0.04 0.04  0.04  0.23 0.23  0.23  0.13 0.13  0.13
Crit Moves:        ****                 ****              ****  ****
Delay/Veh:    7.7  7.7   7.7   7.5  7.5   7.5   8.3  8.3   8.3   7.8  7.8   7.8
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.7  7.7   7.7   7.5  7.5   7.5   8.3  8.3   8.3   7.8  7.8   7.8
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       7.7              7.5              8.3              7.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.7              7.5              8.3              7.8
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.8  0.8   0.8   1.0  1.0   1.0   7.1  7.1   7.1   3.6  3.6   3.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



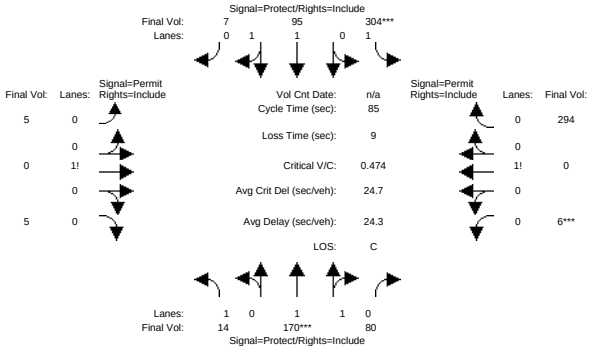
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2   23     1     6   11    18    21  168     7     2  104     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             306
Minor Approach Volume:           35
Minor Approach Volume Threshold: 535
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1043: 16th St / H St



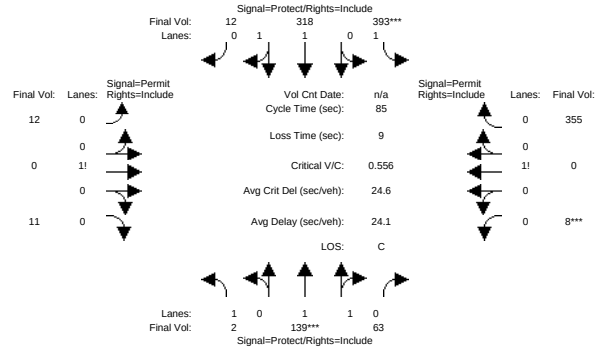
Street Name:	16th Street									H Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	14		142	80	293		84	7	5		0	5	6		0	286
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	14		142	80	293		84	7	5		0	5	6		0	286
Added Vol:	0		28	0	11		11	0	0		0	0	0		0	8
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	14		170	80	304		95	7	5		0	5	6		0	294
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	14		170	80	304		95	7	5		0	5	6		0	294
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	14		170	80	304		95	7	5		0	5	6		0	294
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	14		170	80	304		95	7	5		0	5	6		0	294
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.94	0.94	0.84		1.00	0.84	0.87		1.00	0.87
Lanes:	1.00		1.36	0.64	1.00		1.86	0.14	0.50		0.00	0.50	0.02		0.00	0.98
Final Sat.:	1805		2337	1100	1805		3329	245	799		0	799	33		0	1611
Capacity Analysis Module:																
Vol/Sat:	0.01		0.07	0.07	0.17		0.03	0.03	0.01		0.00	0.01	0.18		0.00	0.18
Crit Moves:			****		****								****			
Green/Cycle:	0.21		0.15	0.15	0.36		0.30	0.30	0.39		0.00	0.39	0.39		0.00	0.39
Volume/Cap:	0.04		0.47	0.47	0.47		0.10	0.10	0.02		0.00	0.02	0.47		0.00	0.47
Delay/Veh:	26.8		33.5	33.5	21.8		21.5	21.5	16.2		0.0	16.2	20.2		0.0	20.2
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	26.8		33.5	33.5	21.8		21.5	21.5	16.2		0.0	16.2	20.2		0.0	20.2
LOS by Move:	C		C	C	C		C	C	B		A	B	C		A	C
HCM2kAvgQ:	8		92	92	161		25	25	4		0	4	155		0	155

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1043: 16th St / H St



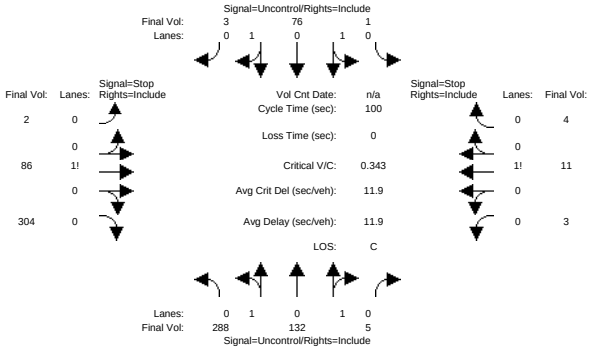
Street Name:	16th Street									H Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	2		122	63	378		297	12	12		0	11	8		0	350
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	2		122	63	378		297	12	12		0	11	8		0	350
Added Vol:	0		17	0	15		21	0	0		0	0	0		0	5
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	2		139	63	393		318	12	12		0	11	8		0	355
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	2		139	63	393		318	12	12		0	11	8		0	355
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	2		139	63	393		318	12	12		0	11	8		0	355
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	2		139	63	393		318	12	12		0	11	8		0	355
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.91	0.91	0.95		0.95	0.95	0.79		1.00	0.79	0.86		1.00	0.86
Lanes:	1.00		1.38	0.62	1.00		1.93	0.07	0.52		0.00	0.48	0.02		0.00	0.98
Final Sat.:	1805		2367	1073	1805		3461	131	787		0	721	36		0	1606
Capacity Analysis Module:																
Vol/Sat:	0.00		0.06	0.06	0.22		0.09	0.09	0.02		0.00	0.02	0.22		0.00	0.22
Crit Moves:			****		****								****			
Green/Cycle:	0.21		0.12	0.12	0.39		0.30	0.30	0.39		0.00	0.39	0.39		0.00	0.39
Volume/Cap:	0.01		0.50	0.50	0.57		0.31	0.31	0.04		0.00	0.04	0.57		0.00	0.57
Delay/Veh:	26.8		36.1	36.1	21.6		23.4	23.4	16.0		0.0	16.0	21.4		0.0	21.4
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	26.8		36.1	36.1	21.6		23.4	23.4	16.0		0.0	16.0	21.4		0.0	21.4
LOS by Move:	C		D	D	C		C	C	B		A	B	C		A	C
HCM2kAvgQ:	1		82	82	214		91	91	9		0	9	199		0	199

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     280  129     5     1   75     3     2   86   293     3   11     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  280  129     5     1   75     3     2   86   293     3   11     4
Added Vol:      8    3     0     0    1     0     0    0    11     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  288  132     5     1   76     3     2   86   304     3   11     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   288  132     5     1   76     3     2   86   304     3   11     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  288  132     5     1   76     3     2   86   304     3   11     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   79 xxxx xxxxx   137 xxxx xxxxx   727  793    40   794  792    69
Potent Cap.: 1532 xxxx xxxxx  1459 xxxx xxxxx   315  324  1030   283  324   987
Move Cap.:   1532 xxxx xxxxx  1459 xxxx xxxxx   251  251  1030   122  251   987
Volume/Cap:  0.19 xxxx  xxxx  0.00 xxxx  xxxx  0.01 0.34  0.30  0.02 0.04  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   17.3 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.9 xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  607 xxxxx  xxxx  249 xxxxx
SharedQueue:  0.7 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  4.7 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:  7.9 xxxx xxxxx   7.5 xxxx xxxxx xxxxx 21.1 xxxxx xxxxx 20.6 xxxxx
Shared LOS:     A    *     *     A    *     *     *    C     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             21.1            20.6
ApproachLOS:         *                *                C               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  288  132     5     1   76     3     2   86   304     3   11     4
ApproachDel:    xxxxxx           xxxxxx             21.1            20.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=392]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=915]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=915]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  288  132     5     1   76     3     2   86   304     3   11     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             505
Minor Approach Volume:           392
Minor Approach Volume Threshold: 520
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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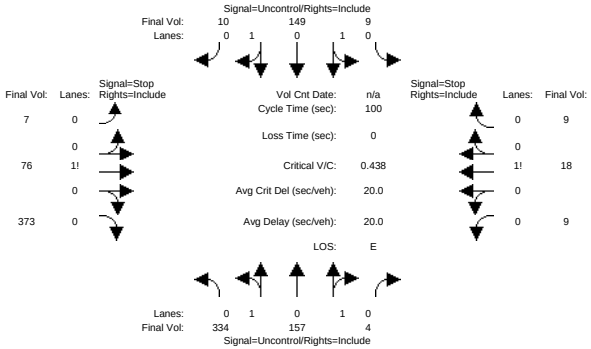
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     329  156     4     9  146    10     7   76   358     9   18     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  329  156     4     9  146    10     7   76   358     9   18     9
Added Vol:      5    1     0     0    3     0     0    0    15     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  334  157     4     9  149    10     7   76   373     9   18     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   334  157     4     9  149    10     7   76   373     9   18     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  334  157     4     9  149    10     7   76   373     9   18     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  159 xxxx xxxxx   161 xxxx xxxxx   928 1001    80   958 1004    81
Potent Cap.: 1433 xxxx xxxxx  1430 xxxx xxxxx   226  245   971   215  244   970
Move Cap.:   1433 xxxx xxxxx  1430 xxxx xxxxx   160  173   971    69  173   970
Volume/Cap:  0.23 xxxx  xxxx  0.01 xxxx  xxxx  0.04 0.44  0.38  0.13 0.10  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   22.6 xxxx xxxxx   0.5 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.3 xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  527 xxxxx  xxxx  147 xxxxx
SharedQueue:  0.9 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  9.4 xxxxx xxxxx  0.9 xxxxx
Shrd ConDel:  8.3 xxxx xxxxx   7.5 xxxx xxxxx xxxxx 41.5 xxxxx xxxxx 37.1 xxxxx
Shared LOS:     A    *     *     A    *     *     *    E     *     *    E     *
ApproachDel:    xxxxxx           xxxxxx             41.5            37.1
ApproachLOS:         *                *                E               E
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  334  157     4     9  149    10     7   76   373     9   18     9
ApproachDel:    xxxxxx           xxxxxx              41.5            37.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=456]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1155]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=36]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1155]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

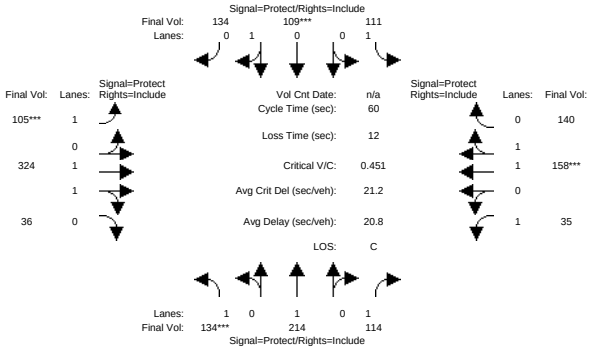
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  334  157     4     9  149    10     7   76   373     9   18     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             663
Minor Approach Volume:           456
Minor Approach Volume Threshold: 426
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1046: Main St / G St



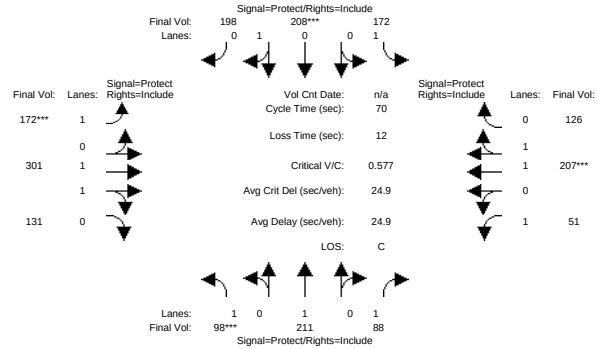
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	214	113	105	109	128	105	323	36	35	158	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	214	113	105	109	128	105	323	36	35	158	129
Added Vol:	0	0	1	6	0	6	0	1	0	0	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	214	114	111	109	134	105	324	36	35	158	140
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	134	214	114	111	109	134	105	324	36	35	158	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	214	114	111	109	134	105	324	36	35	158	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	134	214	114	111	109	134	105	324	36	35	158	140
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.92	0.92	0.95	0.94	0.94	0.95	0.88	0.88
Lanes:	1.00	1.00	1.00	1.00	0.45	0.55	1.00	1.80	0.20	1.00	1.06	0.94
Final Sat.:	1805	1900	1615	1805	782	961	1805	3200	356	1805	1780	1577
Capacity Analysis Module:												
Vol/Sat:	0.07	0.11	0.07	0.06	0.14	0.14	0.06	0.10	0.10	0.02	0.09	0.09
Crit Moves:	****				****		****				****	
Green/Cycle:	0.16	0.28	0.28	0.20	0.31	0.31	0.13	0.19	0.19	0.13	0.20	0.20
Volume/Cap:	0.45	0.40	0.25	0.32	0.45	0.45	0.45	0.53	0.53	0.14	0.45	0.45
Delay/Veh:	23.7	18.1	17.1	21.2	17.2	17.2	25.6	22.6	22.6	23.2	21.7	21.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.7	18.1	17.1	21.2	17.2	17.2	25.6	22.6	22.6	23.2	21.7	21.7
LOS by Move:	C	B	B	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	70	89	45	51	101	101	60	98	98	14	63	63

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1046: Main St / G St



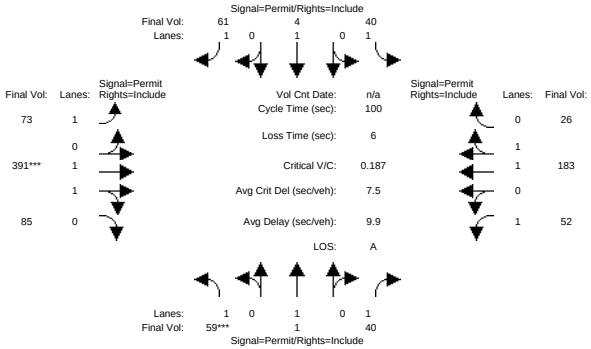
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	98	211	88	161	208	191	172	301	131	50	205	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	211	88	161	208	191	172	301	131	50	205	120
Added Vol:	0	0	0	11	0	7	0	0	0	1	2	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	211	88	172	208	198	172	301	131	51	207	126
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	211	88	172	208	198	172	301	131	51	207	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	211	88	172	208	198	172	301	131	51	207	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	211	88	172	208	198	172	301	131	51	207	126
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.91	0.91	0.95	0.90	0.90
Lanes:	1.00	1.00	1.00	1.00	0.51	0.49	1.00	1.39	0.61	1.00	1.24	0.76
Final Sat.:	1805	1900	1615	1805	902	859	1805	2402	1045	1805	2116	1288
Capacity Analysis Module:												
Vol/Sat:	0.05	0.11	0.05	0.10	0.23	0.23	0.10	0.13	0.13	0.03	0.10	0.10
Crit Moves:	****				****		****				****	
Green/Cycle:	0.10	0.29	0.29	0.20	0.40	0.40	0.16	0.20	0.20	0.14	0.17	0.17
Volume/Cap:	0.54	0.38	0.19	0.47	0.58	0.58	0.58	0.64	0.64	0.21	0.58	0.58
Delay/Veh:	33.3	20.2	18.7	25.4	17.8	17.8	30.0	28.0	28.0	27.3	28.4	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.3	20.2	18.7	25.4	17.8	17.8	30.0	28.0	28.0	27.3	28.4	28.4
LOS by Move:	C	C	B	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	72	97	38	95	188	188	109	142	142	24	88	88

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1047: 18th St / G St



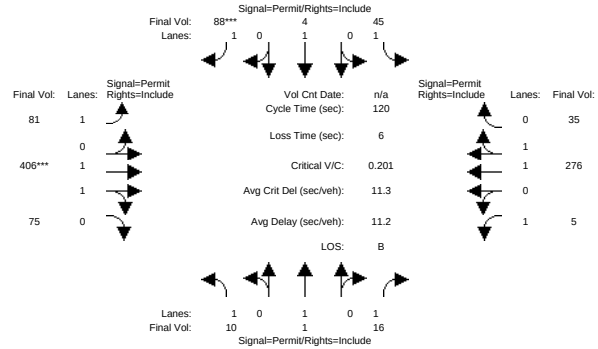
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	59	1	40	40	4	60	70	385	85	52	172	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	1	40	40	4	60	70	385	85	52	172	26
Added Vol:	0	0	0	0	0	1	3	6	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	59	1	40	40	4	61	73	391	85	52	183	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	1	40	40	4	61	73	391	85	52	183	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	1	40	40	4	61	73	391	85	52	183	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	59	1	40	40	4	61	73	391	85	52	183	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.61	0.92	0.92	0.47	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.64	0.36	1.00	1.75	0.25
Final Sat.:	1455	1900	1615	1459	1900	1615	1165	2885	627	885	3101	441
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.02	0.03	0.00	0.04	0.06	0.14	0.14	0.06	0.06	0.06
Crit Moves:	****							****				
Green/Cycle:	0.22	0.22	0.22	0.22	0.22	0.22	0.72	0.72	0.72	0.72	0.72	0.72
Volume/Cap:	0.19	0.00	0.11	0.13	0.01	0.17	0.09	0.19	0.19	0.08	0.08	0.08
Delay/Veh:	32.3	30.7	31.6	31.7	30.8	32.1	4.1	4.5	4.5	4.1	4.1	4.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	30.7	31.6	31.7	30.8	32.1	4.1	4.5	4.5	4.1	4.1	4.1
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	39	1	26	26	2	40	16	60	60	13	25	25

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1047: 18th St / G St



Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	1	16	45	4	85	80	395	75	5	270	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1	16	45	4	85	80	395	75	5	270	35
Added Vol:	0	0	0	0	0	3	1	11	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	1	16	45	4	88	81	406	75	5	276	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	1	16	45	4	88	81	406	75	5	276	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1	16	45	4	88	81	406	75	5	276	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1	16	45	4	88	81	406	75	5	276	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.55	0.93	0.93	0.45	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.69	0.31	1.00	1.77	0.23
Final Sat.:	1455	1900	1615	1459	1900	1615	1051	2977	550	863	3149	399
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.03	0.00	0.05	0.08	0.14	0.14	0.01	0.09	0.09
Crit Moves:						****		****				
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.68	0.68	0.68	0.68	0.68	0.68
Volume/Cap:	0.03	0.00	0.04	0.11	0.01	0.20	0.11	0.20	0.20	0.01	0.13	0.13
Delay/Veh:	32.1	31.9	32.2	33.0	31.9	33.9	6.8	7.2	7.2	6.2	6.8	6.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.1	31.9	32.2	33.0	31.9	33.9	6.8	7.2	7.2	6.2	6.8	6.8
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	7	1	11	31	3	63	25	83	83	2	52	52

Note: Queue reported is the distance per lane in feet.

MERCED STATION ANALYSIS

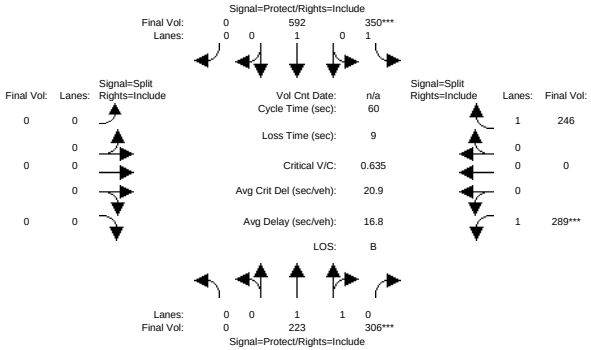
INTERSECTION

EXISTING WITH PROJECT_OPTION-A MITIGATION CONDITIONS
– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1001: 16th St / SR-59



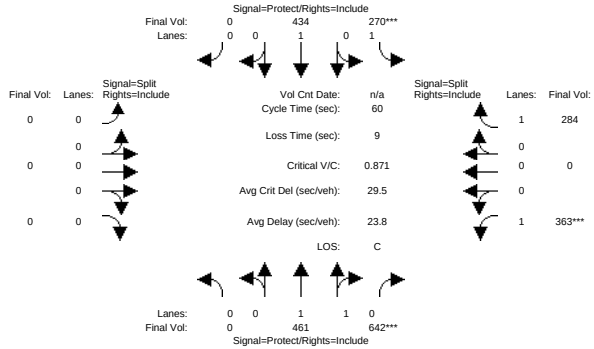
Street Name:	16th Street						SR-59					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	194	298	350	592	0	0	0	0	272	0	246
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	194	298	350	592	0	0	0	0	272	0	246
Added Vol:	0	29	8	0	0	0	0	0	0	17	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	223	306	350	592	0	0	0	0	289	0	246
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	223	306	350	592	0	0	0	0	289	0	246
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	223	306	350	592	0	0	0	0	289	0	246
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	223	306	350	592	0	0	0	0	289	0	246
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.87	0.87	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.85
Lanes:	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	1648	1648	1805	1900	0	0	0	0	1805	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.14	0.19	0.19	0.31	0.00	0.00	0.00	0.00	0.16	0.00	0.15
Crit Moves:			****	****						****		
Green/Cycle:	0.00	0.29	0.29	0.31	0.60	0.00	0.00	0.00	0.00	0.25	0.00	0.25
Volume/Cap:	0.00	0.46	0.63	0.63	0.52	0.00	0.00	0.00	0.00	0.63	0.00	0.60
Delay/Veh:	0.0	17.7	20.1	20.4	7.5	0.0	0.0	0.0	0.0	22.9	0.0	22.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	17.7	20.1	20.4	7.5	0.0	0.0	0.0	0.0	22.9	0.0	22.4
LOS by Move:	A	B	C	C	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	101	157	166	171	0	0	0	0	148	0	126

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1001: 16th St / SR-59



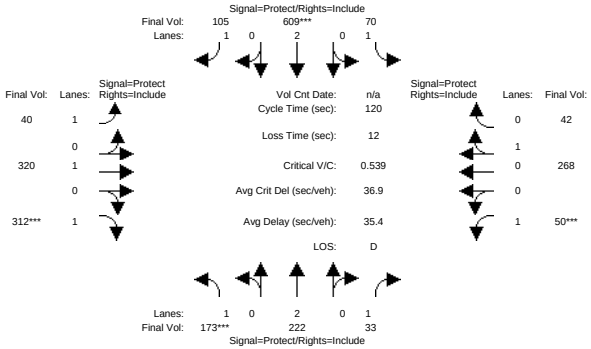
Street Name:	16th Street						SR-59					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	427	625	270	434	0	0	0	0	355	0	284
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	427	625	270	434	0	0	0	0	355	0	284
Added Vol:	0	34	17	0	0	0	0	0	0	8	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	461	642	270	434	0	0	0	0	363	0	284
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	461	642	270	434	0	0	0	0	363	0	284
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	461	642	270	434	0	0	0	0	363	0	284
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	461	642	270	434	0	0	0	0	363	0	284
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.87	0.87	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.85
Lanes:	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	1648	1648	1805	1900	0	0	0	0	1805	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.39	0.15	0.23	0.00	0.00	0.00	0.00	0.20	0.00	0.18
Crit Moves:			****	****						****		
Green/Cycle:	0.00	0.45	0.45	0.17	0.62	0.00	0.00	0.00	0.00	0.23	0.00	0.23
Volume/Cap:	0.00	0.63	0.87	0.87	0.37	0.00	0.00	0.00	0.00	0.87	0.00	0.76
Delay/Veh:	0.0	13.4	21.8	46.6	5.8	0.0	0.0	0.0	0.0	39.9	0.0	30.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.4	21.8	46.6	5.8	0.0	0.0	0.0	0.0	39.9	0.0	30.4
LOS by Move:	A	B	C	D	A	A	A	A	A	D	A	C
HCM2kAvgQ:	0	195	376	205	104	0	0	0	0	250	0	175

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

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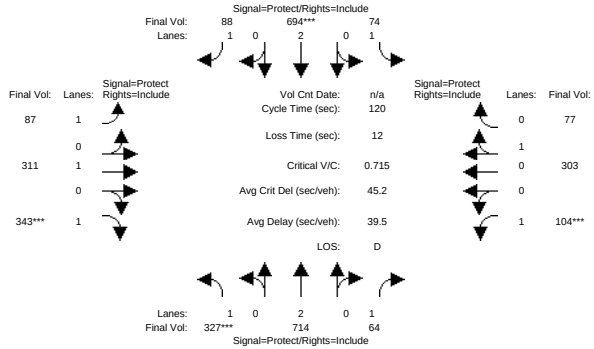
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     173  222    33    70  609   105    40  312   312    50  251    42
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  173  222    33    70  609   105    40  312   312    50  251    42
Added Vol:      0    0     0     0    0     0     0    8     0     0   17     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  173  222    33    70  609   105    40  320   312    50  268    42
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   173  222    33    70  609   105    40  320   312    50  268    42
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  173  222    33    70  609   105    40  320   312    50  268    42
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  173  222    33    70  609   105    40  320   312    50  268    42
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.98  0.98
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.86  0.14
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1610   252
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.06  0.02  0.04 0.17  0.07  0.02 0.17  0.19  0.03 0.17  0.17
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.18 0.29  0.29  0.20 0.31  0.31  0.11 0.36  0.36  0.06 0.31  0.31
Volume/Cap:  0.54 0.21  0.07  0.19 0.54  0.21  0.21 0.47  0.54  0.47 0.54  0.54
Delay/Veh:   47.0 32.7  31.3  40.2 34.9  30.7  49.4 30.5  32.0  58.1 35.7  35.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  47.0 32.7  31.3  40.2 34.9  30.7  49.4 30.5  32.0  58.1 35.7  35.7
LOS by Move:    D    C     C     D    C     C     D    C     C     E    D     D
HCM2kAvgQ:    143   78    21    54  250    71    37  229   237    61  244   244
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

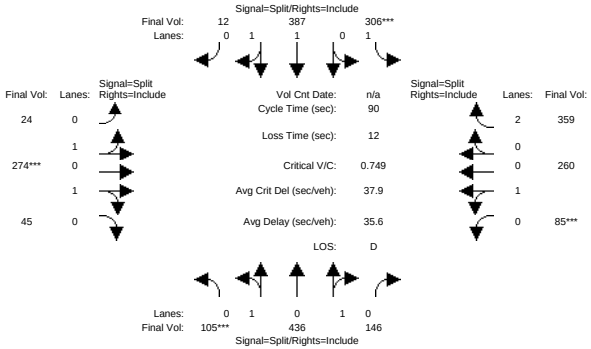



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     327  714    64    74  694    88    87  294   343   104  295    77
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  327  714    64    74  694    88    87  294   343   104  295    77
Added Vol:      0    0     0     0    0     0     0   17     0     0    8     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  327  714    64    74  694    88    87  311   343   104  303    77
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   327  714    64    74  694    88    87  311   343   104  303    77
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  327  714    64    74  694    88    87  311   343   104  303    77
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  327  714    64    74  694    88    87  311   343   104  303    77
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.97  0.97
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.80  0.20
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1470   373
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.20  0.04  0.04 0.19  0.05  0.05 0.16  0.21  0.06 0.21  0.21
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.25 0.40  0.40  0.12 0.27  0.27  0.08 0.30  0.30  0.08 0.29  0.29
Volume/Cap:  0.71 0.49  0.10  0.34 0.71  0.20  0.58 0.55  0.71  0.71 0.70  0.70
Delay/Veh:   46.2 26.9  22.3  49.5 42.3  34.1  58.5 36.6  42.7  69.3 41.7  41.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  46.2 26.9  22.3  49.5 42.3  34.1  58.5 36.6  42.7  69.3 41.7  41.7
LOS by Move:    D    C     C     D    D     C     E    D     D     E    D     D
HCM2kAvgQ:    271  245    34    69  331    63   100  247   311   131  334   334
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

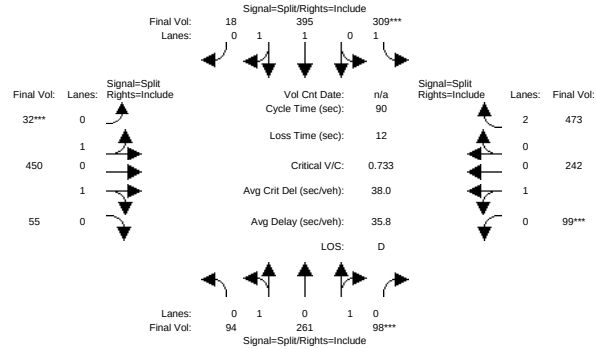



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  144   146  304  367    12   24  274    45   85  260   348
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   71  144   146  304  367    12   24  274    45   85  260   348
Added Vol:     34  292     0    2   20     0    0    0     0    0    0    11
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  105  436   146  306  387    12   24  274    45   85  260   359
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  105  436   146  306  387    12   24  274    45   85  260   359
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol: 105  436   146  306  387    12   24  274    45   85  260   359
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume: 105  436   146  306  387    12   24  274    45   85  260   359
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment: 0.91 0.91  0.91 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:      0.31 1.27  0.42 1.00 1.94  0.06 0.14 1.60  0.26 0.25 0.75  2.00
Final Sat.:  530 2200   737 1805 3487   108  247 2818   463  462 1415  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.20 0.20  0.20 0.17 0.11  0.11 0.10 0.10  0.10 0.18 0.18  0.13
Crit Moves: ****            ****            ****        ****
Green/Cycle: 0.26 0.26  0.26 0.23 0.23  0.23 0.13 0.13  0.13 0.25 0.25  0.25
Volume/Cap: 0.75 0.75  0.75 0.75 0.49  0.49 0.75 0.75  0.75 0.75 0.75  0.51
Delay/Veh:  33.8 33.8  33.8 39.9 30.8  30.8 44.4 44.4  44.4 38.1 38.1  30.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 33.8 33.8  33.8 39.9 30.8  30.8 44.4 44.4  44.4 38.1 38.1  30.0
LOS by Move:   C    C     C    D    C     C    D    D     D    D    D     C
HCM2kAvgQ:   271  271   271  240  137   137  166  166   166  263  263   136
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

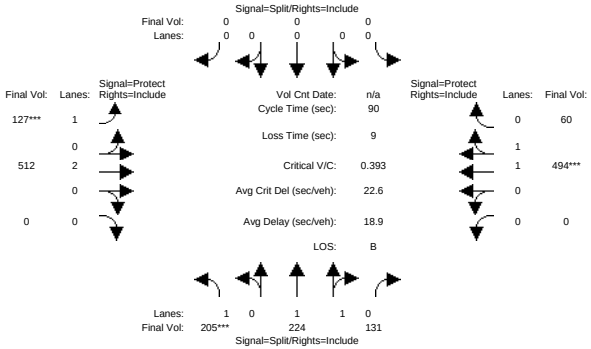



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      65  108    98  307  386    18   32  450    55   99  242   451
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   65  108    98  307  386    18   32  450    55   99  242   451
Added Vol:     29  153     0    2    9     0    0    0     0    0    0    22
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   94  261    98  309  395    18   32  450    55   99  242   473
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   94  261    98  309  395    18   32  450    55   99  242   473
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  94  261    98  309  395    18   32  450    55   99  242   473
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  94  261    98  309  395    18   32  450    55   99  242   473
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment: 0.91 0.91  0.91 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:      0.42 1.15  0.43 1.00 1.91  0.09 0.12 1.68  0.20 0.29 0.71  2.00
Final Sat.:  718 1993   748 1805 3428   156  211 2971   363  544 1330  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.13 0.13  0.13 0.17 0.12  0.12 0.15 0.15  0.15 0.18 0.18  0.17
Crit Moves:             ****  ****            ****        ****
Green/Cycle: 0.18 0.18  0.18 0.23 0.23  0.23 0.21 0.21  0.21 0.25 0.25  0.25
Volume/Cap: 0.73 0.73  0.73 0.73 0.49  0.49 0.73 0.73  0.73 0.73 0.73  0.67
Delay/Veh:  39.5 39.5  39.5 38.4 30.3  30.3 37.2 37.2  37.2 37.0 37.0  33.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 39.5 39.5  39.5 38.4 30.3  30.3 37.2 37.2  37.2 37.0 37.0  33.0
LOS by Move:   D    D     D    D    C     C    D    D     D    D    D     C
HCM2kAvgQ:   198  198   198  238  141   141  223  223   223  255  255   197
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

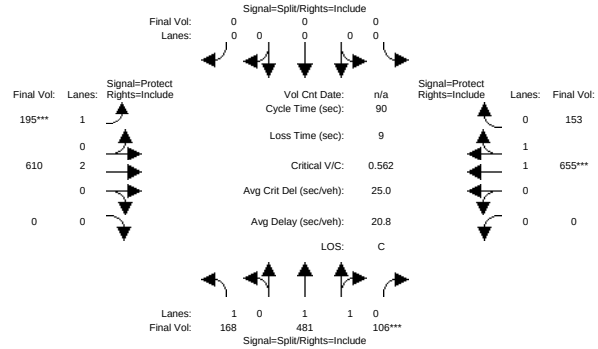



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     202   77   131     0    0     0   127  476     0     0  486    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  202   77   131     0    0     0   127  476     0     0  486    46
Added Vol:      3  147     0     0    0     0     0   36     0     0    8    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  205  224   131     0    0     0   127  512     0     0  494    60
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   205  224   131     0    0     0   127  512     0     0  494    60
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  205  224   131     0    0     0   127  512     0     0  494    60
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  205  224   131     0    0     0   127  512     0     0  494    60
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.90  0.90  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.93  0.93
Lanes:       1.00 1.26  0.74  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.78  0.22
Final Sat.:  1615 2153  1259     0    0     0  1805 3610     0     0 3168   385
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.10  0.10  0.00 0.00  0.00  0.07 0.14  0.00  0.00 0.16  0.16
Crit Moves:  ****                             ****                    ****
Green/Cycle: 0.32 0.32  0.32  0.00 0.00  0.00  0.18 0.58  0.00  0.00 0.40  0.40
Volume/Cap:  0.39 0.32  0.32  0.00 0.00  0.00  0.39 0.25  0.00  0.00 0.39  0.39
Delay/Veh:   24.1 23.2  23.2   0.0  0.0   0.0  33.4  9.5   0.0   0.0 19.5  19.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.1 23.2  23.2   0.0  0.0   0.0  33.4  9.5   0.0   0.0 19.5  19.5
LOS by Move:    C    C     C     A    A     A     C    A     A     A    B     B
HCM2kAvgQ:    115  100   100     0    0     0    86   91     0     0  139   139
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

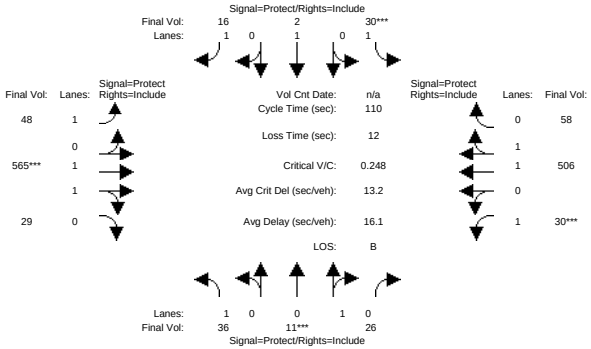



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156  173   106     0    0     0   195  579     0     0  645   136
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  156  173   106     0    0     0   195  579     0     0  645   136
Added Vol:     12  308     0     0    0     0     0   31     0     0   10    17
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  168  481   106     0    0     0   195  610     0     0  655   153
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   168  481   106     0    0     0   195  610     0     0  655   153
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  168  481   106     0    0     0   195  610     0     0  655   153
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  168  481   106     0    0     0   195  610     0     0  655   153
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.92  0.92  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.92  0.92
Lanes:       1.00 1.64  0.36  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.62  0.38
Final Sat.:  1615 2878   634     0    0     0  1805 3610     0     0 2844   664
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.17  0.17  0.00 0.00  0.00  0.11 0.17  0.00  0.00 0.23  0.23
Crit Moves:              ****                    ****                    ****
Green/Cycle: 0.30 0.30  0.30  0.00 0.00  0.00  0.19 0.60  0.00  0.00 0.41  0.41
Volume/Cap:  0.35 0.56  0.56  0.00 0.00  0.00  0.56 0.28  0.00  0.00 0.56  0.56
Delay/Veh:   25.2 27.4  27.4   0.0  0.0   0.0  35.0  8.6   0.0   0.0 20.9  20.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  25.2 27.4  27.4   0.0  0.0   0.0  35.0  8.6   0.0   0.0 20.9  20.9
LOS by Move:    C    C     C     A    A     A     C    A     A     A    C     C
HCM2kAvgQ:     96  194   194     0    0     0   140  106     0     0  221   221
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1005: 15th St / V St



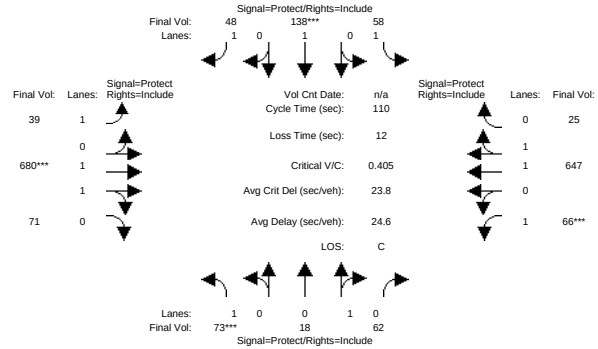
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	36	11	26	30	2	16	48	529	29	30	484	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	11	26	30	2	16	48	529	29	30	484	58
Added Vol:	0	0	0	0	0	0	0	36	0	0	22	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	11	26	30	2	16	48	565	29	30	506	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	11	26	30	2	16	48	565	29	30	506	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	11	26	30	2	16	48	565	29	30	506	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	11	26	30	2	16	48	565	29	30	506	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.79	0.21
Final Sat.:	1805	506	1195	1805	1900	1615	1805	3410	175	1805	3190	366
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.02	0.00	0.01	0.03	0.17	0.17	0.02	0.16	0.16
Crit Moves:		****		****				****		****		
Green/Cycle:	0.06	0.09	0.09	0.07	0.09	0.09	0.21	0.67	0.67	0.07	0.52	0.52
Volume/Cap:	0.31	0.24	0.24	0.25	0.01	0.11	0.13	0.25	0.25	0.25	0.30	0.30
Delay/Veh:	50.6	47.3	47.3	49.8	45.3	46.0	35.4	7.4	7.4	49.8	15.0	15.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.6	47.3	47.3	49.8	45.3	46.0	35.4	7.4	7.4	49.8	15.0	15.0
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	37	34	34	30	2	14	31	103	103	23	135	135

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1005: 15th St / V St



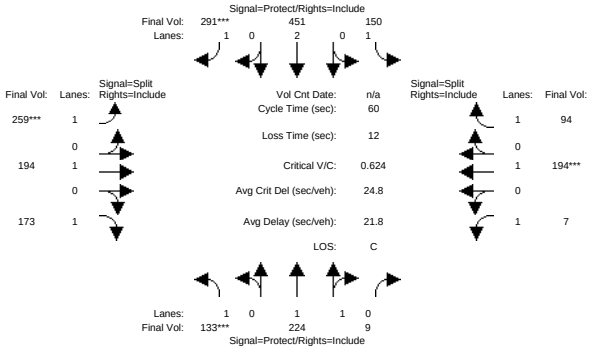
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	73	18	62	58	138	48	39	649	71	66	620	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	18	62	58	138	48	39	649	71	66	620	25
Added Vol:	0	0	0	0	0	0	0	31	0	0	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	18	62	58	138	48	39	680	71	66	647	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	18	62	58	138	48	39	680	71	66	647	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	18	62	58	138	48	39	680	71	66	647	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	18	62	58	138	48	39	680	71	66	647	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.23	0.77	1.00	1.00	1.00	1.00	1.81	0.19	1.00	1.93	0.07
Final Sat.:	1805	378	1302	1805	1900	1615	1805	3223	337	1805	3455	133
Capacity Analysis Module:												
Vol/Sat:	0.04	0.05	0.05	0.03	0.07	0.03	0.02	0.21	0.21	0.04	0.19	0.19
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.16	0.16	0.12	0.18	0.18	0.16	0.52	0.52	0.09	0.46	0.46
Volume/Cap:	0.40	0.29	0.29	0.28	0.40	0.17	0.14	0.40	0.40	0.40	0.41	0.41
Delay/Veh:	47.9	40.9	40.9	45.2	40.7	38.4	40.4	16.1	16.1	48.9	20.2	20.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.9	40.9	40.9	45.2	40.7	38.4	40.4	16.1	16.1	48.9	20.2	20.2
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	C
HCM2kAvgQ:	69	64	64	50	110	36	27	196	196	51	190	190

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1006: 16th St / V St

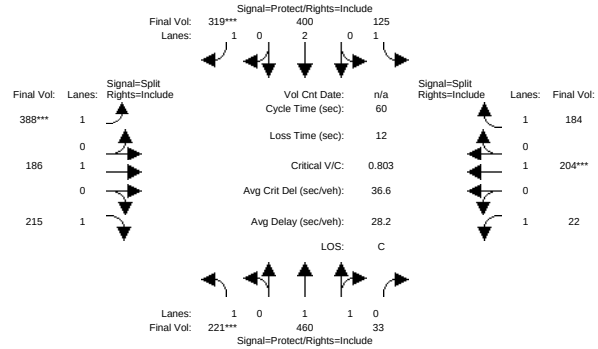



```
Street Name:            16th Street                     V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     10  10  10     10  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     111 187   9   150 434 291   259 194 137     7 194  94
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  111 187   9   150 434 291   259 194 137     7 194  94
Added Vol:     22  37   0     0  17   0     0   0  36     0   0   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:  133 224   9   150 451 291   259 194 173     7 194  94
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   133 224   9   150 451 291   259 194 173     7 194  94
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  133 224   9   150 451 291   259 194 173     7 194  94
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  133 224   9   150 451 291   259 194 173     7 194  94
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.94 0.94 0.95 0.95 0.85 0.95 1.00 0.85 0.95 1.00 0.85
Lanes:       1.00 1.92 0.08 1.00 2.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Sat.:  1805 3450  139 1805 3610 1615 1805 1900 1615 1805 1900 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.06 0.06 0.08 0.12 0.18 0.14 0.10 0.11 0.00 0.10 0.06
Crit Moves:  ****                     ****  ****                ****
Green/Cycle: 0.12 0.24 0.24 0.17 0.29 0.29 0.23 0.23 0.23 0.17 0.17 0.17
Volume/Cap:  0.63 0.27 0.27 0.50 0.44 0.63 0.63 0.45 0.47 0.02 0.61 0.35
Delay/Veh:   31.1 18.8 18.8 24.0 17.7 21.3 23.9 20.6 20.9 20.9 26.7 22.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  31.1 18.8 18.8 24.0 17.7 21.3 23.9 20.6 20.9 20.9 26.7 22.9
LOS by Move:    C    B    B    C    B    C    C    C    C    C    C    C
HCM2kAvgQ:     61   45   45   80   99  145  110   76   69    3  111   48
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1006: 16th St / V St

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Street Name:            16th Street                     V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     10  10  10     10  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     194 409  33   125 392 319   388 186 184    22 204 184
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  194 409  33   125 392 319   388 186 184    22 204 184
Added Vol:     27  51   0     0   8   0     0   0  31     0   0   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:  221 460  33   125 400 319   388 186 215    22 204 184
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   221 460  33   125 400 319   388 186 215    22 204 184
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  221 460  33   125 400 319   388 186 215    22 204 184
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  221 460  33   125 400 319   388 186 215    22 204 184
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.94 0.94 0.95 0.95 0.85 0.95 1.00 0.85 0.95 1.00 0.85
Lanes:       1.00 1.87 0.13 1.00 2.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Sat.:  1805 3335  239 1805 3610 1615 1805 1900 1615 1805 1900 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.14 0.14 0.07 0.11 0.20 0.21 0.10 0.13 0.01 0.11 0.11
Crit Moves:  ****                     ****  ****                ****
Green/Cycle: 0.14 0.22 0.22 0.16 0.23 0.23 0.25 0.25 0.25 0.17 0.17 0.17
Volume/Cap:  0.84 0.62 0.62 0.44 0.47 0.84 0.84 0.38 0.52 0.07 0.64 0.68
Delay/Veh:   46.5 22.5 22.5 24.1 20.2 37.8 34.7 19.0 20.5 21.2 27.9 30.6
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  46.5 22.5 22.5 24.1 20.2 37.8 34.7 19.0 20.5 21.2 27.9 30.6
LOS by Move:    D    C    C    C    C    D    C    B    C    C    C    C
HCM2kAvgQ:    114 109  109   66   97 218  190  69   85   10 120  118
Note: Queue reported is the distance per lane in feet.
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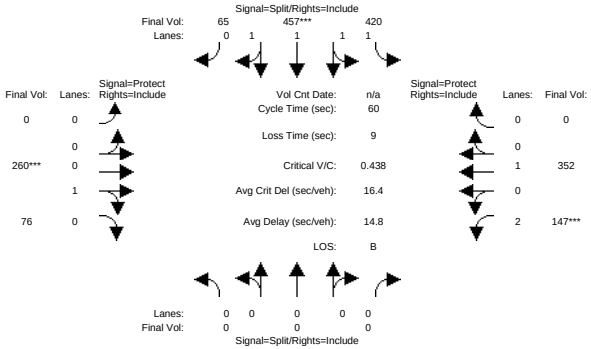
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1007: 13th St / R St



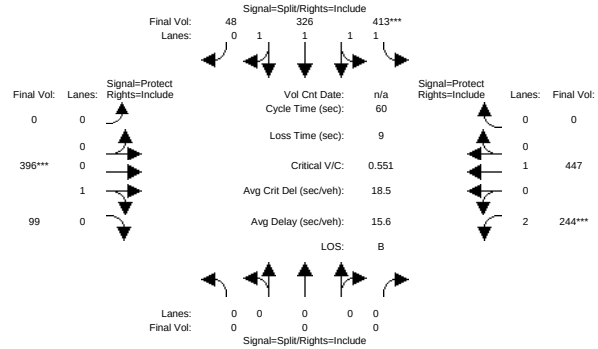
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	337	229	65	0	260	76	147	352	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	337	229	65	0	260	76	147	352	0
Added Vol:	0	0	0	83	228	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	420	457	65	0	260	76	147	352	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	420	457	65	0	260	76	147	352	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	420	457	65	0	260	76	147	352	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	420	457	65	0	260	76	147	352	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.84	0.84	0.84	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	1.78	1.94	0.28	0.00	0.77	0.23	2.00	1.00	0.00
Final Sat.:	0	0	0	2848	3099	441	0	1425	416	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.15	0.15	0.15	0.00	0.18	0.18	0.04	0.19	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.33	0.33	0.33	0.00	0.41	0.41	0.12	0.52	0.00
Volume/Cap:	0.00	0.00	0.00	0.45	0.45	0.45	0.00	0.45	0.45	0.36	0.35	0.00
Delay/Veh:	0.0	0.0	0.0	16.1	16.1	16.1	0.0	13.4	13.4	25.0	8.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.1	16.1	16.1	0.0	13.4	13.4	25.0	8.6	0.0
LOS by Move:	A	A	A	B	B	B	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	105	105	105	0	122	122	32	93	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1007: 13th St / R St



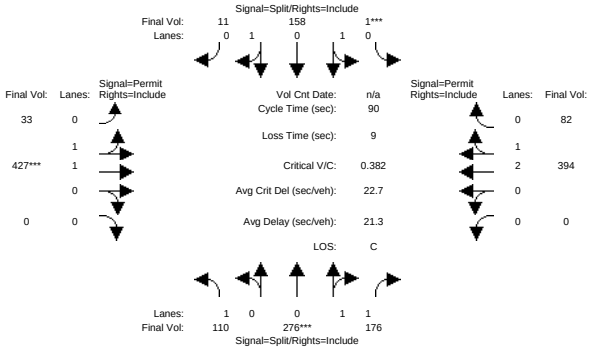
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	371	206	48	0	396	99	244	447	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	371	206	48	0	396	99	244	447	0
Added Vol:	0	0	0	42	120	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	413	326	48	0	396	99	244	447	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	413	326	48	0	396	99	244	447	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	413	326	48	0	396	99	244	447	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	413	326	48	0	396	99	244	447	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.83	0.83	0.83	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.74	0.26	0.00	0.80	0.20	2.00	1.00	0.00
Final Sat.:	0	0	0	3156	2751	405	0	1479	370	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.12	0.12	0.00	0.27	0.27	0.07	0.24	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.24	0.24	0.24	0.00	0.49	0.49	0.13	0.61	0.00
Volume/Cap:	0.00	0.00	0.00	0.55	0.50	0.50	0.00	0.55	0.55	0.55	0.38	0.00
Delay/Veh:	0.0	0.0	0.0	20.5	20.0	20.0	0.0	11.6	11.6	26.1	6.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	20.5	20.0	20.0	0.0	11.6	11.6	26.1	6.1	0.0
LOS by Move:	A	A	A	C	C	C	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	112	98	98	0	175	175	56	103	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

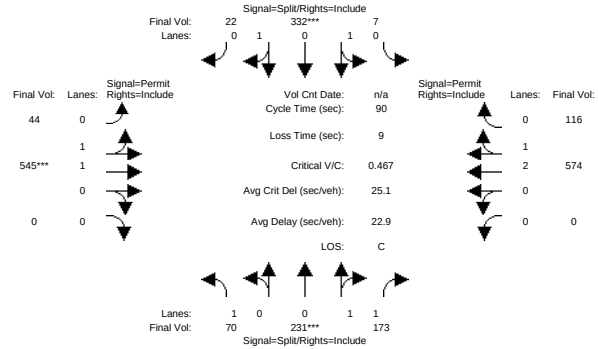



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10   10   10   10   10   10   10   10   10   10
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     110  276  176    1   36   11   33  344    0    0  394   68
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  110  276  176    1   36   11   33  344    0    0  394   68
Added Vol:      0    0    0    0  122    0    0   83    0    0    0   14
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:  110  276  176    1  158   11   33  427    0    0  394   82
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   110  276  176    1  158   11   33  427    0    0  394   82
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  110  276  176    1  158   11   33  427    0    0  394   82
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  110  276  176    1  158   11   33  427    0    0  394   82
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.94 0.94 0.94 0.94 0.94 0.85 0.85 1.00 1.00 0.89 0.89
Lanes:       1.00 1.00 1.00 0.01 1.86 0.13 0.14 1.86 0.00 0.00 2.48 0.52
Final Sat.:  1805 1790 1790   21 3322  231  232 3006    0    0 4182  870
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.15 0.10 0.05 0.05 0.05 0.14 0.14 0.00 0.00 0.09 0.09
Crit Moves:        ****      ****           ****
Green/Cycle: 0.40 0.40 0.40 0.12 0.12 0.12 0.37 0.37 0.00 0.00 0.37 0.37
Volume/Cap:  0.15 0.38 0.24 0.38 0.38 0.38 0.38 0.38 0.00 0.00 0.25 0.25
Delay/Veh:   17.1 19.1 17.8 36.8 36.8 36.8 20.9 20.9  0.0  0.0 19.7 19.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  17.1 19.1 17.8 36.8 36.8 36.8 20.9 20.9  0.0  0.0 19.7 19.7
LOS by Move:    B    B    B    D    D    D    C    C    A    A    B    B
HCM2kAvgQ:     48  137   81   66   66   66  118  118    0    0   80   80
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

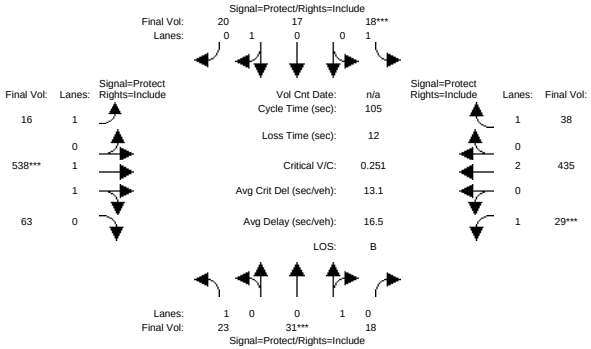



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10   10   10   10   10   10   10   10   10   10
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      70  231  173    7   86   22   44  503    0    0  574   99
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   70  231  173    7   86   22   44  503    0    0  574   99
Added Vol:      0    0    0    0  246    0    0   42    0    0    0   17
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:   70  231  173    7  332   22   44  545    0    0  574  116
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   70  231  173    7  332   22   44  545    0    0  574  116
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:   70  231  173    7  332   22   44  545    0    0  574  116
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   70  231  173    7  332   22   44  545    0    0  574  116
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.94 0.94 0.94 0.94 0.94 0.82 0.82 1.00 1.00 0.89 0.89
Lanes:       1.00 1.00 1.00 0.04 1.84 0.12 0.15 1.85 0.00 0.00 2.50 0.50
Final Sat.:  1805 1778 1778   69 3287  218  232 2879    0    0 4207  850
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.13 0.10 0.10 0.10 0.10 0.19 0.19 0.00 0.00 0.14 0.14
Crit Moves:        ****      ****           ****
Green/Cycle: 0.28 0.28 0.28 0.22 0.22 0.22 0.41 0.41 0.00 0.00 0.41 0.41
Volume/Cap:  0.14 0.47 0.35 0.47 0.47 0.47 0.47 0.47 0.00 0.00 0.34 0.34
Delay/Veh:   24.5 27.3 26.2 31.2 31.2 31.2 19.9 19.9  0.0  0.0 18.5 18.5
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  24.5 27.3 26.2 31.2 31.2 31.2 19.9 19.9  0.0  0.0 18.5 18.5
LOS by Move:    C    C    C    C    C    C    B    B    A    A    B    B
HCM2kAvgQ:     37  141  100  125  125  125  152  152    0    0  115  115
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1009: 15th St / R St

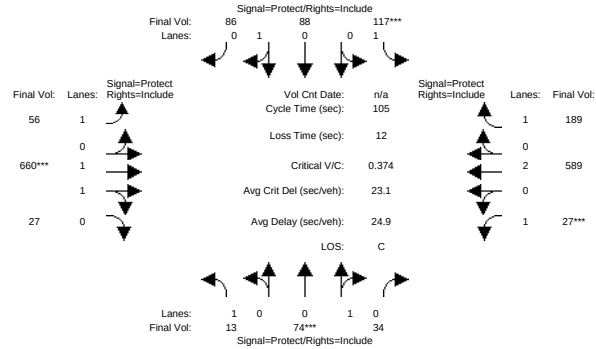



```
Street Name:            15th Street                     R Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      23  31  16    18  17  20    16 502  16    23 421  38
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   23  31  16    18  17  20    16 502  16    23 421  38
Added Vol:      0   0   2     0   0   0     0  36  47     6  14   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:   23  31  18    18  17  20    16 538  63    29 435  38
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:    23  31  18    18  17  20    16 538  63    29 435  38
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:   23  31  18    18  17  20    16 538  63    29 435  38
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   23  31  18    18  17  20    16 538  63    29 435  38
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.95 0.95 0.92 0.92 0.95 0.93 0.93 0.95 0.95 0.85
Lanes:       1.00 0.63 0.37 1.00 0.46 0.54 1.00 1.79 0.21 1.00 2.00 1.00
Final Sat.:  1805 1136  660 1805  802  944 1805 3180  372 1805 3610 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.03 0.03 0.01 0.02 0.02 0.01 0.17 0.17 0.02 0.12 0.02
Crit Moves:        ****      ****           ****      ****
Green/Cycle: 0.07 0.10 0.10 0.07 0.10 0.10 0.25 0.65 0.65 0.07 0.46 0.46
Volume/Cap:  0.18 0.26 0.26 0.15 0.21 0.21 0.03 0.26 0.26 0.24 0.26 0.05
Delay/Veh:   46.6 44.0 44.0 46.8 44.0 44.0 29.5  7.9  7.9 47.5 17.5 15.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  46.6 44.0 44.0 46.8 44.0 44.0 29.5  7.9  7.9 47.5 17.5 15.7
LOS by Move:    D    D    D    D    D    D    C    A    A    D    B    B
HCM2kAvgQ:     21   42   42   17   31   31    9  105  105   22  108   16
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1009: 15th St / R St




```
Street Name:            15th Street                     R Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      13  74  28   117  88  86    56 629  15    25 572 189
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   13  74  28   117  88  86    56 629  15    25 572 189
Added Vol:      0   0   6     0   0   0     0  31  12     2  17   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:   13  74  34   117  88  86    56 660  27    27 589 189
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:    13  74  34   117  88  86    56 660  27    27 589 189
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:   13  74  34   117  88  86    56 660  27    27 589 189
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   13  74  34   117  88  86    56 660  27    27 589 189
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.95 0.95 0.93 0.93 0.95 0.94 0.94 0.95 0.95 0.85
Lanes:       1.00 0.69 0.31 1.00 0.51 0.49 1.00 1.92 0.08 1.00 2.00 1.00
Final Sat.:  1805 1241  570 1805  890  870 1805 3447  141 1805 3610 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.06 0.06 0.06 0.10 0.10 0.03 0.19 0.19 0.01 0.16 0.12
Crit Moves:        ****      ****           ****      ****
Green/Cycle: 0.13 0.15 0.15 0.17 0.19 0.19 0.16 0.50 0.50 0.07 0.40 0.40
Volume/Cap:  0.06 0.39 0.39 0.39 0.51 0.51 0.19 0.39 0.39 0.22 0.41 0.29
Delay/Veh:   40.1 40.8 40.8 39.7 39.3 39.3 38.2 16.6 16.6 47.4 22.8 21.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  40.1 40.8 40.8 39.7 39.3 39.3 38.2 16.6 16.6 47.4 22.8 21.7
LOS by Move:    D    D    D    D    D    D    D    B    B    D    C    C
HCM2kAvgQ:     10   86   86   91  139  139   37  174  174   20  172   99
Note: Queue reported is the distance per lane in feet.
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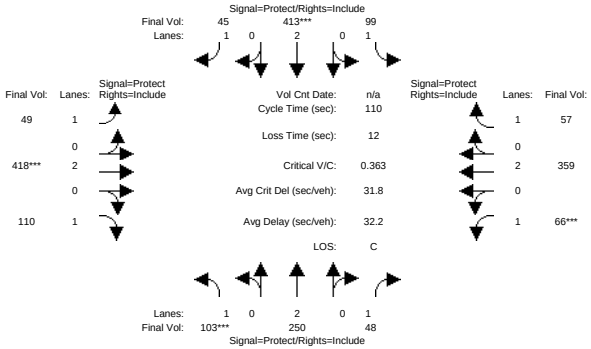
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1010: 16th St / R St



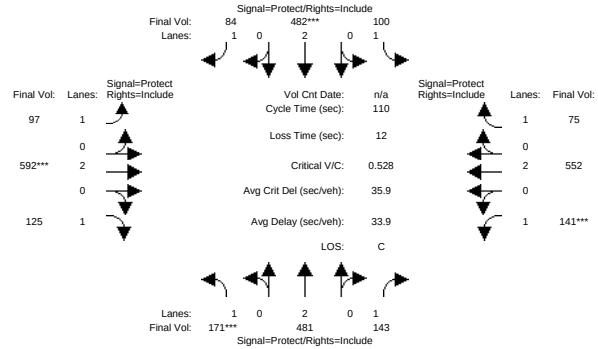
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	89	191	44	99	360	45	49	416	74	61	353	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	191	44	99	360	45	49	416	74	61	353	57
Added Vol:	14	59	4	0	53	0	0	2	36	5	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	250	48	99	413	45	49	418	110	66	359	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	103	250	48	99	413	45	49	418	110	66	359	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	250	48	99	413	45	49	418	110	66	359	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	250	48	99	413	45	49	418	110	66	359	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.03	0.05	0.11	0.03	0.03	0.12	0.07	0.04	0.10	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.28	0.28	0.19	0.31	0.31	0.16	0.32	0.32	0.10	0.26	0.26
Volume/Cap:	0.36	0.25	0.11	0.28	0.36	0.09	0.17	0.36	0.21	0.36	0.39	0.14
Delay/Veh:	42.2	31.0	29.7	38.2	29.4	26.6	39.8	29.1	27.6	47.4	34.1	31.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.2	31.0	29.7	38.2	29.4	26.6	39.8	29.1	27.6	47.4	34.1	31.7
LOS by Move:	D	C	C	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	84	86	30	68	136	25	34	137	65	51	127	35

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1010: 16th St / R St



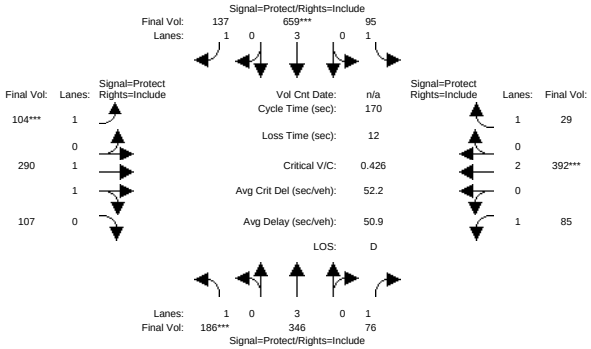
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	154	403	138	100	443	84	97	586	94	137	550	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	154	403	138	100	443	84	97	586	94	137	550	75
Added Vol:	17	78	5	0	39	0	0	6	31	4	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	171	481	143	100	482	84	97	592	125	141	552	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	171	481	143	100	482	84	97	592	125	141	552	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	171	481	143	100	482	84	97	592	125	141	552	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	171	481	143	100	482	84	97	592	125	141	552	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.09	0.06	0.13	0.05	0.05	0.16	0.08	0.08	0.15	0.05
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.29	0.29	0.14	0.25	0.25	0.13	0.31	0.31	0.15	0.32	0.32
Volume/Cap:	0.53	0.46	0.30	0.40	0.53	0.21	0.40	0.53	0.25	0.53	0.47	0.14
Delay/Veh:	42.5	32.1	30.6	44.1	36.0	32.6	44.6	31.7	28.6	45.3	30.0	26.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	32.1	30.6	44.1	36.0	32.6	44.6	31.7	28.6	45.3	30.0	26.5
LOS by Move:	D	C	C	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	145	178	96	74	179	53	73	211	75	109	190	43

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1011: Olive Ave / R St



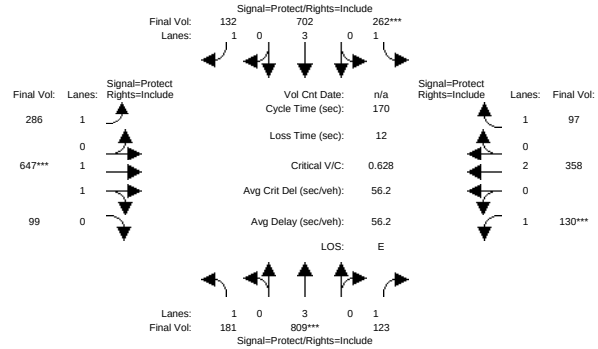
Street Name:	Olive Avenue						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	186	346	76	95	659	137	104	285	107	85	381	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	186	346	76	95	659	137	104	285	107	85	381	29
Added Vol:	0	0	0	0	0	0	0	5	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	186	346	76	95	659	137	104	290	107	85	392	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	186	346	76	95	659	137	104	290	107	85	392	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	186	346	76	95	659	137	104	290	107	85	392	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	186	346	76	95	659	137	104	290	107	85	392	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.85	0.95	0.91	0.85	0.95	0.91	0.91	0.95	0.95	0.85
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.46	0.54	1.00	2.00	1.00
Final Sat.:	1805	5187	1615	1805	5187	1615	1805	2532	934	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.07	0.05	0.05	0.13	0.08	0.06	0.11	0.11	0.05	0.11	0.02
Crit Moves:	****				****		****				****	
Green/Cycle:	0.24	0.30	0.30	0.24	0.30	0.30	0.14	0.28	0.28	0.11	0.25	0.25
Volume/Cap:	0.43	0.22	0.16	0.22	0.43	0.28	0.43	0.41	0.41	0.41	0.43	0.07
Delay/Veh:	55.2	44.5	43.7	52.4	48.2	46.1	68.7	50.6	50.6	71.5	53.3	48.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.2	44.5	43.7	52.4	48.2	46.1	68.7	50.6	50.6	71.5	53.3	48.2
LOS by Move:	E	D	D	D	D	D	E	D	D	E	D	D
HCM2kAvgQ:	196	117	68	94	240	129	131	219	219	110	222	28

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1011: Olive Ave / R St



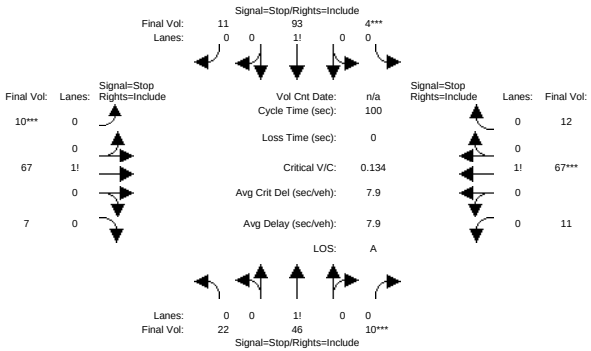
Street Name:	Olive Avenue						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	181	809	123	262	702	132	286	636	99	130	353	97
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	181	809	123	262	702	132	286	636	99	130	353	97
Added Vol:	0	0	0	0	0	0	0	11	0	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	181	809	123	262	702	132	286	647	99	130	358	97
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	181	809	123	262	702	132	286	647	99	130	358	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	181	809	123	262	702	132	286	647	99	130	358	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	181	809	123	262	702	132	286	647	99	130	358	97
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.85	0.95	0.91	0.85	0.95	0.93	0.93	0.95	0.95	0.85
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.73	0.27	1.00	2.00	1.00
Final Sat.:	1805	5187	1615	1805	5187	1615	1805	3068	469	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.16	0.08	0.15	0.14	0.08	0.16	0.21	0.21	0.07	0.10	0.06
Crit Moves:		****		****				****		****		
Green/Cycle:	0.20	0.25	0.25	0.23	0.28	0.28	0.28	0.34	0.34	0.11	0.17	0.17
Volume/Cap:	0.49	0.63	0.31	0.63	0.49	0.30	0.57	0.63	0.63	0.63	0.57	0.35
Delay/Veh:	60.9	57.9	52.4	61.8	51.9	49.0	54.4	48.6	48.6	77.8	65.8	62.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.9	57.9	52.4	61.8	51.9	49.0	54.4	48.6	48.6	77.8	65.8	62.6
LOS by Move:	E	E	D	E	E	D	D	D	D	E	E	E
HCM2kAvgQ:	199	331	123	294	265	127	322	430	430	183	235	114

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1012: 15th St / O St

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Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8    44    10     4    40    11    10    67     7    11    67    12
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    8    44    10     4    40    11    10    67     7    11    67    12
Added Vol:     14     2     0     0    53     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   22    46    10     4    93    11    10    67     7    11    67    12
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    22    46    10     4    93    11    10    67     7    11    67    12
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   22    46    10     4    93    11    10    67     7    11    67    12
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   22    46    10     4    93    11    10    67     7    11    67    12
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.28  0.59  0.13  0.04  0.86  0.10  0.12  0.80  0.08  0.12  0.75  0.13
Final Sat.:   223   467   101    30   694    82    94   630    66    97   593   106
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10  0.10  0.10  0.13  0.13  0.13  0.11  0.11  0.11  0.11  0.11  0.11
Crit Moves:              ****  ****              ****                    ****
Delay/Veh:    7.8   7.8   7.8   7.9   7.9   7.9   7.9   7.9   7.9   7.9   7.9   7.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.8   7.8   7.8   7.9   7.9   7.9   7.9   7.9   7.9   7.9   7.9   7.9
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        7.8               7.9               7.9               7.9
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.8               7.9               7.9               7.9
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   2.5   2.5   2.5   3.6   3.6   3.6   2.7   2.7   2.7   2.9   2.9   2.9
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
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Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   22   46   10     4   93   11    10   67     7    11   67   12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             186
Minor Approach Volume:           90
Minor Approach Volume Threshold: 668
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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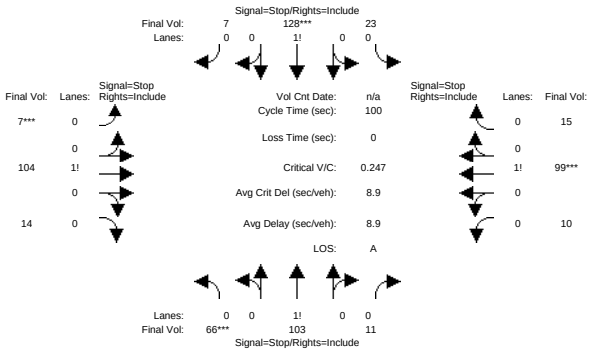
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1012: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9    97    11    23   115     7     7   104    14    10    99    15
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    9    97    11    23   115     7     7   104    14    10    99    15
Added Vol:     57     6     0     0    13     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   66   103    11    23   128     7     7   104    14    10    99    15
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    66   103    11    23   128     7     7   104    14    10    99    15
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   66   103    11    23   128     7     7   104    14    10    99    15
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   66   103    11    23   128     7     7   104    14    10    99    15
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.37  0.57  0.06  0.15  0.81  0.04  0.06  0.83  0.11  0.08  0.80  0.12
Final Sat.:   267   417    45   106   590    32    40   587    79    57   563    85
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.25  0.25  0.25  0.22  0.22  0.22  0.18  0.18  0.18  0.18  0.18  0.18
Crit Moves:  ****                  ****        ****                    ****
Delay/Veh:    9.2   9.2   9.2   8.9   8.9   8.9   8.7   8.7   8.7   8.7   8.7   8.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.2   9.2   9.2   8.9   8.9   8.9   8.7   8.7   8.7   8.7   8.7   8.7
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:       9.2              8.9              8.7              8.7
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        9.2              8.9              8.7              8.7
LOS by Appr:         A                A                A                A
AllWayAvgQ:   7.3   7.3   7.3   6.2   6.2   6.2   4.7   4.7   4.7   4.6   4.6   4.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
```



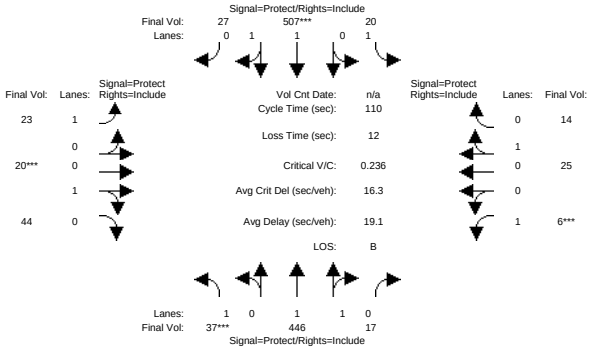
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   66  103    11    23  128     7     7  104    14    10   99    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             338
Minor Approach Volume:           125
Minor Approach Volume Threshold: 509
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1013: 16th St / O St



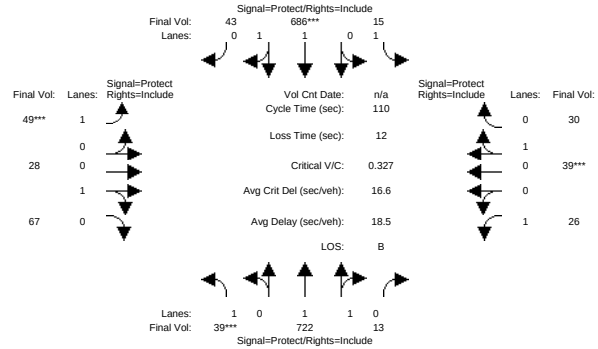
Street Name:	16th Street									O Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	37		369	17	20		413	27	23		20	44	6		25	14
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	37		369	17	20		413	27	23		20	44	6		25	14
Added Vol:	0		77	0	0		94	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	37		446	17	20		507	27	23		20	44	6		25	14
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	37		446	17	20		507	27	23		20	44	6		25	14
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	37		446	17	20		507	27	23		20	44	6		25	14
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	37		446	17	20		507	27	23		20	44	6		25	14
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.94	0.94	0.95		0.94	0.94	0.95		0.90	0.90	0.95		0.95	0.95
Lanes:	1.00		1.93	0.07	1.00		1.90	0.10	1.00		0.31	0.69	1.00		0.64	0.36
Final Sat.:	1805		3457	132	1805		3400	181	1805		533	1172	1805		1152	645
Capacity Analysis Module:																
Vol/Sat:	0.02		0.13	0.13	0.01		0.15	0.15	0.01		0.04	0.04	0.00		0.02	0.02
Crit Moves:	****						****				****		****			
Green/Cycle:	0.08		0.45	0.45	0.22		0.60	0.60	0.09		0.15	0.15	0.06		0.13	0.13
Volume/Cap:	0.25		0.28	0.28	0.05		0.25	0.25	0.14		0.25	0.25	0.05		0.17	0.17
Delay/Veh:	48.2		18.9	18.9	33.6		10.6	10.6	46.8		41.8	41.8	48.6		43.3	43.3
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	48.2		18.9	18.9	33.6		10.6	10.6	46.8		41.8	41.8	48.6		43.3	43.3
LOS by Move:	D		B	B	C		B	B	D		D	D	D		D	D
HCM2kAvgQ:	35		127	127	13		110	110	20		51	51	6		32	32

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1013: 16th St / O St



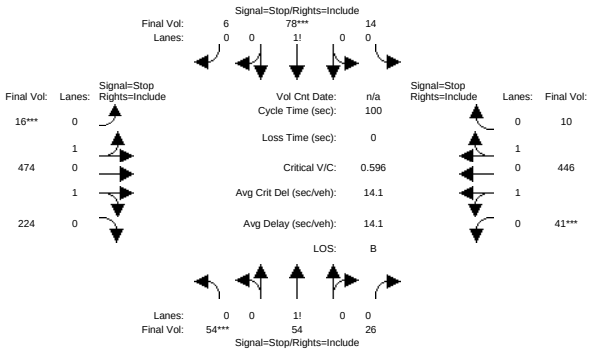
Street Name:	16th Street									O Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	39		623	13	15		613	43	49		28	67	26		39	30
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	39		623	13	15		613	43	49		28	67	26		39	30
Added Vol:	0		99	0	0		73	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	39		722	13	15		686	43	49		28	67	26		39	30
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	39		722	13	15		686	43	49		28	67	26		39	30
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	39		722	13	15		686	43	49		28	67	26		39	30
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	39		722	13	15		686	43	49		28	67	26		39	30
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	0.95	0.95		0.94	0.94	0.95		0.89	0.89	0.95		0.94	0.94
Lanes:	1.00		1.96	0.04	1.00		1.88	0.12	1.00		0.29	0.71	1.00		0.57	0.43
Final Sat.:	1805		3536	64	1805		3366	211	1805		501	1198	1805		1004	772
Capacity Analysis Module:																
Vol/Sat:	0.02		0.20	0.20	0.01		0.20	0.20	0.03		0.06	0.06	0.01		0.04	0.04
Crit Moves:	****						****		****				****			
Green/Cycle:	0.07		0.53	0.53	0.16		0.62	0.62	0.08		0.12	0.12	0.08		0.12	0.12
Volume/Cap:	0.33		0.39	0.39	0.05		0.33	0.33	0.33		0.47	0.47	0.17		0.33	0.33
Delay/Veh:	50.6		15.7	15.7	38.9		9.9	9.9	48.8		47.0	47.0	47.5		45.3	45.3
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	50.6		15.7	15.7	38.9		9.9	9.9	48.8		47.0	47.0	47.5		45.3	45.3
LOS by Move:	D		B	B	D		A	A	D		D	D	D		D	D
HCM2kAvgQ:	40		192	192	11		151	151	47		89	89	24		60	60

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1014: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    38    18    14    25     6    16   337     6     7   343    10
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2    38    18    14    25     6    16   337     6     7   343    10
Added Vol:     52    16     8     0    53     0     0   137   218    34   103     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   54    54    26    14    78     6    16   474   224    41   446    10
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    54    54    26    14    78     6    16   474   224    41   446    10
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   54    54    26    14    78     6    16   474   224    41   446    10
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   54    54    26    14    78     6    16   474   224    41   446    10
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.41  0.40  0.19  0.14  0.80  0.06  0.04  1.33  0.63  0.16  1.80  0.04
Final Sat.:   209   209   100    72   399    31    27   814   407    93  1026    23
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.26  0.26  0.26  0.20  0.20  0.20  0.60  0.58  0.55  0.44  0.43  0.43
Crit Moves:  ****                    ****        ****              ****
Delay/Veh:   11.6  11.6  11.6  11.1  11.1  11.1  16.7  16.0  14.4  13.5  13.3  13.1
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  11.6  11.6  11.6  11.1  11.1  11.1  16.7  16.0  14.4  13.5  13.3  13.1
LOS by Move:    B     B     B     B     B     B     C     C     B     B     B     B
ApproachDel:      11.6             11.1             15.5             13.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       11.6             11.1             15.5             13.3
LOS by Appr:         B                B                C                B
AllWayAvgQ:    7.4   7.4   7.4   5.1   5.1   5.1  33.6  28.2  28.2  17.9  17.4  17.4
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
```



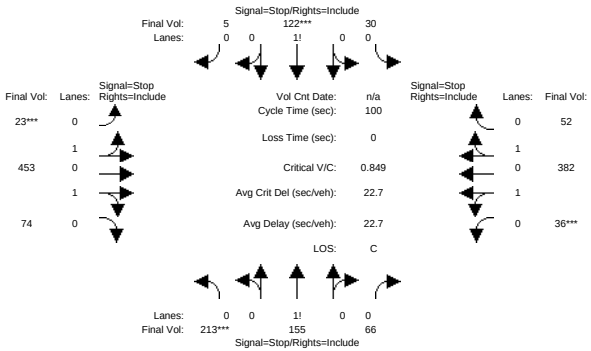
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   54   54    26    14   78     6    16  474   224    41  446    10
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1211
Minor Approach Volume:           134
Minor Approach Volume Threshold: 219
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1014: 15th St / M St




```
Street Name:            15th Street                          M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    92    32    30   109     5    23   346    20    28   250    52
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    5    92    32    30   109     5    23   346    20    28   250    52
Added Vol:    208    63    34     0    13     0     0   107    54     8   132     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  213   155    66    30   122     5    23   453    74    36   382    52
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:   213   155    66    30   122     5    23   453    74    36   382    52
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  213   155    66    30   122     5    23   453    74    36   382    52
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:  213   155    66    30   122     5    23   453    74    36   382    52
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.49  0.36  0.15  0.19  0.78  0.03  0.08  1.65  0.27  0.15  1.63  0.22
Final Sat.:   251   183    78    81   328    13    39   785   131    70   756   105
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.85  0.85  0.85  0.37  0.37  0.37  0.59  0.58  0.57  0.51  0.51  0.50
Crit Moves:  ****                    ****        ****              ****
Delay/Veh:   36.0  36.0  36.0  14.8  14.8  14.8  19.7  19.2  18.6  17.6  17.2  16.8
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  36.0  36.0  36.0  14.8  14.8  14.8  19.7  19.2  18.6  17.6  17.2  16.8
LOS by Move:    E     E     E     B     B     B     C     C     C     C     C     C
ApproachDel:      36.0              14.8              19.1              17.2
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       36.0              14.8              19.1              17.2
LOS by Appr:         E                 B                 C                 C
AllWayAvgQ:  92.6  92.6  92.6  11.7  11.7  11.7  31.0  29.1  29.1  23.3  22.0  22.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
```



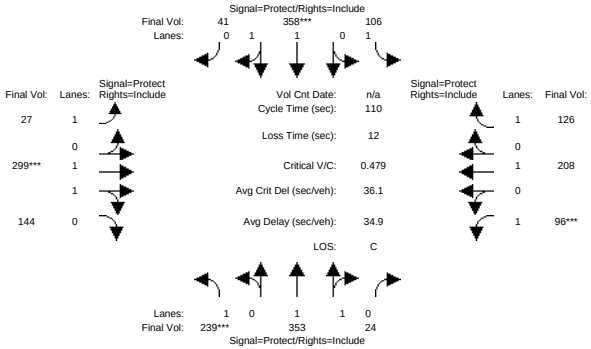
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:  213  155    66    30  122     5    23  453    74    36  382    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1020
Minor Approach Volume:           434
Minor Approach Volume Threshold: 278
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1015: 16th St / M St

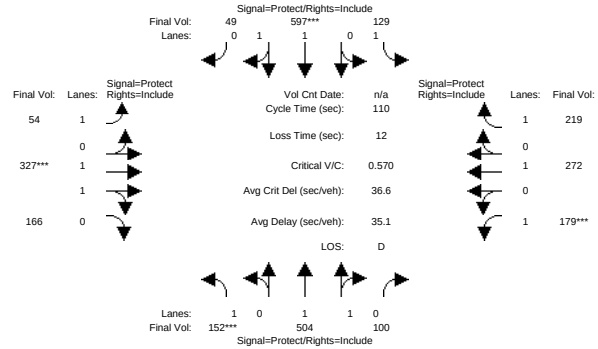



```
Street Name:            16th Street                     M Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     124 278  20   105 274  32    25 282  18    91 195 126
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  124 278  20   105 274  32    25 282  18    91 195 126
Added Vol:    115  75   4     1  84   9     2  17 126     5  13   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:  239 353  24   106 358  41    27 299 144    96 208 126
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   239 353  24   106 358  41    27 299 144    96 208 126
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  239 353  24   106 358  41    27 299 144    96 208 126
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  239 353  24   106 358  41    27 299 144    96 208 126
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.94 0.94 0.95 0.94 0.94 0.95 0.90 0.90 0.95 1.00 0.85
Lanes:       1.00 1.87 0.13 1.00 1.79 0.21 1.00 1.35 0.65 1.00 1.00 1.00
Final Sat.:  1805 3346  228 1805 3190  365 1805 2317 1116 1805 1900 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.11 0.11 0.06 0.11 0.11 0.01 0.13 0.13 0.05 0.11 0.08
Crit Moves:  ****              ****             ****             ****
Green/Cycle: 0.28 0.32 0.32 0.19 0.23 0.23 0.14 0.27 0.27 0.11 0.24 0.24
Volume/Cap:  0.48 0.33 0.33 0.31 0.48 0.48 0.11 0.48 0.48 0.48 0.46 0.32
Delay/Veh:   33.9 28.7 28.7 38.6 36.8 36.8 41.5 34.1 34.1 47.7 36.3 34.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  33.9 28.7 28.7 38.6 36.8 36.8 41.5 34.1 34.1 47.7 36.3 34.9
LOS by Move:    C    C    C    D    D    D    D    C    C    D    D    C
HCM2kAvgQ:    162  121  121   80  161  161   21  172  172   75  145   84
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1015: 16th St / M St

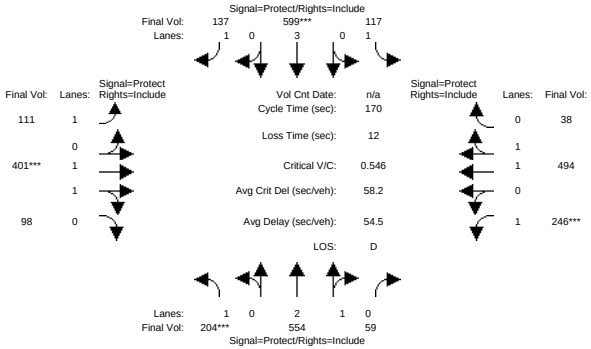



```
Street Name:            16th Street                     M Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      30 415  95   129 526  47    45 314  47   175 256 218
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   30 415  95   129 526  47    45 314  47   175 256 218
Added Vol:    122  89   5     0  71   2     9  13 119     4  16   1
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:  152 504 100   129 597  49    54 327 166   179 272 219
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   152 504 100   129 597  49    54 327 166   179 272 219
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  152 504 100   129 597  49    54 327 166   179 272 219
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  152 504 100   129 597  49    54 327 166   179 272 219
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.93 0.93 0.95 0.94 0.94 0.95 0.90 0.90 0.95 1.00 0.85
Lanes:       1.00 1.67 0.33 1.00 1.85 0.15 1.00 1.33 0.67 1.00 1.00 1.00
Final Sat.:  1805 2937  583 1805 3299  271 1805 2272 1154 1805 1900 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.17 0.17 0.07 0.18 0.18 0.03 0.14 0.14 0.10 0.14 0.14
Crit Moves:  ****              ****             ****             ****
Green/Cycle: 0.15 0.33 0.33 0.14 0.32 0.32 0.13 0.25 0.25 0.17 0.29 0.29
Volume/Cap:  0.57 0.52 0.52 0.52 0.57 0.57 0.23 0.57 0.57 0.57 0.49 0.46
Delay/Veh:   46.6 30.4 30.4 46.2 32.0 32.0 43.3 36.8 36.8 44.2 32.6 32.3
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  46.6 30.4 30.4 46.2 32.0 32.0 43.3 36.8 36.8 44.2 32.6 32.3
LOS by Move:    D    C    C    D    C    C    D    D    D    D    C    C
HCM2kAvgQ:    115  206  206  117  248  248   44  205  205  137  183  146
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1016: Olive Ave / M St



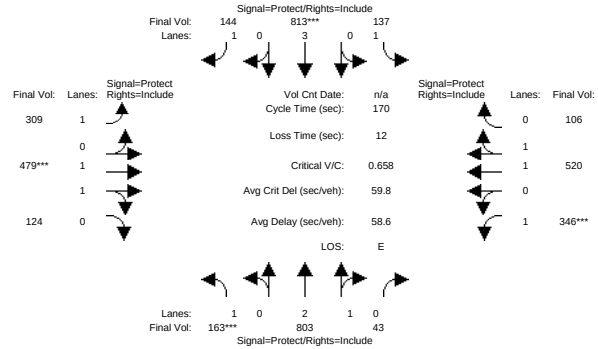
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	204		554	59	117		599	137	111		396	98	246		483	38
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	204		554	59	117		599	137	111		396	98	246		483	38
Added Vol:	0		0	0	0		0	0	0		5	0	0		11	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	204		554	59	117		599	137	111		401	98	246		494	38
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	204		554	59	117		599	137	111		401	98	246		494	38
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	204		554	59	117		599	137	111		401	98	246		494	38
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	204		554	59	117		599	137	111		401	98	246		494	38
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.91	0.85	0.95		0.92	0.92	0.95		0.94	0.94
Lanes:	1.00		2.71	0.29	1.00		3.00	1.00	1.00		1.61	0.39	1.00		1.86	0.14
Final Sat.:	1805		4622	492	1805		5187	1615	1805		2817	688	1805		3315	255
Capacity Analysis Module:																
Vol/Sat:	0.11		0.12	0.12	0.06		0.12	0.08	0.06		0.14	0.14	0.14		0.15	0.15
Crit Moves:	****						****				****		****			
Green/Cycle:	0.21		0.27	0.27	0.15		0.21	0.21	0.15		0.26	0.26	0.25		0.36	0.36
Volume/Cap:	0.55		0.44	0.44	0.44		0.55	0.40	0.41		0.55	0.55	0.55		0.41	0.41
Delay/Veh:	61.9		51.4	51.4	67.3		60.3	58.5	66.6		54.8	54.8	56.8		40.9	40.9
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	61.9		51.4	51.4	67.3		60.3	58.5	66.6		54.8	54.8	56.8		40.9	40.9
LOS by Move:	E		D	D	E		E	E	E		D	D	E		D	D
HCM2kAvgQ:	228		230	230	134		246	147	136		296	296	281		265	265

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1016: Olive Ave / M St



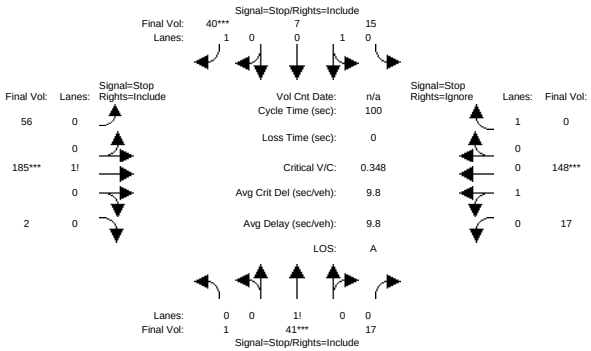
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	163		803	43	137		813	144	309		468	124	346		515	106
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	163		803	43	137		813	144	309		468	124	346		515	106
Added Vol:	0		0	0	0		0	0	0		11	0	0		5	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	163		803	43	137		813	144	309		479	124	346		520	106
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	163		803	43	137		813	144	309		479	124	346		520	106
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	163		803	43	137		813	144	309		479	124	346		520	106
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	163		803	43	137		813	144	309		479	124	346		520	106
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.91	0.85	0.95		0.92	0.92	0.95		0.93	0.93
Lanes:	1.00		2.85	0.15	1.00		3.00	1.00	1.00		1.59	0.41	1.00		1.66	0.34
Final Sat.:	1805		4884	262	1805		5187	1615	1805		2779	719	1805		2924	596
Capacity Analysis Module:																
Vol/Sat:	0.09		0.16	0.16	0.08		0.16	0.09	0.17		0.17	0.17	0.19		0.18	0.18
Crit Moves:	****						****				****		****			
Green/Cycle:	0.14		0.26	0.26	0.12		0.24	0.24	0.27		0.26	0.26	0.29		0.28	0.28
Volume/Cap:	0.66		0.64	0.64	0.64		0.66	0.37	0.63		0.66	0.66	0.66		0.63	0.63
Delay/Veh:	75.9		57.2	57.2	77.8		59.8	54.7	57.1		57.7	57.7	55.8		54.6	54.6
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	75.9		57.2	57.2	77.8		59.8	54.7	57.1		57.7	57.7	55.8		54.6	54.6
LOS by Move:	E		E	E	E		E	D	E		E	E	E		D	D
HCM2kAvgQ:	197		346	346	169		342	149	360		378	378	403		380	380

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1    41    17    15     7    40    56   185     2    17   148    52
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    1    41    17    15     7    40    56   185     2    17   148    52
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    1    41    17    15     7    40    56   185     2    17   148    52
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
PHF Volume:     1    41    17    15     7    40    56   185     2    17   148     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    1    41    17    15     7    40    56   185     2    17   148     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
FinalVolume:    1    41    17    15     7    40    56   185     2    17   148     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.02  0.69  0.29  0.68  0.32  1.00  0.23  0.76  0.01  0.10  0.90  1.00
Final Sat.:    11   431   179   390   182   685   161   532     6    71   621   809
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10  0.10  0.10  0.04  0.04  0.06  0.35  0.35  0.35  0.24  0.24  0.00
Crit Moves:        ****                    ****        ****              ****
Delay/Veh:    9.0   9.0   9.0   8.8   8.8   7.9  10.7  10.7  10.7   9.3   9.3   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.0   9.0   9.0   8.8   8.8   7.9  10.7  10.7  10.7   9.3   9.3   0.0
LOS by Move:    A     A     A     A     A     A     B     B     B     A     A     *
ApproachDel:        9.0               8.2              10.7               9.3
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         9.0               8.2              10.7               9.3
LOS by Appr:          A                 A                 B                 A
AllWayAvgQ:   2.3   2.3   2.3   0.9   0.9   1.3  12.6  12.6  12.6   7.4   7.4   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   41    17    15     7    40    56  185     2    17  148    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             460
Minor Approach Volume:           62
Minor Approach Volume Threshold: 708
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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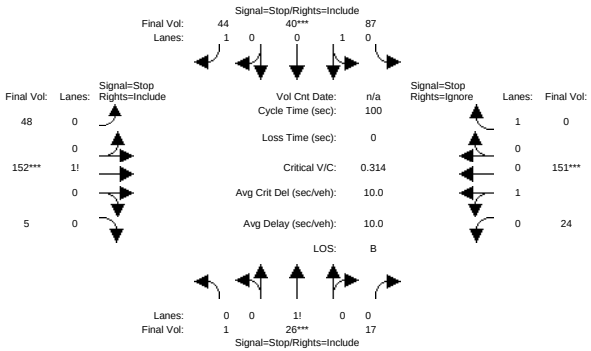
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave

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Street Name:    2nd Street - Grogan Avenue              Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   26    17    87   40    44    48  152     5    24  151    45
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   26    17    87   40    44    48  152     5    24  151    45
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   26    17    87   40    44    48  152     5    24  151    45
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     1   26    17    87   40    44    48  152     5    24  151     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1   26    17    87   40    44    48  152     5    24  151     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    1   26    17    87   40    44    48  152     5    24  151     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.69 0.31  1.00  0.23 0.75  0.02  0.14 0.86  1.00
Final Sat.:    14  359   234   400  184   701   153  485    16    89  560   751
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.07  0.22 0.22  0.06  0.31 0.31  0.31  0.27 0.27  0.00
Crit Moves:        ****              ****              ****              ****
Delay/Veh:    8.9  8.9   8.9  10.1 10.1   7.8  10.7 10.7  10.7   9.9  9.9   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.9  8.9   8.9  10.1 10.1   7.8  10.7 10.7  10.7   9.9  9.9   0.0
LOS by Move:    A    A     A     B    B     A     B    B     B     A    A     *
ApproachDel:       8.9               9.5              10.7               9.9
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:        8.9               9.5              10.7               9.9
LOS by Appr:         A                 A                 B                 A
AllWayAvgQ:   1.7  1.7   1.7   6.2  6.2   1.5  10.6 10.6  10.6   8.5  8.5   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
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Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   26    17    87   40    44    48  152     5    24  151    45
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             425
Minor Approach Volume:           171
Minor Approach Volume Threshold: 742
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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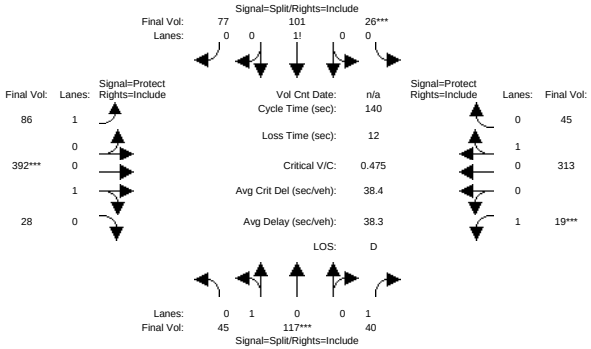
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1018: Childs Ave / Martin Luther King Wy



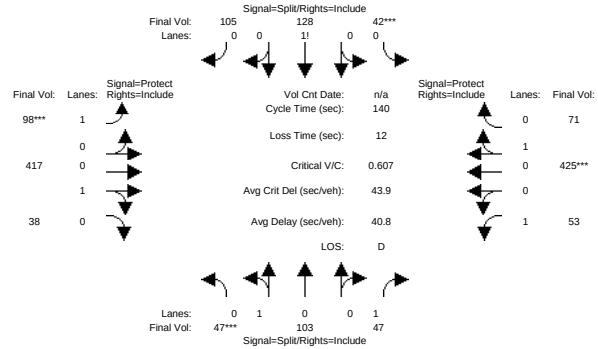
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	45	117	40	26	101	77	86	354	27	19	294	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	117	40	26	101	77	86	354	27	19	294	45
Added Vol:	0	0	0	0	0	0	0	38	1	0	19	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	45	117	40	26	101	77	86	392	28	19	313	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	45	117	40	26	101	77	86	392	28	19	313	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	45	117	40	26	101	77	86	392	28	19	313	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	45	117	40	26	101	77	86	392	28	19	313	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.13	0.49	0.38	1.00	0.93	0.07	1.00	0.87	0.13
Final Sat.:	520	1353	1615	228	887	676	1805	1756	125	1805	1630	234
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.02	0.11	0.11	0.11	0.05	0.22	0.22	0.01	0.19	0.19
Crit Moves:		****		****				****		****		
Green/Cycle:	0.18	0.18	0.18	0.23	0.23	0.23	0.10	0.46	0.46	0.05	0.40	0.40
Volume/Cap:	0.49	0.49	0.14	0.49	0.49	0.49	0.46	0.49	0.49	0.21	0.48	0.48
Delay/Veh:	53.1	53.1	48.9	47.5	47.5	47.5	60.7	27.2	27.2	65.0	31.6	31.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.1	53.1	48.9	47.5	47.5	47.5	60.7	27.2	27.2	65.0	31.6	31.6
LOS by Move:	D	D	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	165	165	37	195	195	195	98	310	310	19	274	274

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1018: Childs Ave / Martin Luther King Wy



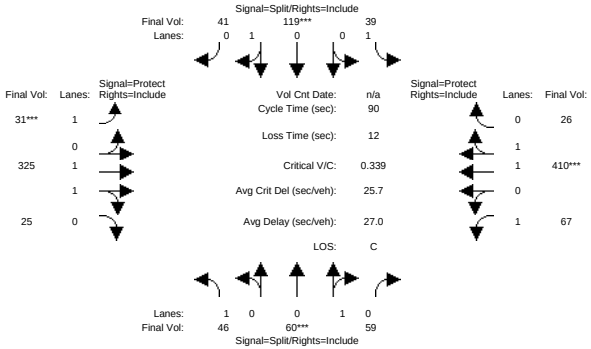
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	46	103	47	42	128	105	98	398	38	53	387	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	103	47	42	128	105	98	398	38	53	387	71
Added Vol:	1	0	0	0	0	0	0	19	0	0	38	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	103	47	42	128	105	98	417	38	53	425	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	103	47	42	128	105	98	417	38	53	425	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	103	47	42	128	105	98	417	38	53	425	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	103	47	42	128	105	98	417	38	53	425	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.31	0.69	1.00	0.15	0.47	0.38	1.00	0.92	0.08	1.00	0.86	0.14
Final Sat.:	586	1285	1615	273	832	682	1805	1719	157	1805	1594	266
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.03	0.15	0.15	0.15	0.05	0.24	0.24	0.03	0.27	0.27
Crit Moves:	****			****			****				****	
Green/Cycle:	0.13	0.13	0.13	0.25	0.25	0.25	0.09	0.44	0.44	0.09	0.44	0.44
Volume/Cap:	0.61	0.61	0.22	0.61	0.61	0.61	0.61	0.55	0.55	0.33	0.61	0.61
Delay/Veh:	61.6	61.6	54.8	48.5	48.5	48.5	67.9	30.0	30.0	60.8	31.3	31.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.6	61.6	54.8	48.5	48.5	48.5	67.9	30.0	30.0	60.8	31.3	31.3
LOS by Move:	E	E	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	172	172	48	272	272	272	125	358	358	51	393	393

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1019: 13th St / Martin Luther King Wy



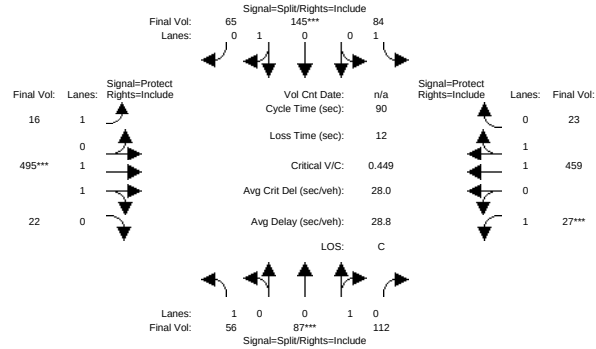
Street Name:	13th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	46	60	59	37	119	32	13	325	25	67	410	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	60	59	37	119	32	13	325	25	67	410	26
Added Vol:	0	0	0	2	0	9	18	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	60	59	39	119	41	31	325	25	67	410	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	60	59	39	119	41	31	325	25	67	410	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	60	59	39	119	41	31	325	25	67	410	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	60	59	39	119	41	31	325	25	67	410	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	0.95	0.96	0.96	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.50	0.50	1.00	0.74	0.26	1.00	1.86	0.14	1.00	1.88	0.12
Final Sat.:	1805	887	872	1805	1359	468	1805	3315	255	1805	3364	213
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.07	0.02	0.09	0.09	0.02	0.10	0.10	0.04	0.12	0.12
Crit Moves:		****			****		****				****	
Green/Cycle:	0.19	0.19	0.19	0.25	0.25	0.25	0.08	0.25	0.25	0.17	0.35	0.35
Volume/Cap:	0.13	0.35	0.35	0.09	0.35	0.35	0.22	0.39	0.39	0.21	0.35	0.35
Delay/Veh:	30.3	32.1	32.1	26.0	28.3	28.3	39.7	28.4	28.4	32.2	22.0	22.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.3	32.1	32.1	26.0	28.3	28.3	39.7	28.4	28.4	32.2	22.0	22.0
LOS by Move:	C	C	C	C	C	C	D	C	C	C	C	C
HCM2kAvgQ:	25	68	68	21	96	96	19	102	102	38	114	114

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1019: 13th St / Martin Luther King Wy



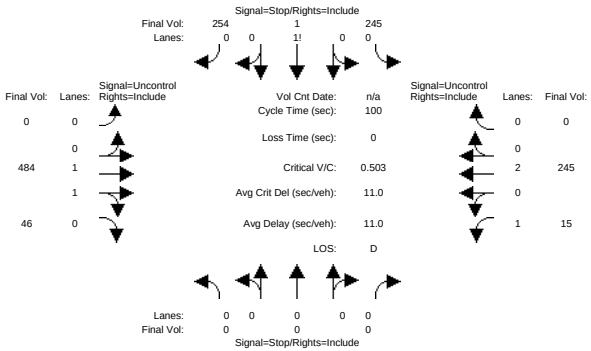
Street Name:	13th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	56	87	112	75	145	47	7	495	22	27	459	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	87	112	75	145	47	7	495	22	27	459	23
Added Vol:	0	0	0	9	0	18	9	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	87	112	84	145	65	16	495	22	27	459	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	87	112	84	145	65	16	495	22	27	459	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	87	112	84	145	65	16	495	22	27	459	23
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	87	112	84	145	65	16	495	22	27	459	23
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.44	0.56	1.00	0.69	0.31	1.00	1.91	0.09	1.00	1.90	0.10
Final Sat.:	1805	761	980	1805	1252	561	1805	3436	153	1805	3414	171
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.11	0.05	0.12	0.12	0.01	0.14	0.14	0.01	0.13	0.13
Crit Moves:		****			****			****		****		
Green/Cycle:	0.24	0.24	0.24	0.24	0.24	0.24	0.14	0.30	0.30	0.08	0.24	0.24
Volume/Cap:	0.13	0.47	0.47	0.19	0.47	0.47	0.06	0.47	0.47	0.19	0.56	0.56
Delay/Veh:	26.9	30.1	30.1	27.2	29.9	29.9	33.7	25.8	25.8	39.5	30.7	30.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.9	30.1	30.1	27.2	29.9	29.9	33.7	25.8	25.8	39.5	30.7	30.7
LOS by Move:	C	C	C	C	C	C	C	C	C	D	C	C
HCM2kAvgQ:	28	112	112	47	134	134	9	147	147	17	152	152

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   165    1   254     0  484    44    15  245     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   165    1   254     0  484    44    15  245     0
Added Vol:      0    0     0    80    0     0     0    0     2     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   245    1   254     0  484    46    15  245     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   245    1   254     0  484    46    15  245     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   245    1   254     0  484    46    15  245     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   517  805   123  xxxx xxxx xxxxx   530 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   493  318   912  xxxx xxxx xxxxx  1048 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   487  314   912  xxxx xxxx xxxxx  1048 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.50 0.00  0.28  xxxx xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  637 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  7.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 28.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    D     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             28.1           xxxxxx           xxxxxx
ApproachLOS:         *               D                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   245    1   254     0  484    46    15  245     0
ApproachDel:    xxxxxx              28.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=500]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1290]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

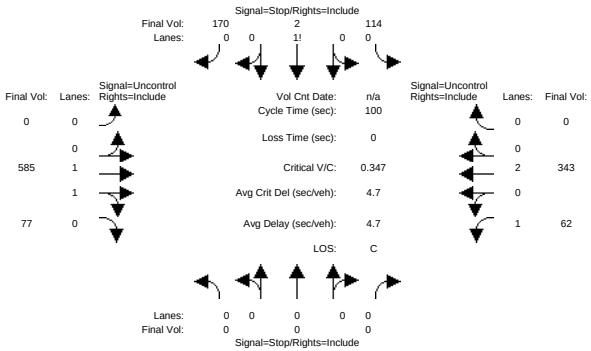
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   245    1   254     0  484    46    15  245     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             790
Minor Approach Volume:           500
Minor Approach Volume Threshold: 366
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    94    2   170     0  585    68    62  343     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    94    2   170     0  585    68    62  343     0
Added Vol:      0    0     0    20    0     0     0    0     9     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   114    2   170     0  585    77    62  343     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   114    2   170     0  585    77    62  343     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   114    2   170     0  585    77    62  343     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   760 1129   172  xxxx xxxx xxxxx   662 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   347  206   849  xxxx xxxx xxxxx   936 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   329  192   849  xxxx xxxx xxxxx   936 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.35 0.01  0.20  xxxx xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  513 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 20.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             20.5           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   114    2   170     0  585    77    62  343     0
ApproachDel:    xxxxxx              20.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=286]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1353]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

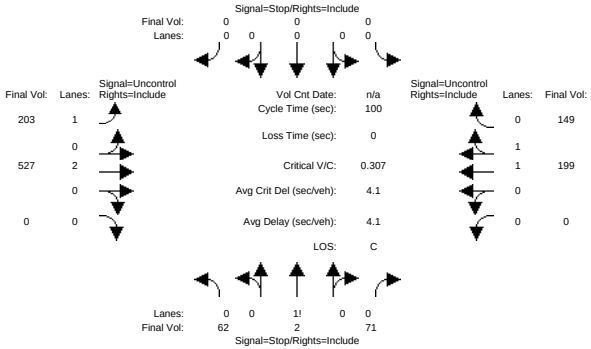
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   114    2   170     0  585    77    62  343     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1067
Minor Approach Volume:           286
Minor Approach Volume Threshold: 262
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62    2    71     0    0     0   203  447     0     0  199   137
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62    2    71     0    0     0   203  447     0     0  199   137
Added Vol:      0    0     0     0    0     0     0   80     0     0    0    12
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   62    2    71     0    0     0   203  527     0     0  199   149
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    62    2    71     0    0     0   203  527     0     0  199   149
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62    2    71     0    0     0   203  527     0     0  199   149
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1033 1281   264  xxxx xxxx xxxxx   348 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  232  167   741  xxxx xxxx xxxxx  1222 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    202  139   741  xxxx xxxx xxxxx  1222 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.31 0.01  0.10  xxxx xxxx  xxxx  0.17 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  14.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  324 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 23.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      23.8           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   62    2    71     0    0     0   203  527     0     0  199   149
ApproachDel:      23.8           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=135]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1213]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

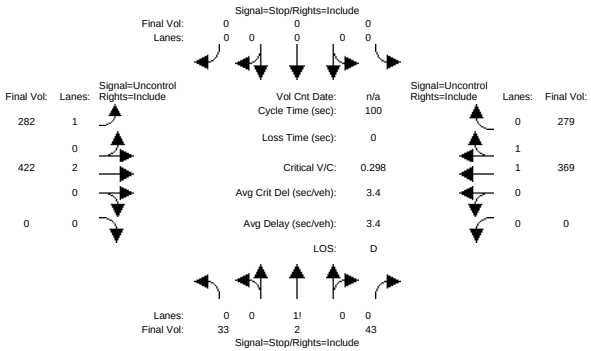
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   62    2    71     0    0     0   203  527     0     0  199   149
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1078
Minor Approach Volume:           135
Minor Approach Volume Threshold: 259
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    2    43     0    0     0   282  402     0     0  369   232
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   33    2    43     0    0     0   282  402     0     0  369   232
Added Vol:      0    0     0     0    0     0     0   20     0     0    0    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   33    2    43     0    0     0   282  422     0     0  369   279
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    33    2    43     0    0     0   282  422     0     0  369   279
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   33    2    43     0    0     0   282  422     0     0  369   279
------------||---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------||---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1171 1634   211  xxxx xxxx xxxxx   648 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  189  102   801  xxxx xxxx xxxxx   947 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    145   72   801  xxxx xxxx xxxxx   947 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.23 0.03  0.05  xxxx xxxx  xxxx  0.30 xxxx  xxxx  xxxx xxxx  xxxx
------------||---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  31.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  253 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 25.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    *     *     *    *     *     *    *     *
ApproachDel:      25.5           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         D                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   282  422     0     0  369   279
ApproachDel:      25.5           xxxxxx            xxxxxx            xxxxxx
------------||---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=78]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1430]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

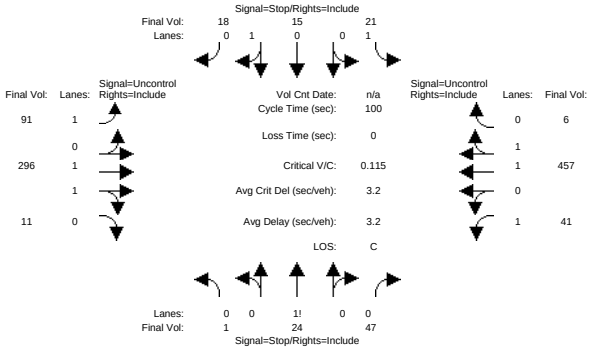
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   282  422     0     0  369   279
------------||---------------||---------------||---------------||---------------|
Major Street Volume:             1352
Minor Approach Volume:           78
Minor Approach Volume Threshold: 181
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   15    47    21   15     6    11  296    11    41  457     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   15    47    21   15     6    11  296    11    41  457     6
Added Vol:      0    9     0     0    0    12    80    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   24    47    21   15    18    91  296    11    41  457     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1   24    47    21   15    18    91  296    11    41  457     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1   24    47    21   15    18    91  296    11    41  457     6
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  802 1029   154   884 1031   232   463 xxxx xxxxx   307 xxxx xxxxx
Potent Cap.:  279  236   871   243  235   777  1109 xxxx xxxxx  1265 xxxx xxxxx
Move Cap.:    236  209   871   192  209   777  1109 xxxx xxxxx  1265 xxxx xxxxx
Volume/Cap:  0.00 0.11  0.05  0.11 0.07  0.02  0.08 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   9.0 xxxx xxxxx   6.7 xxxx xxxxx   2.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  26.0 xxxx xxxxx   8.5 xxxx xxxxx   7.9 xxxx xxxxx
LOS by Move:    *    *     *     D    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  417 xxxxx  xxxx xxxx   347  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx xxxx   0.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 15.4 xxxxx xxxxx xxxx  16.5 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     C     *    *     *     *    *     *
ApproachDel:      15.4             20.2           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   24    47    21   15    18    91  296    11    41  457     6
ApproachDel:      15.4             20.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=72]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1028]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=54]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1028]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   24    47    21   15    18    91  296    11    41  457     6
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             902
Minor Approach Volume:           72
Minor Approach Volume Threshold: 320
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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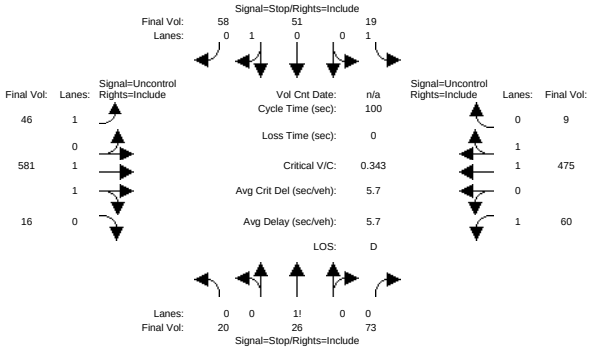
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20   24    73    19   51    11    26  581    16    60  475     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   20   24    73    19   51    11    26  581    16    60  475     9
Added Vol:      0    2     0     0    0    47    20    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20   26    73    19   51    58    46  581    16    60  475     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20   26    73    19   51    58    46  581    16    60  475     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20   26    73    19   51    58    46  581    16    60  475     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1064 1285   299   995 1289   242   484 xxxx xxxxx   597 xxxx xxxxx
Potent Cap.:  180  166   704   202  165   765  1089 xxxx xxxxx   989 xxxx xxxxx
Move Cap.:    113  149   704   145  149   765  1089 xxxx xxxxx   989 xxxx xxxxx
Volume/Cap:  0.18 0.17  0.10  0.13 0.34  0.08  0.04 xxxx  xxxx  0.06 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  11.0 xxxx xxxxx   3.3 xxxx xxxxx   4.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  33.5 xxxx xxxxx   8.5 xxxx xxxxx   8.9 xxxx xxxxx
LOS by Move:    *    *     *     D    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  262 xxxxx  xxxx xxxx   260  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.2 xxxxx xxxxx xxxx   2.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 29.7 xxxxx xxxxx xxxx  28.4 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    *     D     *    *     *     *    *     *
ApproachDel:      29.7             29.2            xxxxxx           xxxxxx
ApproachLOS:         D                D                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   26    73    19   51    58    46  581    16    60  475     9
ApproachDel:      29.7             29.2            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=119]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1434]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=128]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1434]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

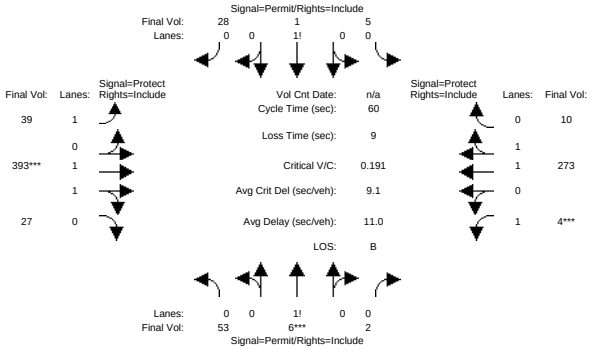
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   26    73    19   51    58    46  581    16    60  475     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1187
Minor Approach Volume:           128
Minor Approach Volume Threshold: 300
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1023: 15th St / Martin Luther King Wy

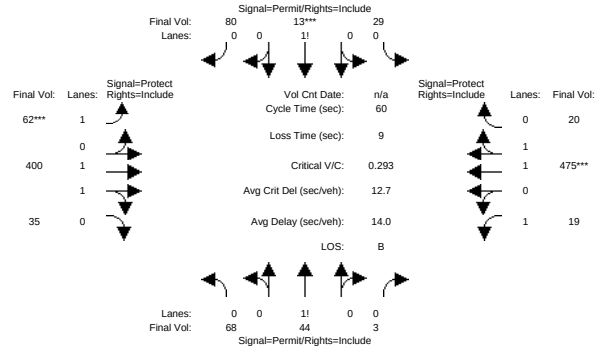



```
Street Name:           15th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      53    6     2    5    1    28   39  393    27    4  273    10
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   53    6     2    5    1    28   39  393    27    4  273    10
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   53    6     2    5    1    28   39  393    27    4  273    10
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    53    6     2    5    1    28   39  393    27    4  273    10
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   53    6     2    5    1    28   39  393    27    4  273    10
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   53    6     2    5    1    28   39  393    27    4  273    10
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.76 0.76  0.76 0.86 0.86  0.86 0.95 0.94  0.94 0.95 0.95  0.95
Lanes:       0.87 0.10  0.03 0.15 0.03  0.82 1.00 1.87  0.13 1.00 1.93  0.07
Final Sat.:  1253  142    47  240   48  1345 1805 3344   230 1805 3465   127
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.04  0.04 0.02 0.02  0.02 0.02 0.12  0.12 0.00 0.08  0.08
Crit Moves:        ****                          ****          ****
Green/Cycle: 0.19 0.19  0.19 0.19 0.19  0.19 0.27 0.54  0.54 0.12 0.39  0.39
Volume/Cap:  0.22 0.22  0.22 0.11 0.11  0.11 0.08 0.22  0.22 0.02 0.20  0.20
Delay/Veh:   20.7 20.7  20.7 20.1 20.1  20.1 16.4  7.3   7.3 23.5 12.4  12.4
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  20.7 20.7  20.7 20.1 20.1  20.1 16.4  7.3   7.3 23.5 12.4  12.4
LOS by Move:    C    C     C    C    C     C    B    A     A    C    B     B
HCM2kAvgQ:     28   28    28   15   15    15   13   52    52    2   44    44
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1023: 15th St / Martin Luther King Wy

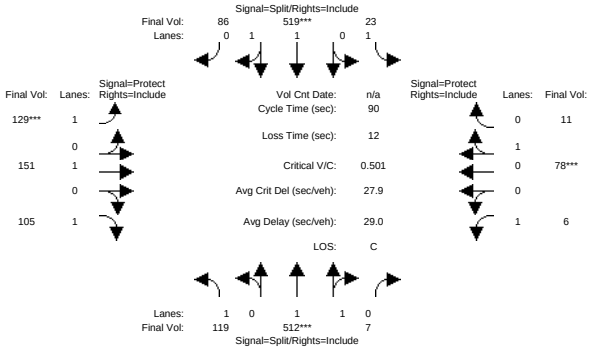



```
Street Name:           15th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      68   44     3   29   13    80   62  400    35   19  475    20
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   68   44     3   29   13    80   62  400    35   19  475    20
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   68   44     3   29   13    80   62  400    35   19  475    20
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    68   44     3   29   13    80   62  400    35   19  475    20
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   68   44     3   29   13    80   62  400    35   19  475    20
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   68   44     3   29   13    80   62  400    35   19  475    20
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.79 0.79  0.79 0.84 0.84  0.84 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       0.59 0.38  0.03 0.24 0.11  0.65 1.00 1.84  0.16 1.00 1.92  0.08
Final Sat.:   890  576    39  379  170  1046 1805 3280   287 1805 3443   145
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.08  0.08 0.08 0.08  0.08 0.03 0.12  0.12 0.01 0.14  0.14
Crit Moves:                       ****          ****          ****
Green/Cycle: 0.26 0.26  0.26 0.26 0.26  0.26 0.12 0.35  0.35 0.24 0.47  0.47
Volume/Cap:  0.29 0.29  0.29 0.29 0.29  0.29 0.29 0.35  0.35 0.04 0.29  0.29
Delay/Veh:   18.1 18.1  18.1 18.1 18.1  18.1 25.0 14.8  14.8 17.4  9.8   9.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  18.1 18.1  18.1 18.1 18.1  18.1 25.0 14.8  14.8 17.4  9.8   9.8
LOS by Move:    B    B     B    B    B     B    C    B     B    B    A     A
HCM2kAvgQ:     49   49    49   51   51    51   26   76    76    6   70    70
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1024: 16th St / Martin Luther King Wy

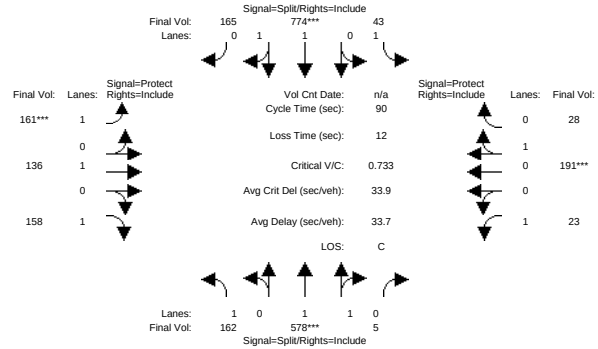



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119  318     7   23  304    86  129  151   105    6   78    11
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  119  318     7   23  304    86  129  151   105    6   78    11
Added Vol:      0  194     0    0  215     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  119  512     7   23  519    86  129  151   105    6   78    11
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   119  512     7   23  519    86  129  151   105    6   78    11
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  119  512     7   23  519    86  129  151   105    6   78    11
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  119  512     7   23  519    86  129  151   105    6   78    11
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.93  0.93 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.97  0.03 1.00 1.72  0.28 1.00 1.00  1.00 1.00 0.88  0.12
Final Sat.:  1805 3554    49 1805 3032   502 1805 1900  1615 1805 1634   230
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.14  0.14 0.01 0.17  0.17 0.07 0.08  0.07 0.00 0.05  0.05
Crit Moves:        ****            ****        ****                ****
Green/Cycle: 0.28 0.28  0.28 0.33 0.33  0.33 0.14 0.15  0.15 0.10 0.11  0.11
Volume/Cap:  0.23 0.51  0.51 0.04 0.51  0.51 0.51 0.54  0.44 0.03 0.43  0.43
Delay/Veh:   25.1 27.6  27.6 20.2 24.4  24.4 37.6 37.6  36.3 36.4 38.8  38.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  25.1 27.6  27.6 20.2 24.4  24.4 37.6 37.6  36.3 36.4 38.8  38.8
LOS by Move:    C    C     C    C    C     C    D    D     D    D    D     D
HCM2kAvgQ:     65  169   169   10  172   172   82   96    65    4   57    57
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1024: 16th St / Martin Luther King Wy

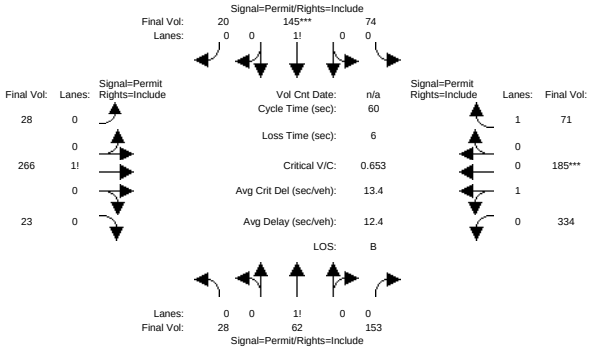



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     162  363     5   43  580   165  161  136   158   23  191    28
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  162  363     5   43  580   165  161  136   158   23  191    28
Added Vol:      0  215     0    0  194     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  162  578     5   43  774   165  161  136   158   23  191    28
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   162  578     5   43  774   165  161  136   158   23  191    28
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  162  578     5   43  774   165  161  136   158   23  191    28
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  162  578     5   43  774   165  161  136   158   23  191    28
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.93  0.93 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.98  0.02 1.00 1.65  0.35 1.00 1.00  1.00 1.00 0.87  0.13
Final Sat.:  1805 3575    31 1805 2898   618 1805 1900  1615 1805 1626   238
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.16  0.16 0.02 0.27  0.27 0.09 0.07  0.10 0.01 0.12  0.12
Crit Moves:        ****            ****        ****                ****
Green/Cycle: 0.22 0.22  0.22 0.36 0.36  0.36 0.12 0.17  0.17 0.12 0.16  0.16
Volume/Cap:  0.41 0.73  0.73 0.07 0.73  0.73 0.73 0.43  0.59 0.11 0.73  0.73
Delay/Veh:   30.7 36.2  36.2 18.7 27.0  27.0 50.1 34.7  38.2 35.8 45.0  45.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  30.7 36.2  36.2 18.7 27.0  27.0 50.1 34.7  38.2 35.8 45.0  45.0
LOS by Move:    C    D     D    B    C     C    D    C     D    D    D     D
HCM2kAvgQ:    103  237   237   18  296   296  114   82   102   14  151   151
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1025: 13th St / G St



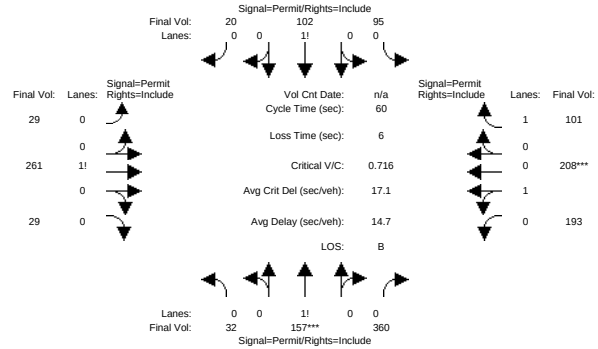
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	28	62	153	74	145	20	28	265	23	334	185	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	62	153	74	145	20	28	265	23	334	185	71
Added Vol:	0	0	0	0	0	0	0	1	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	62	153	74	145	20	28	266	23	334	185	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	62	153	74	145	20	28	266	23	334	185	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	62	153	74	145	20	28	266	23	334	185	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	62	153	74	145	20	28	266	23	334	185	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	0.88	0.88	0.78	0.78	0.78	0.94	0.94	0.94	0.64	0.64	0.85
Lanes:	0.12	0.25	0.63	0.31	0.61	0.08	0.09	0.84	0.07	0.64	0.36	1.00
Final Sat.:	192	424	1048	460	901	124	157	1493	129	783	433	1615
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.15	0.16	0.16	0.16	0.18	0.18	0.18	0.43	0.43	0.04
Crit Moves:					****						****	
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.65	0.65	0.65	0.65	0.65	0.65
Volume/Cap:	0.59	0.59	0.59	0.65	0.65	0.65	0.27	0.27	0.27	0.65	0.65	0.07
Delay/Veh:	22.3	22.3	22.3	24.5	24.5	24.5	4.5	4.5	4.5	8.2	8.2	3.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.3	22.3	22.3	24.5	24.5	24.5	4.5	4.5	4.5	8.2	8.2	3.8
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	123	123	123	102	102	102	65	65	65	150	150	12

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1025: 13th St / G St



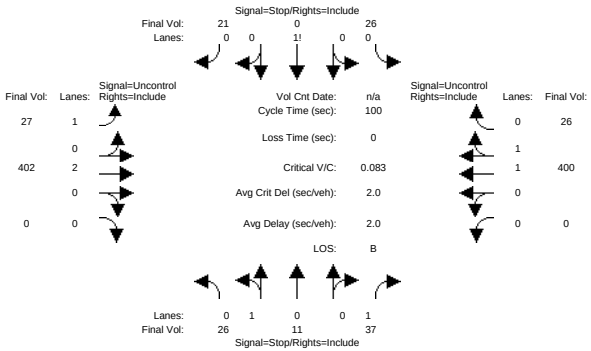
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	32	157	360	95	102	20	29	261	29	193	207	101
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	157	360	95	102	20	29	261	29	193	207	101
Added Vol:	0	0	0	0	0	0	0	0	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	157	360	95	102	20	29	261	29	193	208	101
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	157	360	95	102	20	29	261	29	193	208	101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	157	360	95	102	20	29	261	29	193	208	101
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	32	157	360	95	102	20	29	261	29	193	208	101
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.89	0.68	0.68	0.68	0.94	0.94	0.94	0.66	0.66	0.85
Lanes:	0.06	0.29	0.65	0.44	0.47	0.09	0.09	0.82	0.09	0.48	0.52	1.00
Final Sat.:	99	484	1109	562	604	118	162	1459	162	604	650	1615
Capacity Analysis Module:												
Vol/Sat:	0.32	0.32	0.32	0.17	0.17	0.17	0.18	0.18	0.18	0.32	0.32	0.06
Crit Moves:		****									****	
Green/Cycle:	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Volume/Cap:	0.72	0.72	0.72	0.37	0.37	0.37	0.40	0.40	0.40	0.72	0.72	0.14
Delay/Veh:	16.5	16.5	16.5	11.2	11.2	11.2	11.5	11.5	11.5	17.9	17.9	9.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.5	16.5	16.5	11.2	11.2	11.2	11.5	11.5	11.5	17.9	17.9	9.9
LOS by Move:	B	B	B	B	B	B	B	B	B	B	B	A
HCM2kAvgQ:	243	243	243	65	65	65	106	106	106	154	154	26

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26    2    37    26    0    21    27  401     0     0  394    26
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26    2    37    26    0    21    27  401     0     0  394    26
Added Vol:      0    9     0     0    0     0     0    1     0     0    6     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26   11    37    26    0    21    27  402     0     0  400    26
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26   11    37    26    0    21    27  402     0     0  400    26
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26   11    37    26    0    21    27  402     0     0  400    26
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  656  882   201   674  869   213   426 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  355  287   813   345  292   798  1144 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    339  280   813   313  285   798  1144 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.08 0.04  0.05  0.08 0.00  0.03  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.6  xxxx xxxx xxxxx   1.8 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx   9.6 xxxxx xxxx xxxxx   8.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     A     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  319 xxxx xxxxx  xxxx  430 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.4 xxxx xxxxx xxxxx  0.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 17.7 xxxx xxxxx xxxxx 14.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:      13.7             14.4            xxxxxx            xxxxxx
ApproachLOS:         B                B                 *                 *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   26   11    37    26    0    21    27  402     0     0  400    26
ApproachDel:      13.7             14.4            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=74]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=976]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=47]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=976]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

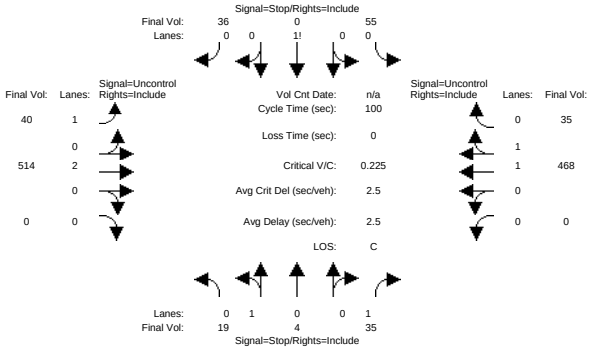
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   26   11    37    26    0    21    27  402     0     0  400    26
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             855
Minor Approach Volume:           74
Minor Approach Volume Threshold: 441
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      19    2    35    55    0    36    40  514     0     0  459    35
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   19    2    35    55    0    36    40  514     0     0  459    35
Added Vol:      0    2     0     0    0     0     0    0     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   19    4    35    55    0    36    40  514     0     0  468    35
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    19    4    35    55    0    36    40  514     0     0  468    35
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   19    4    35    55    0    36    40  514     0     0  468    35
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  828 1097   257   825 1080   252   503 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  267  215   748   268  220   754  1072 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    247  207   748   245  212   754  1072 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.08 0.02  0.05  0.22 0.00  0.05  0.04 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.7  xxxx xxxx xxxxx   2.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  10.0 xxxxx xxxx xxxxx   8.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  239 xxxx xxxxx  xxxx  334 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.3 xxxx xxxxx xxxxx  1.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 21.7 xxxx xxxxx xxxxx 19.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:      14.7             19.8           xxxxxx           xxxxxx
ApproachLOS:         B                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   19    4    35    55    0    36    40  514     0     0  468    35
ApproachDel:      14.7             19.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=58]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1206]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=91]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1206]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

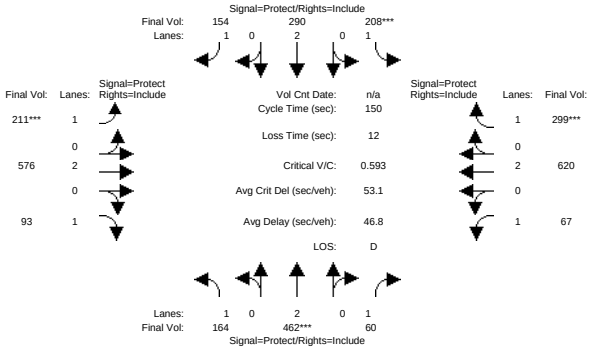
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   19    4    35    55    0    36    40  514     0     0  468    35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1057
Minor Approach Volume:           91
Minor Approach Volume Threshold: 266
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1028: Olive Ave / G St

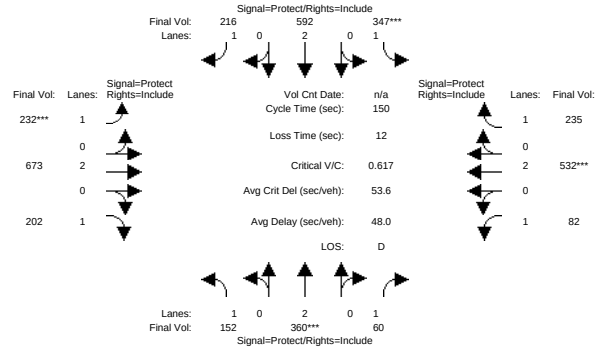



```
Street Name:            Olive Avenue                    G Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     158 462  60   208 290 154   211 573  90    67 615 299
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  158 462  60   208 290 154   211 573  90    67 615 299
Added Vol:      6   0   0     0   0   0     0   3   3     0   5   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:  164 462  60   208 290 154   211 576  93    67 620 299
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   164 462  60   208 290 154   211 576  93    67 620 299
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  164 462  60   208 290 154   211 576  93    67 620 299
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  164 462  60   208 290 154   211 576  93    67 620 299
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 0.95 0.85 0.95 0.95 0.85
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 3610 1615 1805 3610 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.13 0.04 0.12 0.08 0.10 0.12 0.16 0.06 0.04 0.17 0.19
Crit Moves:       ****      ****      ****                      ****
Green/Cycle: 0.20 0.22 0.22 0.19 0.21 0.21 0.20 0.39 0.39 0.12 0.31 0.31
Volume/Cap:  0.45 0.59 0.17 0.59 0.38 0.45 0.59 0.40 0.15 0.32 0.55 0.59
Delay/Veh:   53.7 54.1 48.1 57.7 51.2 52.7 57.4 32.9 29.3 61.9 43.4 45.4
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  53.7 54.1 48.1 57.7 51.2 52.7 57.4 32.9 29.3 61.9 43.4 45.4
LOS by Move:    D    D    D    E    D    D    E    C    C    E    D    D
HCM2kAvgQ:    170 262  56   212 143 148   234 244  67    76 312 297
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1028: Olive Ave / G St

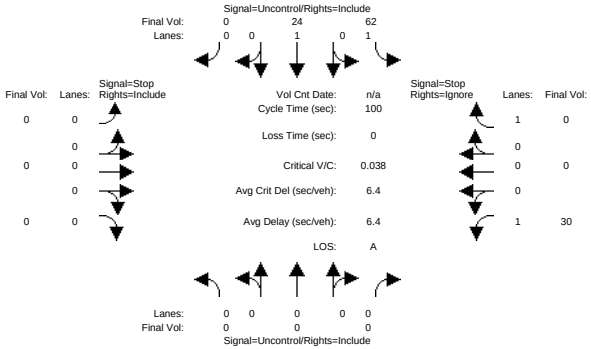



```
Street Name:            Olive Avenue                    G Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     149 360  60   347 592 216   232 668 196    82 529 235
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  149 360  60   347 592 216   232 668 196    82 529 235
Added Vol:      3   0   0     0   0   0     0   5   6     0   3   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:  152 360  60   347 592 216   232 673 202    82 532 235
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   152 360  60   347 592 216   232 673 202    82 532 235
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  152 360  60   347 592 216   232 673 202    82 532 235
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  152 360  60   347 592 216   232 673 202    82 532 235
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 0.95 0.85 0.95 0.95 0.85
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 3610 1615 1805 3610 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.10 0.04 0.19 0.16 0.13 0.13 0.19 0.13 0.05 0.15 0.15
Crit Moves:       ****      ****      ****                      ****
Green/Cycle: 0.16 0.16 0.16 0.31 0.31 0.31 0.21 0.36 0.36 0.09 0.24 0.24
Volume/Cap:  0.52 0.62 0.23 0.62 0.52 0.43 0.62 0.52 0.35 0.51 0.62 0.61
Delay/Veh:   59.5 60.6 55.2 46.1 42.9 41.5 57.0 38.4 35.8 67.8 52.3 53.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  59.5 60.6 55.2 46.1 42.9 41.5 57.0 38.4 35.8 67.8 52.3 53.7
LOS by Move:    E    E    E    D    D    D    E    D    D    E    D    D
HCM2kAvgQ:    171 220  62   326 280 187   257 318 168   105 298 254
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    51   24     0     0    0     0    30    0   161
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    51   24     0     0    0     0    30    0   161
Added Vol:      0    0     0    11    0     0     0    0     0     0    0    21
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    62   24     0     0    0     0    30    0   182
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0    62   24     0     0    0     0    30    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    62   24     0     0    0     0    30    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   148 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   849 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   824 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.04 xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   3.0 xxxx xxxxx  xxxx xxxx xxxxx   2.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx   9.5 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.5
ApproachLOS:         *                *                *                A
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0    62   24     0     0    0     0    30    0   182
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.5
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=212]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=298]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0    62   24     0     0    0     0    30    0   182
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             86
Minor Approach Volume:          212
Minor Approach Volume Threshold: 1429
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
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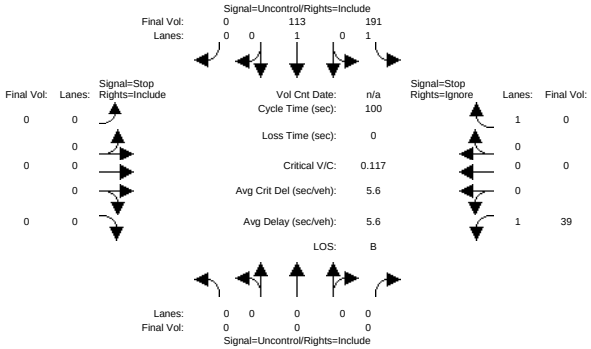
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   170  113     0     0    0     0    39    0    96
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   170  113     0     0    0     0    39    0    96
Added Vol:      0    0     0    21    0     0     0    0     0     0    0    11
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   191  113     0     0    0     0    39    0   107
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   191  113     0     0    0     0    39    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   191  113     0     0    0     0    39    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   495 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   537 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   489 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.12 xxxx  xxxx  xxxx xxxx  xxxx  0.08 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   9.9 xxxx xxxxx  xxxx xxxx xxxxx   6.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  13.0 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             13.0
ApproachLOS:         *                *                *                B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   191  113     0     0    0     0    39    0   107
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             13.0
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=146]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=450]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   191  113     0     0    0     0    39    0   107
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             304
Minor Approach Volume:           146
Minor Approach Volume Threshold: 886
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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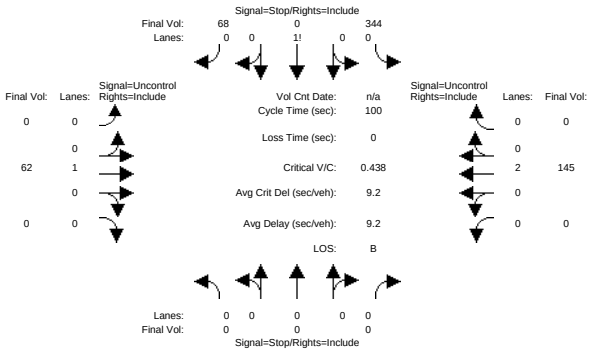
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   344    0    68     0   51     0     0  124     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   344    0    68     0   51     0     0  124     0
Added Vol:      0    0     0     0    0     0     0   11     0     0   21     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   344    0    68     0   62     0     0  145     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   344    0    68     0   62     0     0  145     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   344    0    68     0   62     0     0  145     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   207  207    73  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   786  693   995  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   786  693   995  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.44 0.00  0.07  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  814 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 13.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             13.9           xxxxxx           xxxxxx
ApproachLOS:         *               B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0    68     0   62     0     0  145     0
ApproachDel:    xxxxxx             13.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=412]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=619]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0    68     0   62     0     0  145     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             207
Minor Approach Volume:           412
Minor Approach Volume Threshold: 827
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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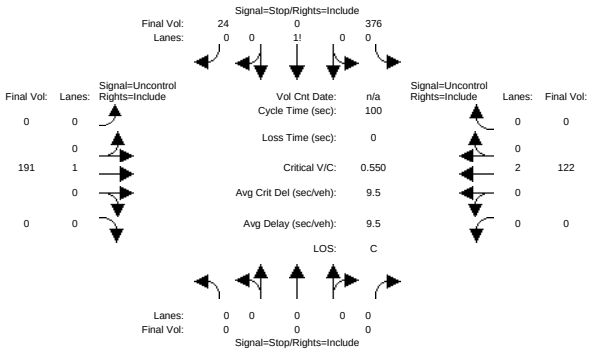
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   376    0    24     0  170     0     0  111     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   376    0    24     0  170     0     0  111     0
Added Vol:      0    0     0     0    0     0     0   21     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   376    0    24     0  191     0     0  122     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   376    0    24     0  191     0     0  122     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   376    0    24     0  191     0     0  122     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   313  313    61  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   684  606  1010  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   684  606  1010  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.55 0.00  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  697 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 16.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             16.9           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    24     0  191     0     0  122     0
ApproachDel:    xxxxxx              16.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=400]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=713]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    24     0  191     0     0  122     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             313
Minor Approach Volume:           400
Minor Approach Volume Threshold: 685
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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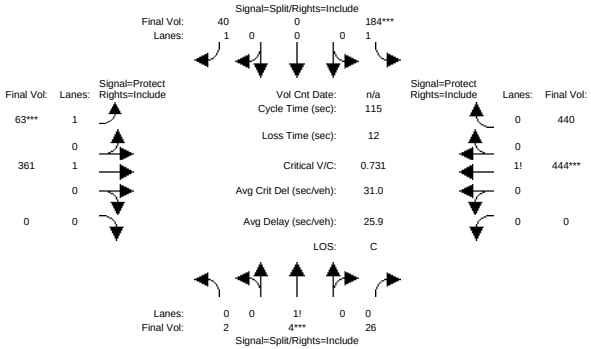
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

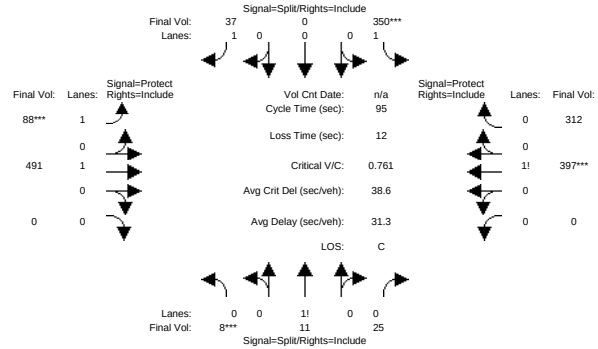



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10    10    0   10     7   10    0     0   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    3   26   184    0   40    63  350    0     0  423  439
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    2    3   26   184    0   40    63  350    0     0  423  439
Added Vol:      0    1    0     0    0    0     0   11    0     0   21    1
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    2    4   26   184    0   40    63  361    0     0  444  440
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     2    4   26   184    0   40    63  361    0     0  444  440
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    2    4   26   184    0   40    63  361    0     0  444  440
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    2    4   26   184    0   40    63  361    0     0  444  440
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.89 0.89 0.89  0.95 1.00 0.85  0.95 1.00 1.00  1.00 0.93 0.93
Lanes:       0.06 0.13 0.81  1.00 0.00 1.00  1.00 1.00 0.00  0.00 0.50 0.50
Final Sat.:   105  211 1370  1805    0 1615  1805 1900    0     0  890  882
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.02 0.02  0.10 0.00 0.02  0.03 0.19 0.00  0.00 0.50 0.50
Crit Moves:        ****        ****             ****                 ****
Green/Cycle: 0.09 0.09 0.09  0.13 0.00 0.13  0.06 0.68 0.00  0.00 0.62 0.62
Volume/Cap:  0.22 0.22 0.22  0.80 0.00 0.20  0.57 0.28 0.00  0.00 0.80 0.80
Delay/Veh:   49.6 49.6 49.6  67.0  0.0 45.4  59.7  7.3  0.0   0.0 20.8 20.8
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  49.6 49.6 49.6  67.0  0.0 45.4  59.7  7.3  0.0   0.0 20.8 20.8
LOS by Move:    D    D    D     E    A    D     E    A    A     A    C    C
HCM2kAvgQ:     31   31   31   211    0   35    77  123    0     0  562  562
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

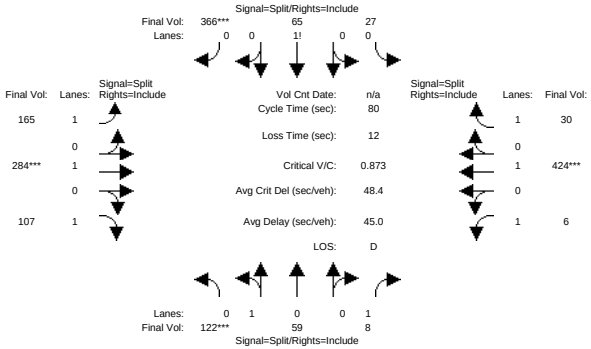



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10    10   10   10     7   10    0     0   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8   11   25   349    0   37    88  470    0     0  386  312
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    8   11   25   349    0   37    88  470    0     0  386  312
Added Vol:      0    0    0     1    0    0     0   21    0     0   11    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    8   11   25   350    0   37    88  491    0     0  397  312
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     8   11   25   350    0   37    88  491    0     0  397  312
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    8   11   25   350    0   37    88  491    0     0  397  312
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    8   11   25   350    0   37    88  491    0     0  397  312
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.91 0.91 0.91  0.95 1.00 0.85  0.95 1.00 1.00  1.00 0.94 0.94
Lanes:       0.18 0.25 0.57  1.00 0.00 1.00  1.00 1.00 0.00  0.00 0.56 0.44
Final Sat.:   316  434  987  1805    0 1615  1805 1900    0     0 1001  787
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.03 0.03  0.19 0.00 0.02  0.05 0.26 0.00  0.00 0.40 0.40
Crit Moves:  ****             ****             ****                 ****
Green/Cycle: 0.11 0.11 0.11  0.23 0.00 0.23  0.07 0.54 0.00  0.00 0.47 0.47
Volume/Cap:  0.24 0.24 0.24  0.85 0.00 0.10  0.66 0.48 0.00  0.00 0.85 0.85
Delay/Veh:   39.7 39.7 39.7  50.4  0.0 29.1  54.6 13.9  0.0   0.0 30.7 30.7
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  39.7 39.7 39.7  50.4  0.0 29.1  54.6 13.9  0.0   0.0 30.7 30.7
LOS by Move:    D    D    D     D    A    C     D    B    A     A    C    C
HCM2kAvgQ:     34   34   34   316    0   22    95  223    0     0  445  445
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

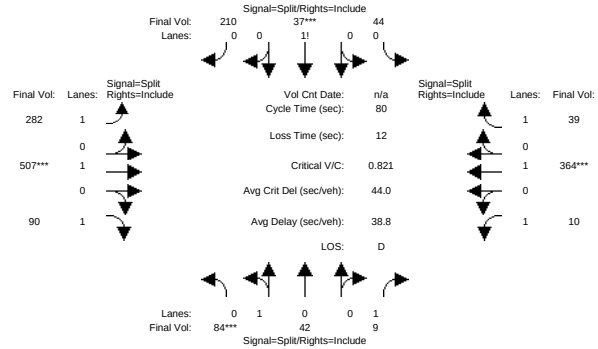



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     122   59     8   27   65   366  165  273   107    6  402    30
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  122   59     8   27   65   366  165  273   107    6  402    30
Added Vol:      0    0     0    0    0     0    0   11     0    0   22     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  122   59     8   27   65   366  165  284   107    6  424    30
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   122   59     8   27   65   366  165  284   107    6  424    30
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  122   59     8   27   65   366  165  284   107    6  424    30
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  122   59     8   27   65   366  165  284   107    6  424    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.89 0.89  0.89 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.06 0.14  0.80 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1238  599  1615  100  240  1350 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.00 0.27 0.27  0.27 0.09 0.15  0.07 0.00 0.22  0.02
Crit Moves:  ****                      ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.31 0.31  0.31 0.17 0.17  0.17 0.25 0.25  0.25
Volume/Cap:  0.79 0.79  0.04 0.89 0.89  0.89 0.54 0.89  0.39 0.01 0.89  0.07
Delay/Veh:   50.5 50.5  30.9 43.4 43.4  43.4 32.5 57.1  30.6 22.5 46.9  22.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  50.5 50.5  30.9 43.4 43.4  43.4 32.5 57.1  30.6 22.5 46.9  22.9
LOS by Move:    D    D     C    D    D     D    C    E     C    C    D     C
HCM2kAvgQ:    163  163     5  362  362   362   93  199    58    3  344    15
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

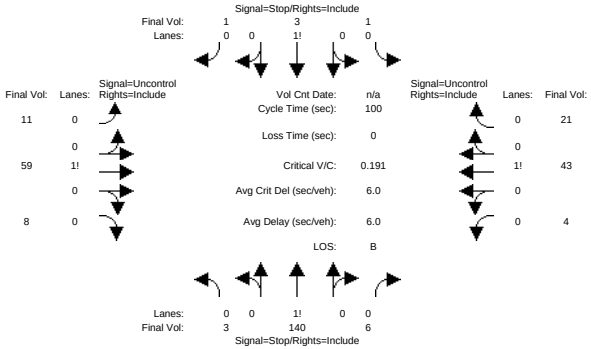



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      84   42     9   44   37   210  282  485    90   10  353    39
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   84   42     9   44   37   210  282  485    90   10  353    39
Added Vol:      0    0     0    0    0     0    0   22     0    0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   84   42     9   44   37   210  282  507    90   10  364    39
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    84   42     9   44   37   210  282  507    90   10  364    39
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   84   42     9   44   37   210  282  507    90   10  364    39
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   84   42     9   44   37   210  282  507    90   10  364    39
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.90 0.90  0.90 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.15 0.13  0.72 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1226  613  1615  258  217  1229 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.01 0.17 0.17  0.17 0.16 0.27  0.06 0.01 0.19  0.02
Crit Moves:  ****                      ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.20 0.20  0.20 0.31 0.31  0.31 0.22 0.22  0.22
Volume/Cap:  0.55 0.55  0.04 0.87 0.87  0.87 0.51 0.87  0.18 0.03 0.87  0.11
Delay/Veh:   35.7 35.7  30.9 51.8 51.8  51.8 23.5 39.3  20.5 24.5 47.3  25.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  35.7 35.7  30.9 51.8 51.8  51.8 23.5 39.3  20.5 24.5 47.3  25.0
LOS by Move:    D    D     C    D    D     D    C    D     C    C    D     C
HCM2kAvgQ:     94   94     6  253  253   253  139  321    39    5  298    20
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                          O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3   18     6     1     3     1    11   59     8     4   43     7
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3   18     6     1     3     1    11   59     8     4   43     7
Added Vol:      0  122     0     0     0     0     0    0     0     0    0    14
PasserByVol:    0    0     0     0     0     0     0    0     0     0    0     0
Initial Fut:    3  140     6     1     3     1    11   59     8     4   43    21
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3  140     6     1     3     1    11   59     8     4   43    21
Reduct Vol:     0    0     0     0     0     0     0    0     0     0    0     0
FinalVolume:    3  140     6     1     3     1    11   59     8     4   43    21
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  149  157    63   220  151    54    64 xxxx xxxxx    67 xxxx xxxxx
Potent Cap.:  824  739  1007   741  745  1019  1551 xxxx xxxxx  1547 xxxx xxxxx
Move Cap.:    815  732  1007   624  738  1019  1551 xxxx xxxxx  1547 xxxx xxxxx
Volume/Cap:  0.00 0.19  0.01  0.00 0.00  0.00  0.01 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  741 xxxxx  xxxx  752 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.7 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 11.1 xxxxx xxxxx  9.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    A     *     *    *     *     *    *     *
ApproachDel:      11.1               9.8            xxxxxx            xxxxxx
ApproachLOS:         B                 A                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3  140     6     1     3     1    11   59     8     4   43    21
ApproachDel:      11.1               9.8            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=149]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=300]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=300]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

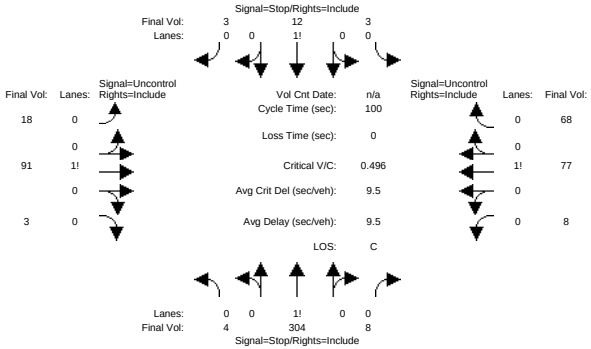
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3  140     6     1     3     1    11   59     8     4   43    21
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             146
Minor Approach Volume:           149
Minor Approach Volume Threshold: 733
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                          O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   58     8     3   12     3    18   91     3     8   77    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   58     8     3   12     3    18   91     3     8   77    11
Added Vol:      0  246     0     0    0     0     0    0     0     0    0    57
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4  304     8     3   12     3    18   91     3     8   77    68
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4  304     8     3   12     3    18   91     3     8   77    68
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4  304     8     3   12     3    18   91     3     8   77    68
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  263  290    93   412  257   111   145 xxxx xxxxx    94 xxxx xxxxx
Potent Cap.:  694  624   970   554  651   948  1450 xxxx xxxxx  1513 xxxx xxxxx
Move Cap.:    673  613   970   331  639   948  1450 xxxx xxxxx  1513 xxxx xxxxx
Volume/Cap:  0.01 0.50  0.01  0.01 0.02  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.9 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  619 xxxxx  xxxx  581 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.9 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 16.7 xxxxx xxxxx 11.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     *    *     *     *    *     *
ApproachDel:      16.7             11.4            xxxxxx           xxxxxx
ApproachLOS:         C                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  304     8     3   12     3    18   91     3     8   77    68
ApproachDel:      16.7             11.4            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=316]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=599]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=599]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  304     8     3   12     3    18   91     3     8   77    68
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             265
Minor Approach Volume:           316
Minor Approach Volume Threshold: 574
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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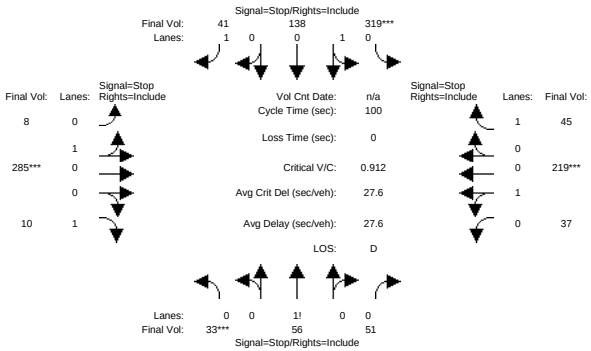
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    56    33    91   138    41     8   266    10    25   209    45
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   33    56    33    91   138    41     8   266    10    25   209    45
Added Vol:      0     0    18   228     0     0     0    19     0    12    10     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   33    56    51   319   138    41     8   285    10    37   219    45
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    33    56    51   319   138    41     8   285    10    37   219    45
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   33    56    51   319   138    41     8   285    10    37   219    45
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   33    56    51   319   138    41     8   285    10    37   219    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.24  0.40  0.36  0.70  0.30  1.00  0.03  0.97  1.00  0.14  0.86  1.00
Final Sat.:   104   177   161   350   151   579    13   461   522    67   399   518
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.32  0.32  0.32  0.91  0.91  0.07  0.62  0.62  0.02  0.55  0.55  0.09
Crit Moves:  ****              ****                    ****              ****
Delay/Veh:   13.6  13.6  13.6  46.1  46.1   9.2  20.0  20.0   9.4  17.9  17.9   9.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  13.6  13.6  13.6  46.1  46.1   9.2  20.0  20.0   9.4  17.9  17.9   9.9
LOS by Move:    B     B     B     E     E     A     C     C     A     C     C     A
ApproachDel:       13.6              43.0              19.6              16.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        13.6              43.0              19.6              16.7
LOS by Appr:          B                 E                 C                 C
AllWayAvgQ:    9.5   9.5   9.5   126   126   1.8  32.9  32.9   0.4  25.3  25.3   2.1
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   33   56    51   319  138    41     8  285    10    37  219    45
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             638
Minor Approach Volume:           303
Minor Approach Volume Threshold: 567
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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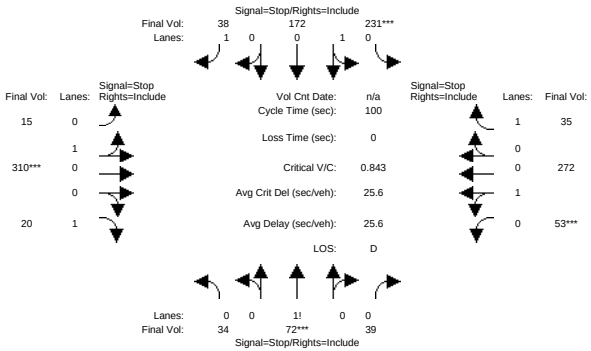
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      34    72    30   111   172    38    15   300    20    26   253    35
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   34    72    30   111   172    38    15   300    20    26   253    35
Added Vol:      0     0     9   120     0     0     0    10     0    27    19     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   34    72    39   231   172    38    15   310    20    53   272    35
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    34    72    39   231   172    38    15   310    20    53   272    35
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   34    72    39   231   172    38    15   310    20    53   272    35
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   34    72    39   231   172    38    15   310    20    53   272    35
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.23  0.50  0.27  0.57  0.43  1.00  0.05  0.95  1.00  0.16  0.84  1.00
Final Sat.:    96   203   110   274   204   544    22   452   518    77   395   520
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35  0.35  0.35  0.84  0.84  0.07  0.69  0.69  0.04  0.69  0.69  0.07
Crit Moves:        ****        ****                    ****        ****
Delay/Veh:   14.6  14.6  14.6  36.7  36.7   9.6  23.2  23.2   9.6  23.5  23.5   9.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  14.6  14.6  14.6  36.7  36.7   9.6  23.2  23.2   9.6  23.5  23.5   9.7
LOS by Move:    B     B     B     E     E     A     C     C     A     C     C     A
ApproachDel:       14.6              34.4              22.5              22.2
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        14.6              34.4              22.5              22.2
LOS by Appr:          B                 D                 C                 C
AllWayAvgQ:  10.4  10.4  10.4  88.4  88.4   1.8  43.4  43.4   0.9  44.1  44.1   1.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



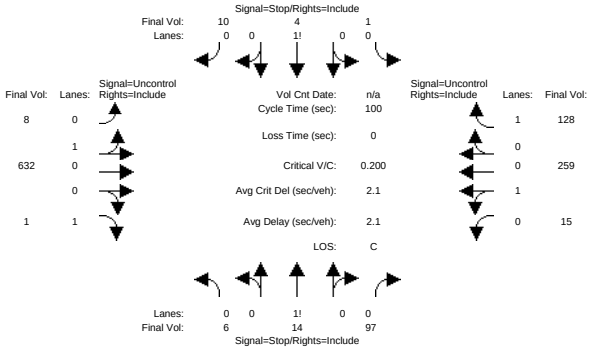
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   34   72   39   231  172   38    15  310   20    53  272   35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             705
Minor Approach Volume:           441
Minor Approach Volume Threshold: 524
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   14     7     1    4    10     8  366     1     3  238     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   14     7     1    4    10     8  366     1     3  238     6
Added Vol:      0    0    90     0    0     0     0  266     0    12   21   122
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6   14    97     1    4    10     8  632     1    15  259   128
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6   14    97     1    4    10     8  632     1    15  259   128
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6   14    97     1    4    10     8  632     1    15  259   128
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1008 1065   632   993  938   259   387 xxxx xxxxx   633 xxxx xxxxx
Potent Cap.:  221  224   484   226  266   785  1183 xxxx xxxxx   960 xxxx xxxxx
Move Cap.:    212  219   484   169  260   785  1183 xxxx xxxxx   960 xxxx xxxxx
Volume/Cap:  0.03 0.06  0.20  0.01 0.02  0.01  0.01 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx   1.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx   8.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  400 xxxxx  xxxx  441 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.2 xxxxx xxxxx  0.1 xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 17.7 xxxxx xxxxx 13.5 xxxxx   8.1 xxxx xxxxx   8.8 xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     A    *     *     A    *     *
ApproachDel:      17.7             13.5           xxxxxx           xxxxxx
ApproachLOS:         C                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14    97     1    4    10     8  632     1    15  259   128
ApproachDel:      17.7             13.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=117]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1175]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1175]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

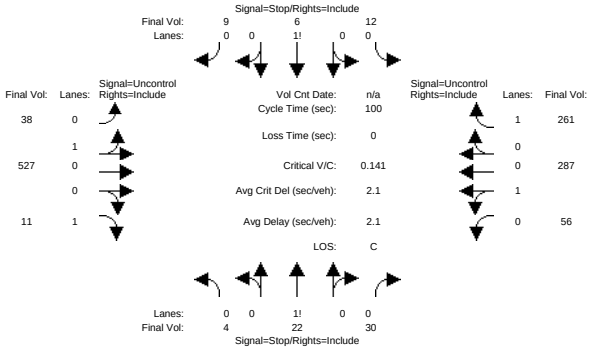
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14    97     1    4    10     8  632     1    15  259   128
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1043
Minor Approach Volume:           117
Minor Approach Volume Threshold: 270
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   22     8    12    6     9    38  388    11     9  240    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   22     8    12    6     9    38  388    11     9  240    15
Added Vol:      0    0    22     0    0     0     0  139     0    47   47   246
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4   22    30    12    6     9    38  527    11    56  287   261
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4   22    30    12    6     9    38  527    11    56  287   261
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4   22    30    12    6     9    38  527    11    56  287   261
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1140 1263   527  1034 1013   287   548 xxxx xxxxx   538 xxxx xxxxx
Potent Cap.:  180  171   555   212  241   757  1032 xxxx xxxxx  1040 xxxx xxxxx
Move Cap.:    162  156   555   167  219   757  1032 xxxx xxxxx  1040 xxxx xxxxx
Volume/Cap:  0.02 0.14  0.05  0.07 0.03  0.01  0.04 xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.9 xxxx xxxxx   4.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.6 xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  254 xxxxx  xxxx  243 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.8 xxxxx xxxxx  0.4 xxxxx   0.1 xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx 23.1 xxxxx xxxxx 21.7 xxxxx   8.6 xxxx xxxxx   8.7 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      23.1             21.7            xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22    30    12    6     9    38  527    11    56  287   261
ApproachDel:      23.1             21.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1263]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1263]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

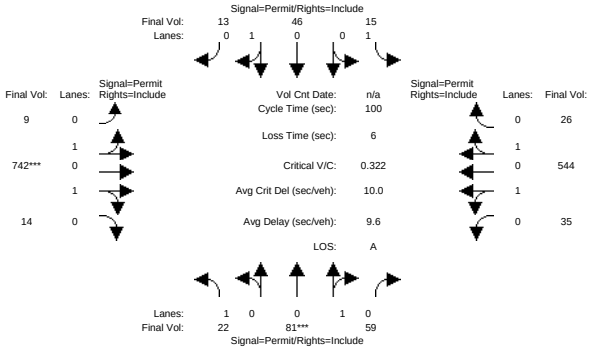
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22    30    12    6     9    38  527    11    56  287   261
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1180
Minor Approach Volume:           56
Minor Approach Volume Threshold: 228
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1036: Main St / M St

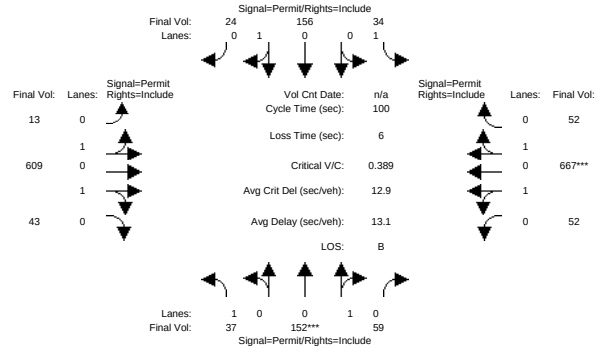



```
Street Name:            Main Street                     M Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10   10   10   10   10   10   10   10   10   10
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      19   81   59   15   46   13    9  721   13   35  529   26
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   19   81   59   15   46   13    9  721   13   35  529   26
Added Vol:      3    0    0    0    0    0    0   21    1    0   15    0
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:   22   81   59   15   46   13    9  742   14   35  544   26
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:    22   81   59   15   46   13    9  742   14   35  544   26
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:   22   81   59   15   46   13    9  742   14   35  544   26
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   22   81   59   15   46   13    9  742   14   35  544   26
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.72 0.94 0.94 0.57 0.97 0.97 0.90 0.90 0.90 0.83 0.83 0.83
Lanes:       1.00 0.58 0.42 1.00 0.78 0.22 0.02 1.94 0.04 0.11 1.80 0.09
Final Sat.:  1368 1030  750 1085 1432  405   40 3306   62  182 2836  136
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.08 0.08 0.01 0.03 0.03 0.22 0.22 0.22 0.19 0.19 0.19
Crit Moves:        ****                     ****
Green/Cycle: 0.24 0.24 0.24 0.24 0.24 0.24 0.70 0.70 0.70 0.70 0.70 0.70
Volume/Cap:  0.07 0.32 0.32 0.06 0.13 0.13 0.32 0.32 0.32 0.28 0.28 0.28
Delay/Veh:   29.1 31.5 31.5 29.1 29.7 29.7  6.0  6.0  6.0  5.8  5.8  5.8
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  29.1 31.5 31.5 29.1 29.7 29.7  6.0  6.0  6.0  5.8  5.8  5.8
LOS by Move:    C    C    C    C    C    C    A    A    A    A    A    A
HCM2kAvgQ:     14   92   92    9   36   36  118  118  118   90   90   90
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1036: Main St / M St

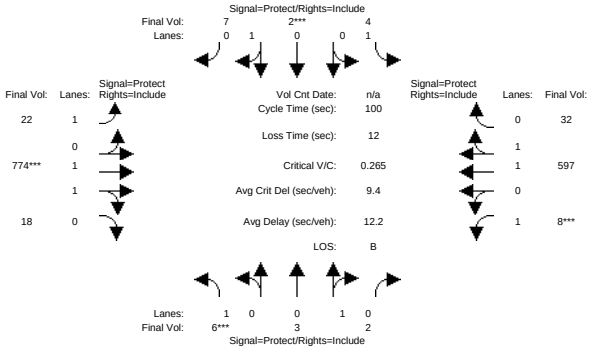



```
Street Name:            Main Street                     M Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10   10   10   10   10   10   10   10   10   10
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36  152   59   34  156   24   13  594   40   52  646   52
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   36  152   59   34  156   24   13  594   40   52  646   52
Added Vol:      1    0    0    0    0    0    0   15    3    0   21    0
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:   37  152   59   34  156   24   13  609   43   52  667   52
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:    37  152   59   34  156   24   13  609   43   52  667   52
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:   37  152   59   34  156   24   13  609   43   52  667   52
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   37  152   59   34  156   24   13  609   43   52  667   52
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.53 0.96 0.96 0.49 0.98 0.98 0.88 0.88 0.88 0.81 0.81 0.81
Lanes:       1.00 0.72 0.28 1.00 0.87 0.13 0.04 1.83 0.13 0.13 1.74 0.13
Final Sat.:  1015 1311  509  927 1614  248   65 3063  216  209 2674  209
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.12 0.12 0.04 0.10 0.10 0.20 0.20 0.20 0.25 0.25 0.25
Crit Moves:        ****                     ****
Green/Cycle: 0.30 0.30 0.30 0.30 0.30 0.30 0.64 0.64 0.64 0.64 0.64 0.64
Volume/Cap:  0.12 0.39 0.39 0.12 0.32 0.32 0.31 0.31 0.31 0.39 0.39 0.39
Delay/Veh:   25.7 28.3 28.3 25.8 27.6 27.6  8.1  8.1  8.1  8.7  8.7  8.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  25.7 28.3 28.3 25.8 27.6 27.6  8.1  8.1  8.1  8.7  8.7  8.7
LOS by Move:    C    C    C    C    C    C    A    A    A    A    A    A
HCM2kAvgQ:     22  132  132   21  109  109  116  116  116  146  146  146
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1037: 18th St / M St



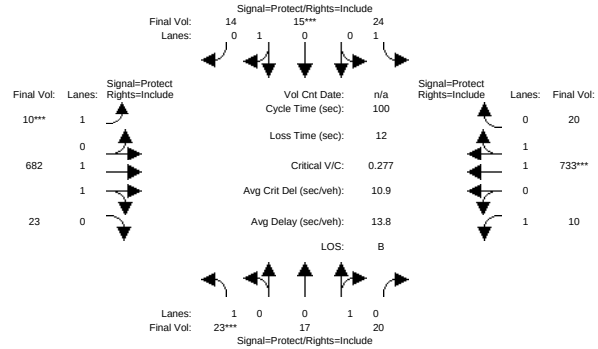
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	2		3		2	4		2		7	22		769		2	8		586		32
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	2		3		2	4		2		7	22		769		2	8		586		32
Added Vol:	4		0		0	0		0		0	0		5		16	0		11		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	6		3		2	4		2		7	22		774		18	8		597		32
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	6		3		2	4		2		7	22		774		18	8		597		32
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	6		3		2	4		2		7	22		774		18	8		597		32
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	6		3		2	4		2		7	22		774		18	8		597		32
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.94		0.94	0.95		0.88		0.88	0.95		0.95		0.95	0.95		0.94		0.94
Lanes:	1.00		0.60		0.40	1.00		0.22		0.78	1.00		1.95		0.05	1.00		1.90		0.10
Final Sat.:	1805		1072		714	1805		373		1305	1805		3517		82	1805		3399		182
Capacity Analysis Module:																				
Vol/Sat:	0.00		0.00		0.00	0.00		0.01		0.01	0.01		0.22		0.22	0.00		0.18		0.18
Crit Moves:	****							****					****			****				
Green/Cycle:	0.07		0.10		0.10	0.07		0.10		0.10	0.20		0.64		0.64	0.07		0.51		0.51
Volume/Cap:	0.05		0.03		0.03	0.03		0.05		0.05	0.06		0.34		0.34	0.06		0.35		0.35
Delay/Veh:	43.5		40.7		40.7	43.4		40.9		40.9	32.3		8.4		8.4	43.6		14.8		14.8
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	43.5		40.7		40.7	43.4		40.9		40.9	32.3		8.4		8.4	43.6		14.8		14.8
LOS by Move:	D		D		D	D		D		D	C		A		A	D		B		B
HCM2kAvgQ:	5		4		4	3		6		6	13		144		144	7		150		150

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1037: 18th St / M St



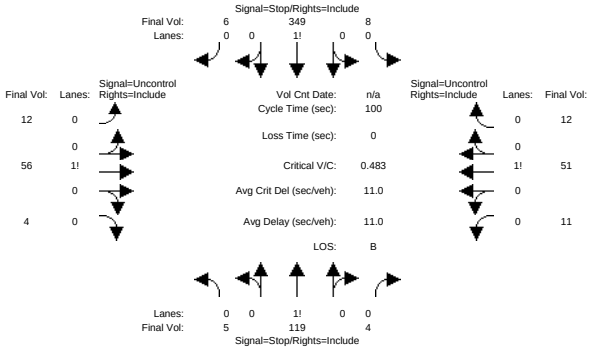
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	7		17		20	24		15		14	10		671		19	10		728		20
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	7		17		20	24		15		14	10		671		19	10		728		20
Added Vol:	16		0		0	0		0		0	0		11		4	0		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	23		17		20	24		15		14	10		682		23	10		733		20
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	23		17		20	24		15		14	10		682		23	10		733		20
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	23		17		20	24		15		14	10		682		23	10		733		20
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	23		17		20	24		15		14	10		682		23	10		733		20
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.92		0.92	0.95		0.93		0.93	0.95		0.95		0.95	0.95		0.95		0.95
Lanes:	1.00		0.46		0.54	1.00		0.52		0.48	1.00		1.93		0.07	1.00		1.95		0.05
Final Sat.:	1805		802		944	1805		912		851	1805		3475		117	1805		3500		95
Capacity Analysis Module:																				
Vol/Sat:	0.01		0.02		0.02	0.01		0.02		0.02	0.01		0.20		0.20	0.01		0.21		0.21
Crit Moves:	****							****			****					****				
Green/Cycle:	0.07		0.10		0.10	0.07		0.10		0.10	0.07		0.52		0.52	0.19		0.64		0.64
Volume/Cap:	0.18		0.21		0.21	0.19		0.16		0.16	0.08		0.38		0.38	0.03		0.33		0.33
Delay/Veh:	44.5		42.0		42.0	44.6		41.6		41.6	43.8		14.3		14.3	33.3		8.3		8.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	44.5		42.0		42.0	44.6		41.6		41.6	43.8		14.3		14.3	33.3		8.3		8.3
LOS by Move:	D		D		D	D		D		D	D		B		B	C		A		A
HCM2kAvgQ:	21		30		30	17		20		20	7		163		163	6		137		137

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5   43     4     8   44     6    12   56     4    11   51    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    5   43     4     8   44     6    12   56     4    11   51    12
Added Vol:      0   76     0     0  305     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    5  119     4     8  349     6    12   56     4    11   51    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     5  119     4     8  349     6    12   56     4    11   51    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    5  119     4     8  349     6    12   56     4    11   51    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  339  167    58   223  163    57    63 xxxx xxxxx    60 xxxx xxxxx
Potent Cap.:  619  729  1014   738  733  1015  1553 xxxx xxxxx  1556 xxxx xxxxx
Move Cap.:    378  719  1014   634  722  1015  1553 xxxx xxxxx  1556 xxxx xxxxx
Volume/Cap:  0.01 0.17  0.00  0.01 0.48  0.01  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx   0.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  700 xxxxx  xxxx  723 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.7 xxxxx xxxxx  2.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 11.3 xxxxx xxxxx 14.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      11.3             14.9           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5  119     4     8  349     6    12   56     4    11   51    12
ApproachDel:      11.3             14.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=128]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=637]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=363]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=637]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5  119     4     8  349     6    12   56     4    11   51    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             146
Minor Approach Volume:           363
Minor Approach Volume Threshold: 733
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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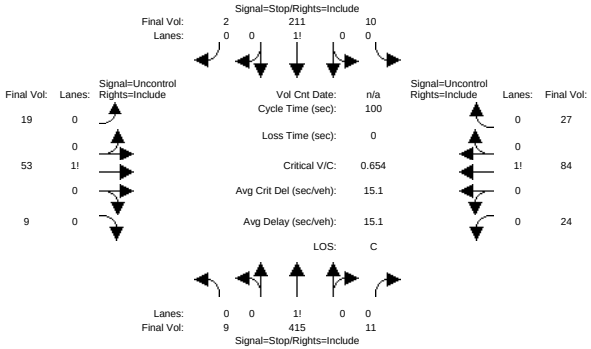
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9  110    11    10  135     2    19   53     9    24   84    27
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9  110    11    10  135     2    19   53     9    24   84    27
Added Vol:      0  305     0     0   76     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    9  415    11    10  211     2    19   53     9    24   84    27
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9  415    11    10  211     2    19   53     9    24   84    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    9  415    11    10  211     2    19   53     9    24   84    27
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  348  255    58   454  246    98   111 xxxx xxxxx    62 xxxx xxxxx
Potent Cap.:  611  653  1014   520  660   964  1492 xxxx xxxxx  1554 xxxx xxxxx
Move Cap.:    445  634  1014   239  641   964  1492 xxxx xxxxx  1554 xxxx xxxxx
Volume/Cap:  0.02 0.65  0.01  0.04 0.33  0.00  0.01 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   1.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  635 xxxxx  xxxx  598 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  5.4 xxxxx xxxxx  1.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 22.1 xxxxx xxxxx 14.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     *    *     *     *    *     *
ApproachDel:      22.1             14.6            xxxxxx           xxxxxx
ApproachLOS:         C                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  415    11    10  211     2    19   53     9    24   84    27
ApproachDel:      22.1             14.6            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=435]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=874]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=223]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=874]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  415    11    10  211     2    19   53     9    24   84    27
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             216
Minor Approach Volume:           435
Minor Approach Volume Threshold: 628
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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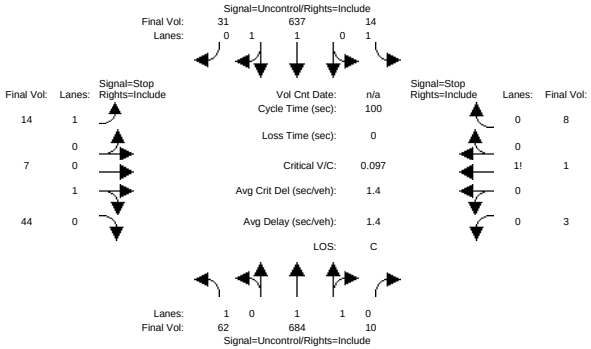
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62  490    10    14  422    31    14    7    44     3    1     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62  490    10    14  422    31    14    7    44     3    1     8
Added Vol:      0  194     0     0  215     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   62  684    10    14  637    31    14    7    44     3    1     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    62  684    10    14  637    31    14    7    44     3    1     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62  684    10    14  637    31    14    7    44     3    1     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  668 xxxx xxxxx   694 xxxx xxxxx  1147 1499   334  1163 1509   347
Potent Cap.:  931 xxxx xxxxx   911 xxxx xxxxx   156  124   668   152  122   655
Move Cap.:    931 xxxx xxxxx   911 xxxx xxxxx   144  114   668   127  112   655
Volume/Cap:  0.07 xxxx  xxxx  0.02 xxxx  xxxx  0.10 0.06  0.07  0.02 0.01  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    5.3 xxxx xxxxx   1.2 xxxx xxxxx   7.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.1 xxxx xxxxx   9.0 xxxx xxxxx  32.7 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     D    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   400  xxxx  268 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   0.4 xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  15.3 xxxxx 19.0 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     C     *    C     *
ApproachDel:    xxxxxx           xxxxxx             19.1            19.0
ApproachLOS:         *                *                C               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   62  684    10    14  637    31    14    7    44     3    1     8
ApproachDel:    xxxxxx           xxxxxx             19.1            19.0
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=65]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1515]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1515]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   62  684    10    14  637    31    14    7    44     3    1     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1438
Minor Approach Volume:           65
Minor Approach Volume Threshold: 218
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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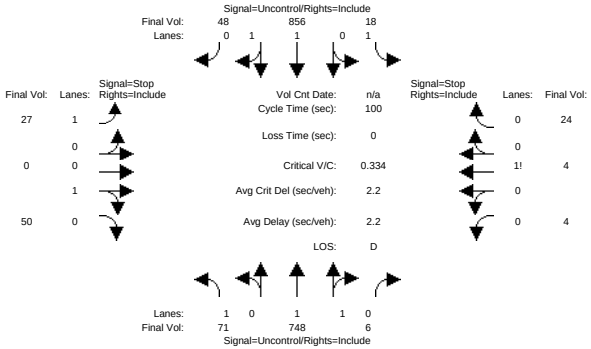
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  533     6    18  662    48    27    0    50     4    4    24
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   71  533     6    18  662    48    27    0    50     4    4    24
Added Vol:      0  215     0     0  194     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   71  748     6    18  856    48    27    0    50     4    4    24
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    71  748     6    18  856    48    27    0    50     4    4    24
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   71  748     6    18  856    48    27    0    50     4    4    24
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  904 xxxx xxxxx   754 xxxx xxxxx  1434 1812   452  1357 1833   377
Potent Cap.:  761 xxxx xxxxx   865 xxxx xxxxx    96   79   560   110   77   626
Move Cap.:    761 xxxx xxxxx   865 xxxx xxxxx    81   70   560    91   68   626
Volume/Cap:  0.09 xxxx  xxxx  0.02 xxxx  xxxx  0.33 0.00  0.09  0.04 0.06  0.04
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    7.7 xxxx xxxxx   1.6 xxxx xxxxx  31.7 xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.2 xxxx xxxxx   9.2 xxxx xxxxx  70.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     A    *     *     F    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   560  xxxx  228 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   0.3 xxxxx  0.5 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  12.1 xxxxx 23.4 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     B     *    C     *
ApproachDel:    xxxxxx           xxxxxx             32.5            23.4
ApproachLOS:         *                *                D               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   71  748     6    18  856    48    27    0    50     4    4    24
ApproachDel:    xxxxxx           xxxxxx             32.5            23.4
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=77]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1856]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1856]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   71  748     6    18  856    48    27    0    50     4    4    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1747
Minor Approach Volume:           77
Minor Approach Volume Threshold: 134 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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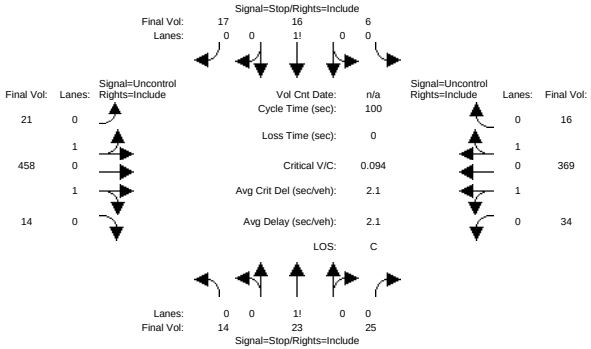
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      14   23    25     6   16     7     2  440    14    34  360    16
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   14   23    25     6   16     7     2  440    14    34  360    16
Added Vol:      0    0     0     0    0    10    19   18     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   14   23    25     6   16    17    21  458    14    34  369    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    14   23    25     6   16    17    21  458    14    34  369    16
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   14   23    25     6   16    17    21  458    14    34  369    16
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  768  960   236   728  959   193   385 xxxx xxxxx   472 xxxx xxxxx
Potent Cap.:  295  259   772   315  259   823  1185 xxxx xxxxx  1100 xxxx xxxxx
Move Cap.:    264  246   772   273  246   823  1185 xxxx xxxxx  1100 xxxx xxxxx
Volume/Cap:  0.05 0.09  0.03  0.02 0.06  0.02  0.02 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.4 xxxx xxxxx   2.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  347 xxxxx  xxxx  362 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  0.4 xxxxx   0.1 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 17.6 xxxxx xxxxx 16.1 xxxxx   8.1 xxxx xxxxx   8.4 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      17.6             16.1           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   23    25     6   16    17    21  458    14    34  369    16
ApproachDel:      17.6             16.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1013]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=39]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1013]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

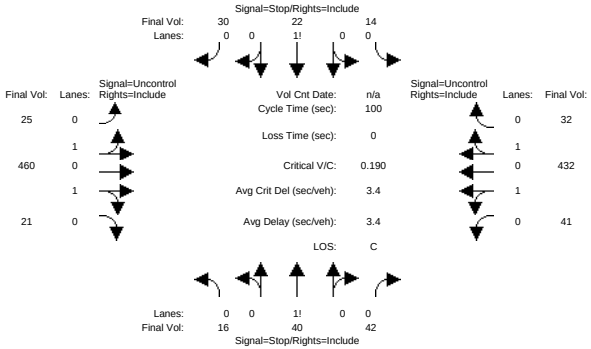
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   23    25     6   16    17    21  458    14    34  369    16
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             912
Minor Approach Volume:           62
Minor Approach Volume Threshold: 317
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                     Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      16   40    42    14   22    11    15  451    21    41  414    32
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   16   40    42    14   22    11    15  451    21    41  414    32
Added Vol:      0    0     0     0    0    19    10    9     0     0   18     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   16   40    42    14   22    30    25  460    21    41  432    32
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    16   40    42    14   22    30    25  460    21    41  432    32
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   16   40    42    14   22    30    25  460    21    41  432    32
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  830 1067   241   830 1061   232   464 xxxx xxxxx   481 xxxx xxxxx
Potent Cap.:  266  224   767   266  226   776  1108 xxxx xxxxx  1092 xxxx xxxxx
Move Cap.:    225  210   767   205  212   776  1108 xxxx xxxxx  1092 xxxx xxxxx
Volume/Cap:  0.07 0.19  0.05  0.07 0.10  0.04  0.02 xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.7 xxxx xxxxx   2.9 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  310 xxxxx  xxxx  313 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.3 xxxxx xxxxx  0.8 xxxxx   0.1 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 21.9 xxxxx xxxxx 19.5 xxxxx   8.3 xxxx xxxxx   8.4 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      21.9             19.5           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   40    42    14   22    30    25  460    21    41  432    32
ApproachDel:      21.9             19.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=98]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1175]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=66]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1175]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

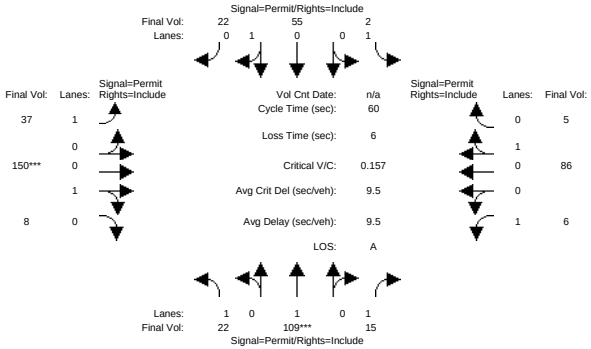
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   40    42    14   22    30    25  460    21    41  432    32
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1011
Minor Approach Volume:           98
Minor Approach Volume Threshold: 281
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1041: Main St / Martin Luther King Wy



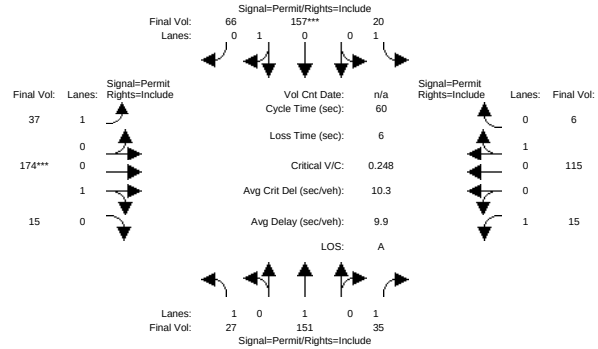
Street Name:	Main Street									Martin Luther King Way							
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	22		106		15	2		54		22	37		150		8	6		86		5
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	22		106		15	2		54		22	37		150		8	6		86		5
Added Vol:	0		3		0	0		1		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	22		109		15	2		55		22	37		150		8	6		86		5
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	22		109		15	2		55		22	37		150		8	6		86		5
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	22		109		15	2		55		22	37		150		8	6		86		5
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	22		109		15	2		55		22	37		150		8	6		86		5
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.71		1.00		0.85	0.68		0.96		0.96	0.70		0.99		0.99	0.65		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.71		0.29	1.00		0.95		0.05	1.00		0.95		0.05
Final Sat.:	1341		1900		1615	1298		1299		520	1322		1789		95	1237		1781		104
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.06		0.01	0.00		0.04		0.04	0.03		0.08		0.08	0.00		0.05		0.05
Crit Moves:			****										****							
Green/Cycle:	0.37		0.37		0.37	0.37		0.37		0.37	0.53		0.53		0.53	0.53		0.53		0.53
Volume/Cap:	0.04		0.16		0.03	0.00		0.12		0.12	0.05		0.16		0.16	0.01		0.09		0.09
Delay/Veh:	12.3		12.9		12.2	12.1		12.7		12.7	6.7		7.2		7.2	6.5		6.9		6.9
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	12.3		12.9		12.2	12.1		12.7		12.7	6.7		7.2		7.2	6.5		6.9		6.9
LOS by Move:	B		B		B	B		B		B	A		A		A	A		A		A
HCM2kAvgQ:	7		35		5	1		25		25	8		36		36	1		21		21

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1041: Main St / Martin Luther King Wy



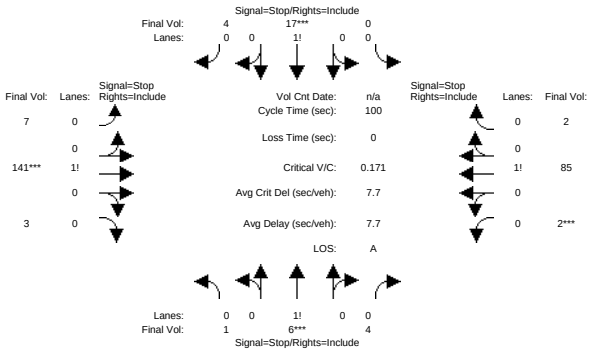
Street Name:	Main Street									Martin Luther King Way							
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	27		150		35	20		154		66	37		174		15	15		115		6
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	27		150		35	20		154		66	37		174		15	15		115		6
Added Vol:	0		1		0	0		3		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	27		151		35	20		157		66	37		174		15	15		115		6
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	27		151		35	20		157		66	37		174		15	15		115		6
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	27		151		35	20		157		66	37		174		15	15		115		6
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	27		151		35	20		157		66	37		174		15	15		115		6
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.59		1.00		0.85	0.66		0.96		0.96	0.68		0.99		0.99	0.60		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.70		0.30	1.00		0.92		0.08	1.00		0.95		0.05
Final Sat.:	1112		1900		1615	1245		1279		538	1283		1728		149	1142		1793		94
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.08		0.02	0.02		0.12		0.12	0.03		0.10		0.10	0.01		0.06		0.06
Crit Moves:								****					****							
Green/Cycle:	0.49		0.49		0.49	0.49		0.49		0.49	0.41		0.41		0.41	0.41		0.41		0.41
Volume/Cap:	0.05		0.16		0.04	0.03		0.25		0.25	0.07		0.25		0.25	0.03		0.16		0.16
Delay/Veh:	7.9		8.4		7.9	7.8		8.9		8.9	11.0		12.0		12.0	10.8		11.4		11.4
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	7.9		8.4		7.9	7.8		8.9		8.9	11.0		12.0		12.0	10.8		11.4		11.4
LOS by Move:	A		A		A	A		A		A	B		B		B	B		B		B
HCM2kAvgQ:	7		39		9	5		62		62	10		55		55	5		37		37

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1042: 18th St / Martin Luther King Wy

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Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1     2     4     0     1     4     7   141     3     2    85     2
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    1     2     4     0     1     4     7   141     3     2    85     2
Added Vol:      0     4     0     0    16     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    1     6     4     0    17     4     7   141     3     2    85     2
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     1     6     4     0    17     4     7   141     3     2    85     2
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    1     6     4     0    17     4     7   141     3     2    85     2
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    1     6     4     0    17     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.09  0.55  0.36  0.00  0.81  0.19  0.05  0.93  0.02  0.02  0.96  0.02
Final Sat.:    74   442   295     0   646   152    41   822    17    20   829    20
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01  0.01  0.01  xxxx  0.03  0.03  0.17  0.17  0.17  0.10  0.10  0.10
Crit Moves:        ****              ****              ****        ****
Delay/Veh:    7.3   7.3   7.3   0.0   7.4   7.4   7.9   7.9   7.9   7.6   7.6   7.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.3   7.3   7.3   0.0   7.4   7.4   7.9   7.9   7.9   7.6   7.6   7.6
LOS by Move:    A     A     A     *     A     A     A     A     A     A     A     A
ApproachDel:        7.3               7.4               7.9               7.6
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.3               7.4               7.9               7.6
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   0.3   0.3   0.3   0.6   0.6   0.6   5.1   5.1   5.1   2.8   2.8   2.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    1     6     4     0    17     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             240
Minor Approach Volume:           21
Minor Approach Volume Threshold: 600
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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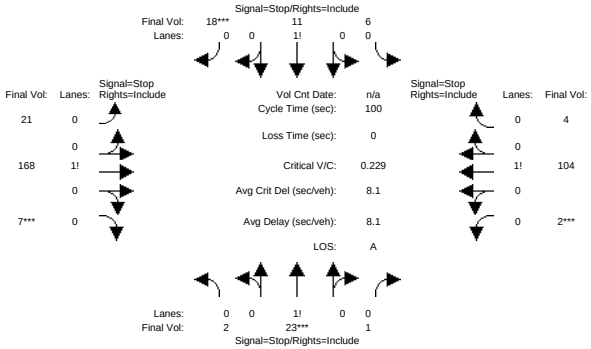
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1042: 18th St / Martin Luther King Wy



Street Name:	18th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	2	7	1	6	7	18	21	168	7	2	104	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	7	1	6	7	18	21	168	7	2	104	4
Added Vol:	0	16	0	0	4	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	23	1	6	11	18	21	168	7	2	104	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	23	1	6	11	18	21	168	7	2	104	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	23	1	6	11	18	21	168	7	2	104	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	23	1	6	11	18	21	168	7	2	104	4
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.08	0.88	0.04	0.17	0.31	0.52	0.11	0.86	0.03	0.02	0.94	0.04
Final Sat.:	57	656	29	135	247	405	92	734	31	15	793	31
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.04	0.04	0.04	0.23	0.23	0.23	0.13	0.13	0.13
Crit Moves:		****				****			****	****		
Delay/Veh:	7.7	7.7	7.7	7.5	7.5	7.5	8.3	8.3	8.3	7.8	7.8	7.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.7	7.7	7.7	7.5	7.5	7.5	8.3	8.3	8.3	7.8	7.8	7.8
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		7.7			7.5			8.3			7.8	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.7			7.5			8.3			7.8	
LOS by Appr:		A			A			A			A	
AllWayAvgQ:	0.8	0.8	0.8	1.0	1.0	1.0	7.1	7.1	7.1	3.6	3.6	3.6

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1042 18th St / Martin Luther King Wy

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L -	T -	R		L -	T -	R		L -	T -	R		L -	T -	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0	0	0	1!	0	0	0	1!	0	0	0	1!	0
Initial Vol:	2	23		1	6	11		18	21	168		7	2	104		4

Major Street Volume: 306
Minor Approach Volume: 35
Minor Approach Volume Threshold: 535

SIGNAL WARRANT DISCLAIMER

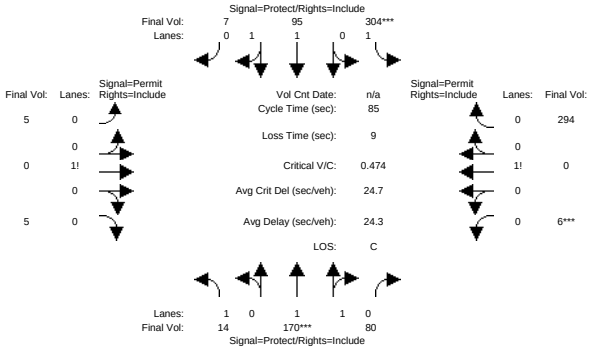
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1043: 16th St / H St



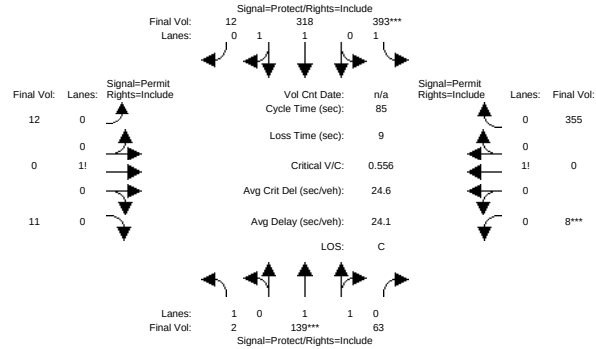
Street Name:	16th Street									H Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	14	142	80		293	84	7		5	0	5		6	0	286	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	14	142	80		293	84	7		5	0	5		6	0	286	
Added Vol:	0	28	0		11	11	0		0	0	0		0	0	8	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	14	170	80		304	95	7		5	0	5		6	0	294	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	14	170	80		304	95	7		5	0	5		6	0	294	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	14	170	80		304	95	7		5	0	5		6	0	294	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	14	170	80		304	95	7		5	0	5		6	0	294	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.90	0.90		0.95	0.94	0.94		0.84	1.00	0.84		0.87	1.00	0.87	
Lanes:	1.00	1.36	0.64		1.00	1.86	0.14		0.50	0.00	0.50		0.02	0.00	0.98	
Final Sat.:	1805	2337	1100		1805	3329	245		799	0	799		33	0	1611	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.07	0.07		0.17	0.03	0.03		0.01	0.00	0.01		0.18	0.00	0.18	
Crit Moves:		****			****								****			
Green/Cycle:	0.21	0.15	0.15		0.36	0.30	0.30		0.39	0.00	0.39		0.39	0.00	0.39	
Volume/Cap:	0.04	0.47	0.47		0.47	0.10	0.10		0.02	0.00	0.02		0.47	0.00	0.47	
Delay/Veh:	26.8	33.5	33.5		21.8	21.5	21.5		16.2	0.0	16.2		20.2	0.0	20.2	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	26.8	33.5	33.5		21.8	21.5	21.5		16.2	0.0	16.2		20.2	0.0	20.2	
LOS by Move:	C	C	C		C	C	C		B	A	B		C	A	C	
HCM2kAvgQ:	8	92	92		161	25	25		4	0	4		155	0	155	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1043: 16th St / H St



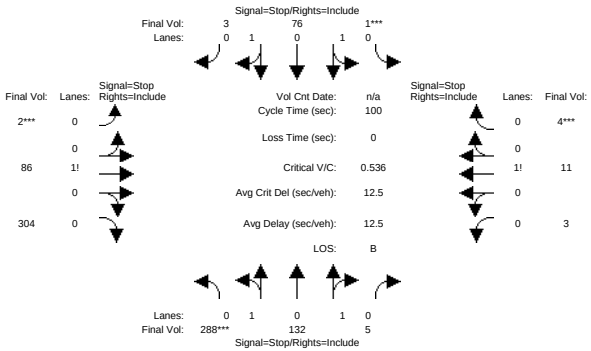
Street Name:	16th Street									H Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	2	122	63		378	297	12		12	0	11		8	0	350	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	2	122	63		378	297	12		12	0	11		8	0	350	
Added Vol:	0	17	0		15	21	0		0	0	0		0	0	5	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	2	139	63		393	318	12		12	0	11		8	0	355	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	2	139	63		393	318	12		12	0	11		8	0	355	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	2	139	63		393	318	12		12	0	11		8	0	355	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	2	139	63		393	318	12		12	0	11		8	0	355	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.91	0.91		0.95	0.95	0.95		0.79	1.00	0.79		0.86	1.00	0.86	
Lanes:	1.00	1.38	0.62		1.00	1.93	0.07		0.52	0.00	0.48		0.02	0.00	0.98	
Final Sat.:	1805	2367	1073		1805	3461	131		787	0	721		36	0	1606	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.06	0.06		0.22	0.09	0.09		0.02	0.00	0.02		0.22	0.00	0.22	
Crit Moves:		****			****								****			
Green/Cycle:	0.21	0.12	0.12		0.39	0.30	0.30		0.39	0.00	0.39		0.39	0.00	0.39	
Volume/Cap:	0.01	0.50	0.50		0.57	0.31	0.31		0.04	0.00	0.04		0.57	0.00	0.57	
Delay/Veh:	26.8	36.1	36.1		21.6	23.4	23.4		16.0	0.0	16.0		21.4	0.0	21.4	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	26.8	36.1	36.1		21.6	23.4	23.4		16.0	0.0	16.0		21.4	0.0	21.4	
LOS by Move:	C	D	D		C	C	C		B	A	B		C	A	C	
HCM2kAvgQ:	1	82	82		214	91	91		9	0	9		199	0	199	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     280  129     5     1   75     3     2   86   293     3   11     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  280  129     5     1   75     3     2   86   293     3   11     4
Added Vol:      8    3     0     0    1     0     0    0    11     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  288  132     5     1   76     3     2   86   304     3   11     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   288  132     5     1   76     3     2   86   304     3   11     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  288  132     5     1   76     3     2   86   304     3   11     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  288  132     5     1   76     3     2   86   304     3   11     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.98  0.02  0.02 1.90  0.08  0.01 0.22  0.77  0.17 0.61  0.22
Final Sat.:   573  609    15    14 1057    42     4  161   567    97  356   129
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.50 0.22  0.34  0.07 0.07  0.07  0.54 0.54  0.54  0.03 0.03  0.03
Crit Moves:  ****             ****             ****                            ****
Delay/Veh:   14.5  9.8   9.8   9.2  9.2   9.1  12.7 12.7  12.7   8.8  8.8   8.8
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  14.5  9.8   9.8   9.2  9.2   9.1  12.7 12.7  12.7   8.8  8.8   8.8
LOS by Move:    B    A     A     A    A     A     B    B     B     A    A     A
ApproachDel:      13.0              9.2             12.7              8.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       13.0              9.2             12.7              8.8
LOS by Appr:         B                A                B                A
AllWayAvgQ:  22.7  6.5   6.5   1.7  1.7   1.7  25.3 25.3  25.3   0.7  0.7   0.7
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  288  132     5    1   76     3    2   86   304    3   11     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             505
Minor Approach Volume:           392
Minor Approach Volume Threshold: 520
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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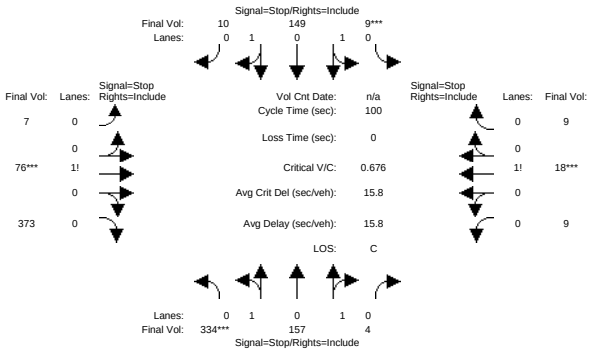
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     329   156     4     9   146    10     7    76   358     9    18     9
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:  329   156     4     9   146    10     7    76   358     9    18     9
Added Vol:      5     1     0     0     3     0     0     0    15     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  334   157     4     9   149    10     7    76   373     9    18     9
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:   334   157     4     9   149    10     7    76   373     9    18     9
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  334   157     4     9   149    10     7    76   373     9    18     9
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:  334   157     4     9   149    10     7    76   373     9    18     9
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       1.00  0.98  0.02  0.11  1.77  0.12  0.01  0.17  0.82  0.25  0.50  0.25
Final Sat.:   535   569     9    55   914    62    10   112   552   127   254   127
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.62  0.28  0.43  0.16  0.16  0.16  0.68  0.68  0.68  0.07  0.07  0.07
Crit Moves:  ****              ****                    ****              ****
Delay/Veh:   19.0  11.0  11.0  10.5  10.4  10.3  17.6  17.6  17.6   9.8   9.8   9.8
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  19.0  11.0  11.0  10.5  10.4  10.3  17.6  17.6  17.6   9.8   9.8   9.8
LOS by Move:    C     B     B     B     B     B     C     C     C     A     A     A
ApproachDel:      16.4             10.4             17.6              9.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       16.4             10.4             17.6              9.8
LOS by Appr:         C                B                C                A
AllWayAvgQ:  36.2   9.0   9.0   4.3   4.1   4.1  43.9  43.9  43.9   1.5   1.5   1.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
```



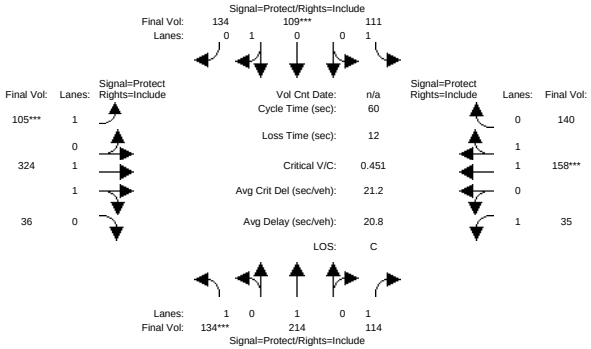
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  334  157     4    9  149    10    7   76  373    9   18     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             663
Minor Approach Volume:           456
Minor Approach Volume Threshold: 426
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1046: Main St / G St



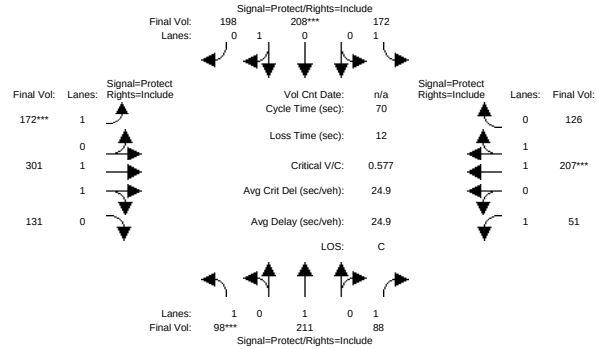
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	214	113	105	109	128	105	323	36	35	158	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	214	113	105	109	128	105	323	36	35	158	129
Added Vol:	0	0	1	6	0	6	0	1	0	0	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	214	114	111	109	134	105	324	36	35	158	140
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	134	214	114	111	109	134	105	324	36	35	158	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	214	114	111	109	134	105	324	36	35	158	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	134	214	114	111	109	134	105	324	36	35	158	140
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.92	0.92	0.95	0.94	0.94	0.95	0.88	0.88
Lanes:	1.00	1.00	1.00	1.00	0.45	0.55	1.00	1.80	0.20	1.00	1.06	0.94
Final Sat.:	1805	1900	1615	1805	782	961	1805	3200	356	1805	1780	1577
Capacity Analysis Module:												
Vol/Sat:	0.07	0.11	0.07	0.06	0.14	0.14	0.06	0.10	0.10	0.02	0.09	0.09
Crit Moves:	****				****		****				****	
Green/Cycle:	0.16	0.28	0.28	0.20	0.31	0.31	0.13	0.19	0.19	0.13	0.20	0.20
Volume/Cap:	0.45	0.40	0.25	0.32	0.45	0.45	0.45	0.53	0.53	0.14	0.45	0.45
Delay/Veh:	23.7	18.1	17.1	21.2	17.2	17.2	25.6	22.6	22.6	23.2	21.7	21.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.7	18.1	17.1	21.2	17.2	17.2	25.6	22.6	22.6	23.2	21.7	21.7
LOS by Move:	C	B	B	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	70	89	45	51	101	101	45	79	79	14	63	63

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1046: Main St / G St



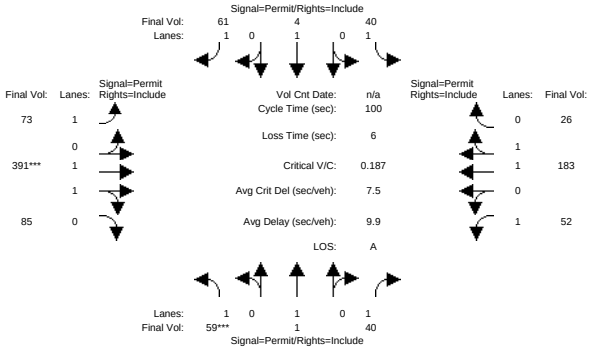
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	98	211	88	161	208	191	172	301	131	50	205	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	211	88	161	208	191	172	301	131	50	205	120
Added Vol:	0	0	0	11	0	7	0	0	0	1	2	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	211	88	172	208	198	172	301	131	51	207	126
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	211	88	172	208	198	172	301	131	51	207	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	211	88	172	208	198	172	301	131	51	207	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	211	88	172	208	198	172	301	131	51	207	126
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.91	0.91	0.95	0.90	0.90
Lanes:	1.00	1.00	1.00	1.00	0.51	0.49	1.00	1.39	0.61	1.00	1.24	0.76
Final Sat.:	1805	1900	1615	1805	902	859	1805	2402	1045	1805	2116	1288
Capacity Analysis Module:												
Vol/Sat:	0.05	0.11	0.05	0.10	0.23	0.23	0.10	0.13	0.13	0.03	0.10	0.10
Crit Moves:	****				****		****				****	
Green/Cycle:	0.10	0.29	0.29	0.20	0.40	0.40	0.16	0.20	0.20	0.14	0.17	0.17
Volume/Cap:	0.54	0.38	0.19	0.47	0.58	0.58	0.58	0.64	0.64	0.21	0.58	0.58
Delay/Veh:	33.3	20.2	18.7	25.4	17.8	17.8	30.0	28.0	28.0	27.3	28.4	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.3	20.2	18.7	25.4	17.8	17.8	30.0	28.0	28.0	27.3	28.4	28.4
LOS by Move:	C	C	B	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	72	97	38	95	188	188	86	114	114	24	88	88

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1047: 18th St / G St



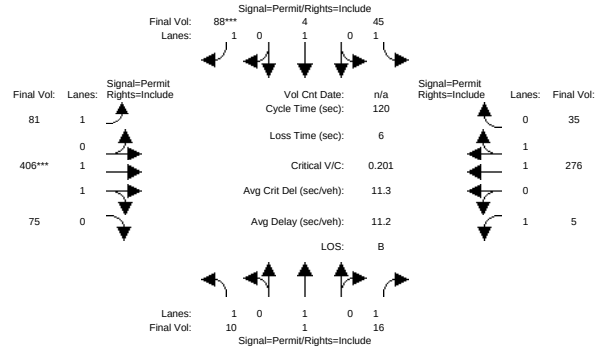
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	59	1	40	40	4	60	70	385	85	52	172	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	1	40	40	4	60	70	385	85	52	172	26
Added Vol:	0	0	0	0	0	1	3	6	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	59	1	40	40	4	61	73	391	85	52	183	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	1	40	40	4	61	73	391	85	52	183	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	1	40	40	4	61	73	391	85	52	183	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	59	1	40	40	4	61	73	391	85	52	183	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.61	0.92	0.92	0.47	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.64	0.36	1.00	1.75	0.25
Final Sat.:	1455	1900	1615	1459	1900	1615	1165	2885	627	885	3101	441
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.02	0.03	0.00	0.04	0.06	0.14	0.14	0.06	0.06	0.06
Crit Moves:	****							****				
Green/Cycle:	0.22	0.22	0.22	0.22	0.22	0.22	0.72	0.72	0.72	0.72	0.72	0.72
Volume/Cap:	0.19	0.00	0.11	0.13	0.01	0.17	0.09	0.19	0.19	0.08	0.08	0.08
Delay/Veh:	32.3	30.7	31.6	31.7	30.8	32.1	4.1	4.5	4.5	4.1	4.1	4.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	30.7	31.6	31.7	30.8	32.1	4.1	4.5	4.5	4.1	4.1	4.1
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	39	1	26	26	2	40	16	60	60	13	25	25

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1047: 18th St / G St



Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	1	16	45	4	85	80	395	75	5	270	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1	16	45	4	85	80	395	75	5	270	35
Added Vol:	0	0	0	0	0	3	1	11	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	1	16	45	4	88	81	406	75	5	276	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	1	16	45	4	88	81	406	75	5	276	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1	16	45	4	88	81	406	75	5	276	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1	16	45	4	88	81	406	75	5	276	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.55	0.93	0.93	0.45	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.69	0.31	1.00	1.77	0.23
Final Sat.:	1455	1900	1615	1459	1900	1615	1051	2977	550	863	3149	399
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.03	0.00	0.05	0.08	0.14	0.14	0.01	0.09	0.09
Crit Moves:						****		****				
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.68	0.68	0.68	0.68	0.68	0.68
Volume/Cap:	0.03	0.00	0.04	0.11	0.01	0.20	0.11	0.20	0.20	0.01	0.13	0.13
Delay/Veh:	32.1	31.9	32.2	33.0	31.9	33.9	6.8	7.2	7.2	6.2	6.8	6.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.1	31.9	32.2	33.0	31.9	33.9	6.8	7.2	7.2	6.2	6.8	6.8
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	7	1	11	31	3	63	25	83	83	2	52	52

Note: Queue reported is the distance per lane in feet.

MERCED STATION ANALYSIS

INTERSECTION

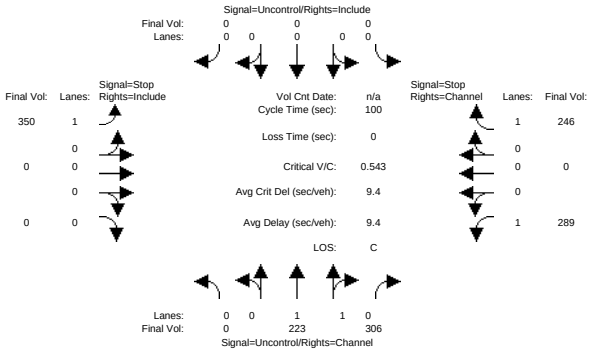
EXISTING WITH PROJECT_OPTION-B CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1001: 16th St / SR-59

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Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  194   298     0    0     0   350    0     0   272    0   246
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  194   298     0    0     0   350    0     0   272    0   246
Added Vol:      0   29     8     0    0     0     0    0     0    17    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  223   306     0    0     0   350    0     0   289    0   246
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  223   306     0    0     0   350    0     0   289    0   246
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  223   306     0    0     0   350    0     0   289    0   246
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   112 xxxx xxxxx   376 xxxx   112
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   871 xxxx xxxxx   585 xxxx   947
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   645 xxxx xxxxx   585 xxxx   947
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.54 xxxx  xxxx  0.49 xxxx  0.26
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  81.8 xxxx xxxxx  68.2 xxxx  26.0
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  17.0 xxxx xxxxx  17.0 xxxx  10.1
LOS by Move:    *    *     *     *    *     *     C    *     *     C    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             17.0            13.8
ApproachLOS:         *                *                C               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  223   306     0    0     0   350    0     0   289    0   246
ApproachDel:    xxxxxx           xxxxxx             17.0            13.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=350]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1414]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=535]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1414]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  223   306     0    0     0   350    0     0   289    0   246
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             529
Minor Approach Volume:           535
Minor Approach Volume Threshold: 648
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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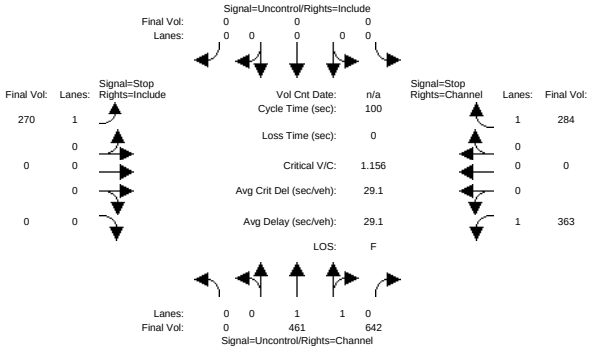
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1001: 16th St / SR-59




```
Street Name:            16th Street                     SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  427   625     0    0     0   270    0     0   355    0   284
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  427   625     0    0     0   270    0     0   355    0   284
Added Vol:      0   34    17     0    0     0     0    0     0     8    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  461   642     0    0     0   270    0     0   363    0   284
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  461   642     0    0     0   270    0     0   363    0   284
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  461   642     0    0     0   270    0     0   363    0   284
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   231 xxxx xxxxx   782 xxxx   231
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   729 xxxx xxxxx   314 xxxx   814
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   474 xxxx xxxxx   314 xxxx   814
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.57 xxxx  xxxx  1.16 xxxx  0.35
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  87.2 xxxx xxxxx   378 xxxx  39.3
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  22.1 xxxx xxxxx 136.2 xxxx  11.8
LOS by Move:    *    *     *     *    *     *     C    *     *     F    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             22.1            81.6
ApproachLOS:         *                *                C               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  461   642     0    0     0   270    0     0   363    0   284
ApproachDel:    xxxxxx           xxxxxx             22.1            81.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=270]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2020]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=14.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=647]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2020]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

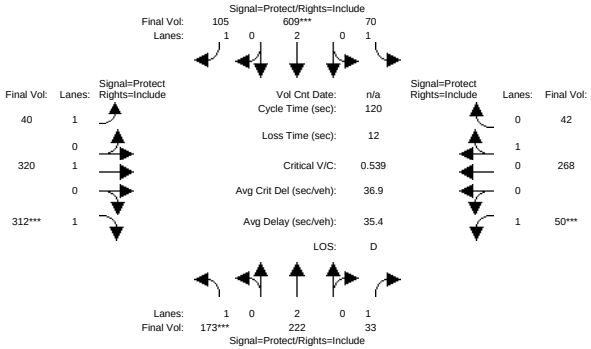
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  461   642     0    0     0   270    0     0   363    0   284
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1103
Minor Approach Volume:           647
Minor Approach Volume Threshold: 332
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

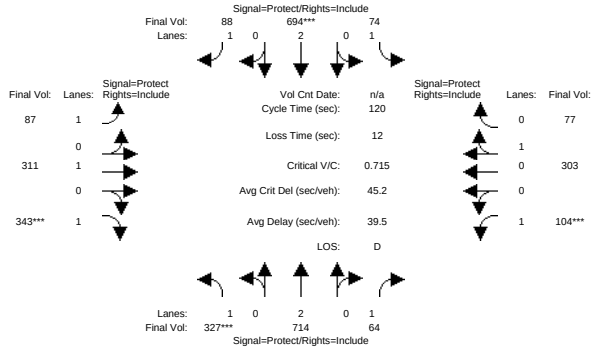



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     173  222    33    70  609   105    40  312   312    50  251    42
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  173  222    33    70  609   105    40  312   312    50  251    42
Added Vol:      0    0     0     0    0     0     0    8     0     0   17     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  173  222    33    70  609   105    40  320   312    50  268    42
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   173  222    33    70  609   105    40  320   312    50  268    42
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  173  222    33    70  609   105    40  320   312    50  268    42
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  173  222    33    70  609   105    40  320   312    50  268    42
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.98  0.98
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.86  0.14
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1610   252
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.06  0.02  0.04 0.17  0.07  0.02 0.17  0.19  0.03 0.17  0.17
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.18 0.29  0.29  0.20 0.31  0.31  0.11 0.36  0.36  0.06 0.31  0.31
Volume/Cap:  0.54 0.21  0.07  0.19 0.54  0.21  0.21 0.47  0.54  0.47 0.54  0.54
Delay/Veh:   47.0 32.7  31.3  40.2 34.9  30.7  49.4 30.5  32.0  58.1 35.7  35.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  47.0 32.7  31.3  40.2 34.9  30.7  49.4 30.5  32.0  58.1 35.7  35.7
LOS by Move:    D    C     C     D    C     C     D    C     C     E    D     D
HCM2kAvgQ:    143   78    21    54  250    71    37  229   237    61  244   244
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

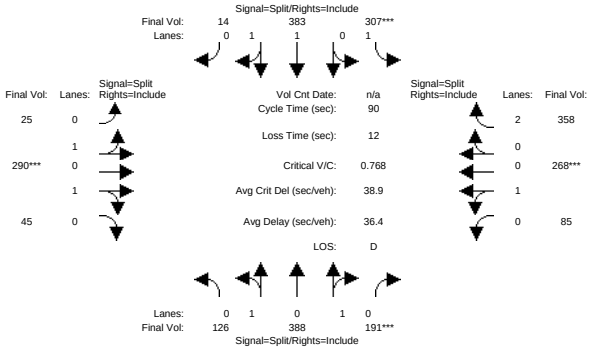



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     327  714    64    74  694    88    87  294   343   104  295    77
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  327  714    64    74  694    88    87  294   343   104  295    77
Added Vol:      0    0     0     0    0     0     0   17     0     0    8     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  327  714    64    74  694    88    87  311   343   104  303    77
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   327  714    64    74  694    88    87  311   343   104  303    77
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  327  714    64    74  694    88    87  311   343   104  303    77
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  327  714    64    74  694    88    87  311   343   104  303    77
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.97  0.97
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.80  0.20
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1470   373
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.20  0.04  0.04 0.19  0.05  0.05 0.16  0.21  0.06 0.21  0.21
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.25 0.40  0.40  0.12 0.27  0.27  0.08 0.30  0.30  0.08 0.29  0.29
Volume/Cap:  0.71 0.49  0.10  0.34 0.71  0.20  0.58 0.55  0.71  0.71 0.70  0.70
Delay/Veh:   46.2 26.9  22.3  49.5 42.3  34.1  58.5 36.6  42.7  69.3 41.7  41.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  46.2 26.9  22.3  49.5 42.3  34.1  58.5 36.6  42.7  69.3 41.7  41.7
LOS by Move:    D    C     C     D    D     C     E    D     D     E    D     D
HCM2kAvgQ:    271  245    34    69  331    63   100  247   311   131  334   334
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

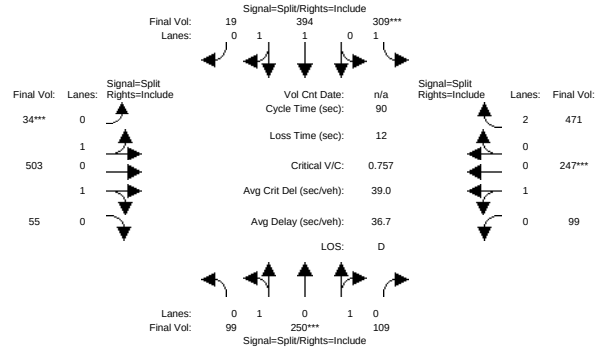



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  144   146  304  367    12   24  274    45   85  260   348
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   71  144   146  304  367    12   24  274    45   85  260   348
Added Vol:     55  244    45    3   16     2    1   16     0    0    8    10
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  126  388   191  307  383    14   25  290    45   85  268   358
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  126  388   191  307  383    14   25  290    45   85  268   358
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol: 126  388   191  307  383    14   25  290    45   85  268   358
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume: 126  388   191  307  383    14   25  290    45   85  268   358
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment: 0.90 0.90  0.90 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:      0.36 1.10  0.54 1.00 1.93  0.07 0.14 1.61  0.25 0.24 0.76  2.00
Final Sat.:  613 1888   929 1805 3465   127  245 2844   441  452 1425  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.21 0.21  0.21 0.17 0.11  0.11 0.10 0.10  0.10 0.19 0.19  0.13
Crit Moves:             ****  ****            ****            ****
Green/Cycle: 0.27 0.27  0.27 0.22 0.22  0.22 0.13 0.13  0.13 0.24 0.24  0.24
Volume/Cap:  0.77 0.77  0.77 0.77 0.50  0.50 0.77 0.77  0.77 0.77 0.77  0.51
Delay/Veh:   34.4 34.4  34.4 41.6 31.2  31.2 45.2 45.2  45.2 39.3 39.3  30.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  34.4 34.4  34.4 41.6 31.2  31.2 45.2 45.2  45.2 39.3 39.3  30.0
LOS by Move:    C    C     C    D    C     C    D    D     D    D    D     C
HCM2kAvgQ:    283  283   283  247  138   138  176  176   176  274  274   135
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

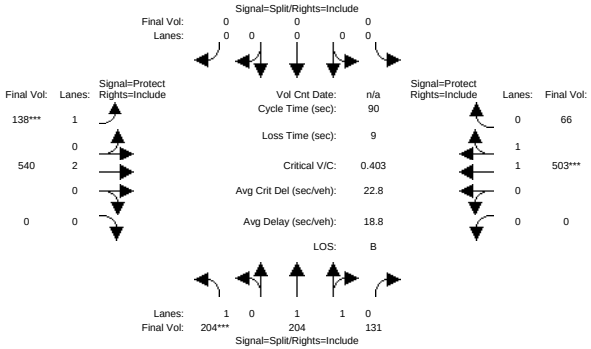



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      65  108    98  307  386    18   32  450    55   99  242   451
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   65  108    98  307  386    18   32  450    55   99  242   451
Added Vol:     34  142    11    2    8     1    2   53     0    0    5    20
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   99  250   109  309  394    19   34  503    55   99  247   471
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   99  250   109  309  394    19   34  503    55   99  247   471
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  99  250   109  309  394    19   34  503    55   99  247   471
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  99  250   109  309  394    19   34  503    55   99  247   471
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment: 0.91 0.91  0.91 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:      0.43 1.09  0.48 1.00 1.91  0.09 0.11 1.70  0.19 0.29 0.71  2.00
Final Sat.:  744 1879   819 1805 3420   165  204 3015   330  536 1337  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.13 0.13  0.13 0.17 0.12  0.12 0.17 0.17  0.17 0.18 0.18  0.17
Crit Moves:         ****        ****            ****            ****
Green/Cycle: 0.18 0.18  0.18 0.23 0.23  0.23 0.22 0.22  0.22 0.24 0.24  0.24
Volume/Cap:  0.76 0.76  0.76 0.76 0.51  0.51 0.76 0.76  0.76 0.76 0.76  0.68
Delay/Veh:   40.7 40.7  40.7 40.4 31.0  31.0 37.1 37.1  37.1 38.7 38.7  33.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  40.7 40.7  40.7 40.4 31.0  31.0 37.1 37.1  37.1 38.7 38.7  33.5
LOS by Move:    D    D     D    D    C     C    D    D     D    D    D     C
HCM2kAvgQ:    205  205   205  245  144   144  247  247   247  266  266   199
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

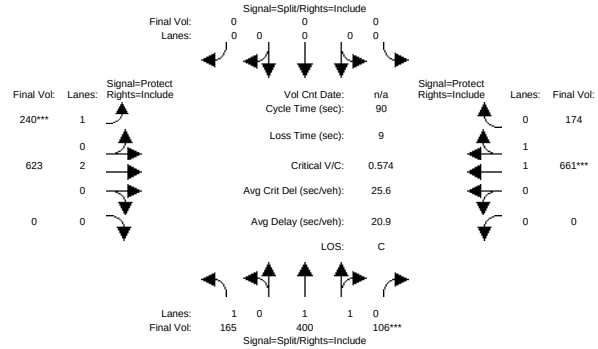



```
Street Name:    14th St - SR-99 NB Onramp                V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     202   77   131     0    0     0   127  476     0     0  486    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  202   77   131     0    0     0   127  476     0     0  486    46
Added Vol:      2  127     0     0    0     0    11   64     0     0   17    20
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  204  204   131     0    0     0   138  540     0     0  503    66
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   204  204   131     0    0     0   138  540     0     0  503    66
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  204  204   131     0    0     0   138  540     0     0  503    66
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  204  204   131     0    0     0   138  540     0     0  503    66
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.89  0.89  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.93  0.93
Lanes:       1.00 1.22  0.78  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.77  0.23
Final Sat.:  1615 2069  1328     0    0     0  1805 3610     0     0 3137   412
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.10  0.10  0.00 0.00  0.00  0.08 0.15  0.00  0.00 0.16  0.16
Crit Moves:  ****                             ****                    ****
Green/Cycle: 0.31 0.31  0.31  0.00 0.00  0.00  0.19 0.59  0.00  0.00 0.40  0.40
Volume/Cap:  0.40 0.31  0.31  0.00 0.00  0.00  0.40 0.25  0.00  0.00 0.40  0.40
Delay/Veh:   24.8 23.7  23.7   0.0  0.0   0.0  32.8  9.1   0.0   0.0 19.6  19.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.8 23.7  23.7   0.0  0.0   0.0  32.8  9.1   0.0   0.0 19.6  19.6
LOS by Move:    C    C     C     A    A     A     C    A     A     A    B     B
HCM2kAvgQ:    117   95    95     0    0     0    92   95     0     0  144   144
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1004: 14th St - SR-99 NB Onramp / V St




```
Street Name:    14th St - SR-99 NB Onramp                V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156  173   106     0    0     0   195  579     0     0  645   136
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  156  173   106     0    0     0   195  579     0     0  645   136
Added Vol:      9  227     0     0    0     0    45   44     0     0   16    38
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  165  400   106     0    0     0   240  623     0     0  661   174
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   165  400   106     0    0     0   240  623     0     0  661   174
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  165  400   106     0    0     0   240  623     0     0  661   174
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  165  400   106     0    0     0   240  623     0     0  661   174
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.92  0.92  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.92  0.92
Lanes:       1.00 1.58  0.42  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.58  0.42
Final Sat.:  1615 2765   733     0    0     0  1805 3610     0     0 2769   729
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.14  0.14  0.00 0.00  0.00  0.13 0.17  0.00  0.00 0.24  0.24
Crit Moves:             ****                    ****                    ****
Green/Cycle: 0.25 0.25  0.25  0.00 0.00  0.00  0.23 0.65  0.00  0.00 0.42  0.42
Volume/Cap:  0.41 0.57  0.57  0.00 0.00  0.00  0.57 0.27  0.00  0.00 0.57  0.57
Delay/Veh:   28.7 30.3  30.3   0.0  0.0   0.0  32.6  6.8   0.0   0.0 20.7  20.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  28.7 30.3  30.3   0.0  0.0   0.0  32.6  6.8   0.0   0.0 20.7  20.7
LOS by Move:    C    C     C     A    A     A     C    A     A     A    C     C
HCM2kAvgQ:    103  178   178     0    0     0   165   96     0     0  228   228
Note: Queue reported is the distance per lane in feet.
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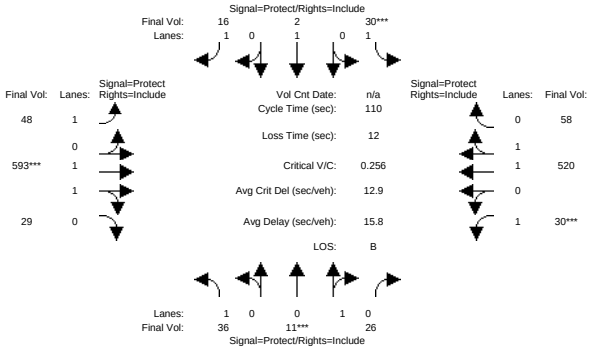
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1005: 15th St / V St



Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	36	11	26	30	2	16	48	529	29	30	484	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	11	26	30	2	16	48	529	29	30	484	58
Added Vol:	0	0	0	0	0	0	0	64	0	0	36	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	11	26	30	2	16	48	593	29	30	520	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	11	26	30	2	16	48	593	29	30	520	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	11	26	30	2	16	48	593	29	30	520	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	11	26	30	2	16	48	593	29	30	520	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.91	0.09	1.00	1.80	0.20
Final Sat.:	1805	506	1195	1805	1900	1615	1805	3418	167	1805	3199	357
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.02	0.00	0.01	0.03	0.17	0.17	0.02	0.16	0.16
Crit Moves:		****		****				****		****		
Green/Cycle:	0.06	0.09	0.09	0.06	0.09	0.09	0.21	0.67	0.67	0.06	0.53	0.53
Volume/Cap:	0.31	0.24	0.24	0.26	0.01	0.11	0.13	0.26	0.26	0.26	0.31	0.31
Delay/Veh:	50.7	47.3	47.3	50.2	45.5	46.2	35.7	7.2	7.2	50.2	14.7	14.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.7	47.3	47.3	50.2	45.5	46.2	35.7	7.2	7.2	50.2	14.7	14.7
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	37	34	34	30	2	14	31	107	107	23	137	137

Note: Queue reported is the distance per lane in feet.

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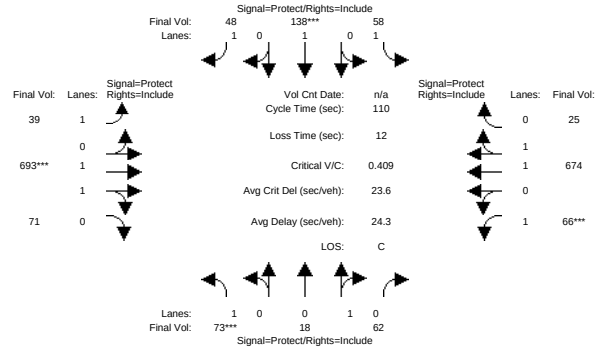
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1005: 15th St / V St



Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	73	18	62	58	138	48	39	649	71	66	620	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	18	62	58	138	48	39	649	71	66	620	25
Added Vol:	0	0	0	0	0	0	0	44	0	0	54	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	18	62	58	138	48	39	693	71	66	674	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	18	62	58	138	48	39	693	71	66	674	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	18	62	58	138	48	39	693	71	66	674	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	18	62	58	138	48	39	693	71	66	674	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	1.00	0.23	0.77	1.00	1.00	1.00	1.00	1.81	0.19	1.00	1.93	0.07
Final Sat.:	1805	378	1302	1805	1900	1615	1805	3229	331	1805	3463	128
Capacity Analysis Module:												
Vol/Sat:	0.04	0.05	0.05	0.03	0.07	0.03	0.02	0.21	0.21	0.04	0.19	0.19
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.16	0.16	0.11	0.18	0.18	0.15	0.52	0.52	0.09	0.46	0.46
Volume/Cap:	0.41	0.29	0.29	0.28	0.41	0.17	0.14	0.41	0.41	0.41	0.42	0.42
Delay/Veh:	48.1	41.1	41.1	45.4	40.9	38.6	40.7	16.0	16.0	49.0	19.9	19.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.1	41.1	41.1	45.4	40.9	38.6	40.7	16.0	16.0	49.0	19.9	19.9
LOS by Move:	D	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	69	64	64	50	110	36	27	199	199	50	196	196

Note: Queue reported is the distance per lane in feet.

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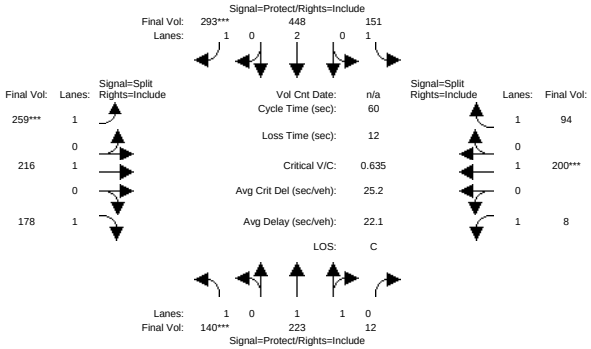
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1006: 16th St / V St



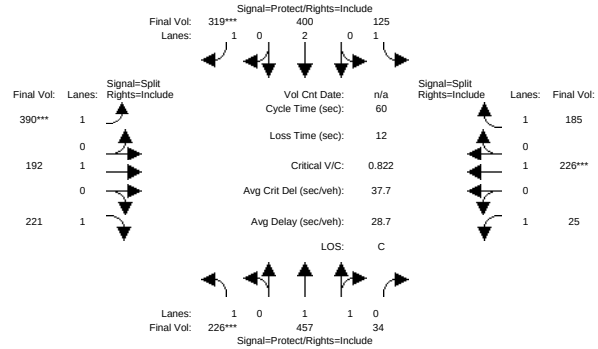
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	111	187	9	150	434	291	259	194	137	7	194	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	111	187	9	150	434	291	259	194	137	7	194	94
Added Vol:	29	36	3	1	14	2	0	22	41	1	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	223	12	151	448	293	259	216	178	8	200	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	223	12	151	448	293	259	216	178	8	200	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	223	12	151	448	293	259	216	178	8	200	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	223	12	151	448	293	259	216	178	8	200	94
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.90	0.10	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3398	183	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.07	0.07	0.08	0.12	0.18	0.14	0.11	0.11	0.00	0.11	0.06
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.24	0.24	0.17	0.29	0.29	0.23	0.23	0.23	0.17	0.17	0.17
Volume/Cap:	0.64	0.27	0.27	0.50	0.43	0.64	0.64	0.50	0.49	0.03	0.63	0.35
Delay/Veh:	31.1	18.7	18.7	24.0	17.8	21.6	24.3	21.2	21.2	21.0	27.4	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.1	18.7	18.7	24.0	17.8	21.6	24.3	21.2	21.2	21.0	27.4	22.9
LOS by Move:	C	B	B	C	B	C	C	C	C	C	C	C
HCM2kAvgQ:	64	45	45	81	99	147	111	87	71	3	116	48

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1006: 16th St / V St



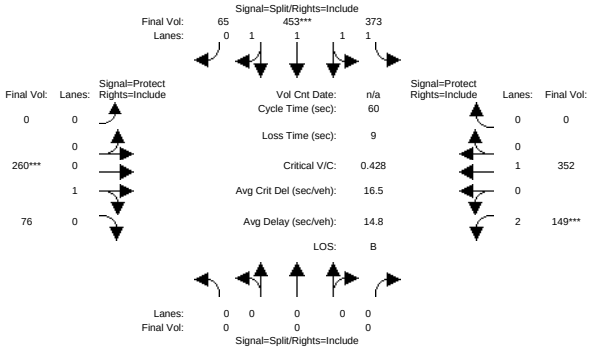
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	194	409	33	125	392	319	388	186	184	22	204	184
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	409	33	125	392	319	388	186	184	22	204	184
Added Vol:	32	48	1	0	8	0	2	6	37	3	22	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	226	457	34	125	400	319	390	192	221	25	226	185
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	226	457	34	125	400	319	390	192	221	25	226	185
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	226	457	34	125	400	319	390	192	221	25	226	185
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	226	457	34	125	400	319	390	192	221	25	226	185
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.86	0.14	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3326	247	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.14	0.14	0.07	0.11	0.20	0.22	0.10	0.14	0.01	0.12	0.11
Crit Moves:	****					****	****				****	
Green/Cycle:	0.15	0.22	0.22	0.16	0.23	0.23	0.25	0.25	0.25	0.17	0.17	0.17
Volume/Cap:	0.85	0.62	0.62	0.44	0.48	0.85	0.85	0.40	0.54	0.08	0.71	0.69
Delay/Veh:	47.1	22.4	22.4	24.1	20.3	38.7	35.4	19.1	20.8	21.2	31.1	30.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.1	22.4	22.4	24.1	20.3	38.7	35.4	19.1	20.8	21.2	31.1	30.8
LOS by Move:	D	C	C	C	C	D	D	B	C	C	C	C
HCM2kAvgQ:	117	108	108	66	98	220	192	72	88	11	142	119

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1007: 13th St / R St



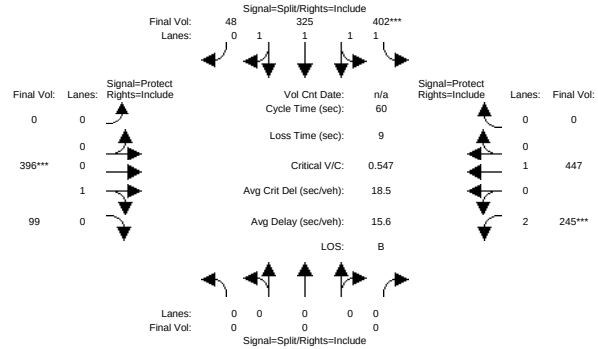
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	337	229	65	0	260	76	147	352	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	337	229	65	0	260	76	147	352	0
Added Vol:	0	0	0	36	224	0	0	0	0	2	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	373	453	65	0	260	76	149	352	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	373	453	65	0	260	76	149	352	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	373	453	65	0	260	76	149	352	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	373	453	65	0	260	76	149	352	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.84	0.84	0.84	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	1.67	2.04	0.29	0.00	0.77	0.23	2.00	1.00	0.00
Final Sat.:	0	0	0	2683	3258	468	0	1425	416	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.14	0.14	0.14	0.00	0.18	0.18	0.04	0.19	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.32	0.32	0.32	0.00	0.42	0.42	0.12	0.53	0.00
Volume/Cap:	0.00	0.00	0.00	0.44	0.44	0.44	0.00	0.44	0.44	0.36	0.35	0.00
Delay/Veh:	0.0	0.0	0.0	16.4	16.4	16.4	0.0	12.9	12.9	25.0	8.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.4	16.4	16.4	0.0	12.9	12.9	25.0	8.2	0.0
LOS by Move:	A	A	A	B	B	B	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	100	100	100	0	119	119	32	91	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1007: 13th St / R St



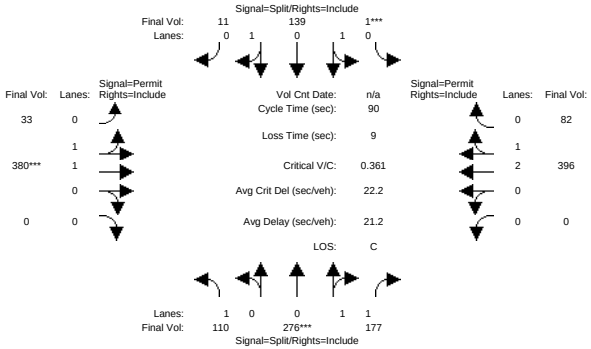
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	371	206	48	0	396	99	244	447	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	371	206	48	0	396	99	244	447	0
Added Vol:	0	0	0	31	119	0	0	0	0	1	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	402	325	48	0	396	99	245	447	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	402	325	48	0	396	99	245	447	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	402	325	48	0	396	99	245	447	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	402	325	48	0	396	99	245	447	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.83	0.83	0.83	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.74	0.26	0.00	0.80	0.20	2.00	1.00	0.00
Final Sat.:	0	0	0	3160	2753	407	0	1479	370	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.12	0.12	0.00	0.27	0.27	0.07	0.24	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.23	0.23	0.23	0.00	0.49	0.49	0.13	0.62	0.00
Volume/Cap:	0.00	0.00	0.00	0.55	0.51	0.51	0.00	0.55	0.55	0.55	0.38	0.00
Delay/Veh:	0.0	0.0	0.0	20.7	20.3	20.3	0.0	11.4	11.4	26.0	6.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	20.7	20.3	20.3	0.0	11.4	11.4	26.0	6.0	0.0
LOS by Move:	A	A	A	C	C	C	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	110	99	99	0	173	173	56	102	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

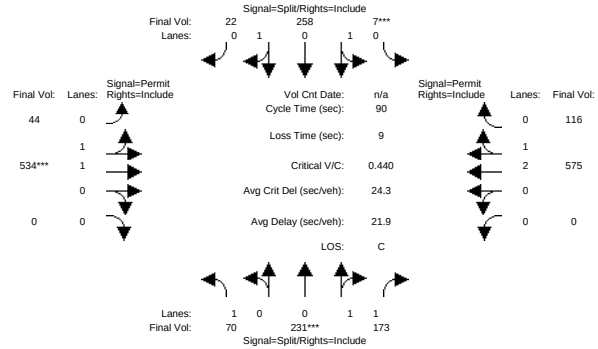



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     110  276   176    1   36    11   33  344     0    0  394    68
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  110  276   176    1   36    11   33  344     0    0  394    68
Added Vol:      0    0     1    0  103     0    0   36     0    0    2    14
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  110  276   177    1  139    11   33  380     0    0  396    82
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   110  276   177    1  139    11   33  380     0    0  396    82
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  110  276   177    1  139    11   33  380     0    0  396    82
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  110  276   177    1  139    11   33  380     0    0  396    82
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.85 0.85  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.01 1.84  0.15 0.16 1.84  0.00 0.00 2.49  0.51
Final Sat.:  1805 1788  1788   24 3287   260  258 2969     0    0 4185   867
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.15  0.10 0.04 0.04  0.04 0.13 0.13  0.00 0.00 0.09  0.09
Crit Moves:        ****        ****            ****
Green/Cycle: 0.43 0.43  0.43 0.12 0.12  0.12 0.35 0.35  0.00 0.00 0.35  0.35
Volume/Cap:  0.14 0.36  0.23 0.36 0.36  0.36 0.36 0.36  0.00 0.00 0.27  0.27
Delay/Veh:   15.8 17.6  16.4 37.1 37.1  37.1 21.7 21.7   0.0  0.0 20.8  20.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  15.8 17.6  16.4 37.1 37.1  37.1 21.7 21.7   0.0  0.0 20.8  20.8
LOS by Move:    B    B     B    D    D     D    C    C     A    A    C     C
HCM2kAvgQ:     46  131    78   59   59    59  107  107     0    0   83    83
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

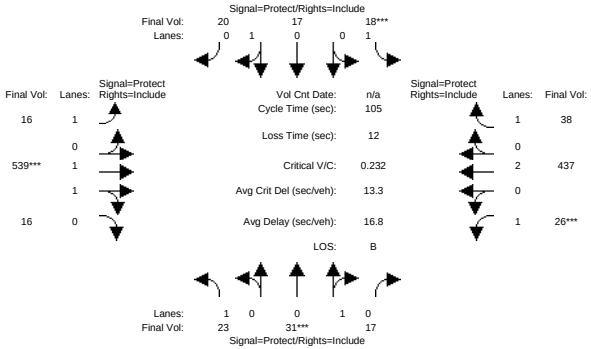



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      70  231   173    7   86    22   44  503     0    0  574    99
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   70  231   173    7   86    22   44  503     0    0  574    99
Added Vol:      0    0     0    0  172     0    0   31     0    0    1    17
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   70  231   173    7  258    22   44  534     0    0  575   116
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   70  231   173    7  258    22   44  534     0    0  575   116
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   70  231   173    7  258    22   44  534     0    0  575   116
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   70  231   173    7  258    22   44  534     0    0  575   116
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.82 0.82  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.05 1.80  0.15 0.15 1.85  0.00 0.00 2.50  0.50
Final Sat.:  1805 1778  1778   87 3203   273  237 2878     0    0 4208   849
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.13  0.10 0.08 0.08  0.08 0.19 0.19  0.00 0.00 0.14  0.14
Crit Moves:        ****        ****            ****
Green/Cycle: 0.30 0.30  0.30 0.18 0.18  0.18 0.42 0.42  0.00 0.00 0.42  0.42
Volume/Cap:  0.13 0.44  0.33 0.44 0.44  0.44 0.44 0.44  0.00 0.00 0.32  0.32
Delay/Veh:   23.4 26.0  24.9 33.1 33.1  33.1 18.7 18.7   0.0  0.0 17.5  17.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  23.4 26.0  24.9 33.1 33.1  33.1 18.7 18.7   0.0  0.0 17.5  17.5
LOS by Move:    C    C     C    C    C     C    B    B     A    A    B     B
HCM2kAvgQ:     36  136    97  103  103   103  144  144     0    0  112   112
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1009: 15th St / R St



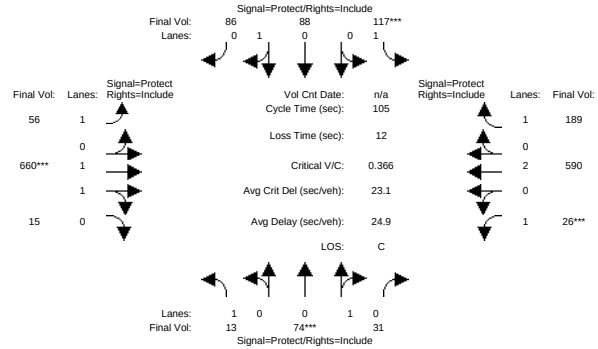
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	23	31	16	18	17	20	16	502	16	23	421	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	31	16	18	17	20	16	502	16	23	421	38
Added Vol:	0	0	1	0	0	0	0	37	0	3	16	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	23	31	17	18	17	20	16	539	16	26	437	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	31	17	18	17	20	16	539	16	26	437	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	31	17	18	17	20	16	539	16	26	437	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	31	17	18	17	20	16	539	16	26	437	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.65	0.35	1.00	0.46	0.54	1.00	1.94	0.06	1.00	2.00	1.00
Final Sat.:	1805	1162	637	1805	802	944	1805	3492	104	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.01	0.02	0.02	0.01	0.15	0.15	0.01	0.12	0.02
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.11	0.11	0.07	0.10	0.10	0.25	0.64	0.64	0.07	0.46	0.46
Volume/Cap:	0.17	0.24	0.24	0.15	0.20	0.20	0.04	0.24	0.24	0.22	0.27	0.05
Delay/Veh:	46.3	43.3	43.3	46.8	43.6	43.6	29.7	8.0	8.0	47.3	17.7	15.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.3	43.3	43.3	46.8	43.6	43.6	29.7	8.0	8.0	47.3	17.7	15.9
LOS by Move:	D	D	D	D	D	D	C	A	A	D	B	B
HCM2kAvgQ:	21	40	40	17	31	31	9	97	97	19	109	16

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1009: 15th St / R St



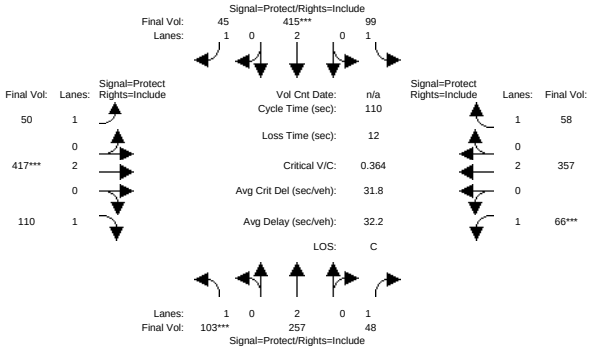
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	13	74	28	117	88	86	56	629	15	25	572	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	74	28	117	88	86	56	629	15	25	572	189
Added Vol:	0	0	3	0	0	0	0	31	0	1	18	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	74	31	117	88	86	56	660	15	26	590	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	74	31	117	88	86	56	660	15	26	590	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	74	31	117	88	86	56	660	15	26	590	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	74	31	117	88	86	56	660	15	26	590	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.70	0.30	1.00	0.51	0.49	1.00	1.96	0.04	1.00	2.00	1.00
Final Sat.:	1805	1280	536	1805	890	870	1805	3519	80	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.06	0.06	0.10	0.10	0.03	0.19	0.19	0.01	0.16	0.12
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.15	0.15	0.17	0.19	0.19	0.16	0.50	0.50	0.07	0.40	0.40
Volume/Cap:	0.06	0.38	0.38	0.38	0.51	0.51	0.19	0.38	0.38	0.22	0.41	0.29
Delay/Veh:	40.1	40.9	40.9	39.3	39.2	39.2	38.3	16.6	16.6	47.3	22.9	21.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.1	40.9	40.9	39.3	39.2	39.2	38.3	16.6	16.6	47.3	22.9	21.7
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	C
HCM2kAvgQ:	10	84	84	90	139	139	37	171	171	19	172	99

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1010: 16th St / R St



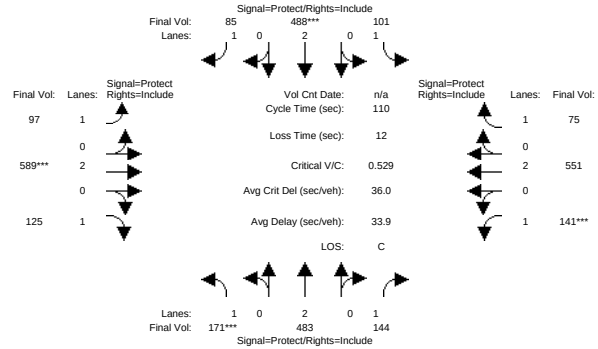
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	89	191	44	99	360	45	49	416	74	61	353	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	191	44	99	360	45	49	416	74	61	353	57
Added Vol:	14	66	4	0	55	0	1	1	36	5	4	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	257	48	99	415	45	50	417	110	66	357	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	103	257	48	99	415	45	50	417	110	66	357	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	257	48	99	415	45	50	417	110	66	357	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	257	48	99	415	45	50	417	110	66	357	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.03	0.05	0.11	0.03	0.03	0.12	0.07	0.04	0.10	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.28	0.28	0.19	0.32	0.32	0.16	0.32	0.32	0.10	0.25	0.25
Volume/Cap:	0.36	0.26	0.11	0.28	0.36	0.09	0.17	0.36	0.21	0.36	0.39	0.14
Delay/Veh:	42.3	31.0	29.6	38.2	29.3	26.5	39.8	29.2	27.7	47.4	34.2	31.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.3	31.0	29.6	38.2	29.3	26.5	39.8	29.2	27.7	47.4	34.2	31.9
LOS by Move:	D	C	C	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	84	89	30	68	136	25	35	137	65	51	127	36

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1010: 16th St / R St



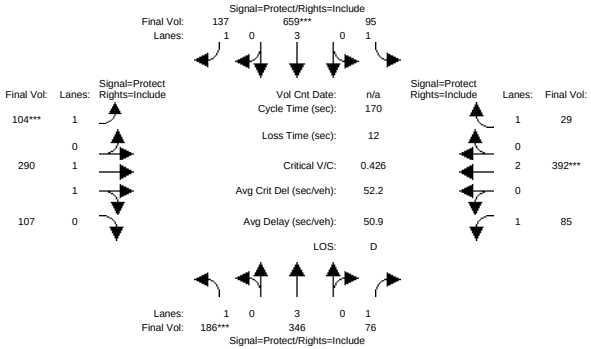
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	154	403	138	100	443	84	97	586	94	137	550	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	154	403	138	100	443	84	97	586	94	137	550	75
Added Vol:	17	80	6	1	45	1	0	3	31	4	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	171	483	144	101	488	85	97	589	125	141	551	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	171	483	144	101	488	85	97	589	125	141	551	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	171	483	144	101	488	85	97	589	125	141	551	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	171	483	144	101	488	85	97	589	125	141	551	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.09	0.06	0.14	0.05	0.05	0.16	0.08	0.08	0.15	0.05
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.29	0.29	0.14	0.26	0.26	0.13	0.31	0.31	0.15	0.32	0.32
Volume/Cap:	0.53	0.45	0.30	0.40	0.53	0.21	0.40	0.53	0.25	0.53	0.47	0.14
Delay/Veh:	42.6	31.9	30.4	44.1	35.8	32.4	44.7	31.9	28.8	45.3	30.1	26.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.6	31.9	30.4	44.1	35.8	32.4	44.7	31.9	28.8	45.3	30.1	26.6
LOS by Move:	D	C	C	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	145	179	96	75	181	54	73	210	76	109	190	43

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1011: Olive Ave / R St



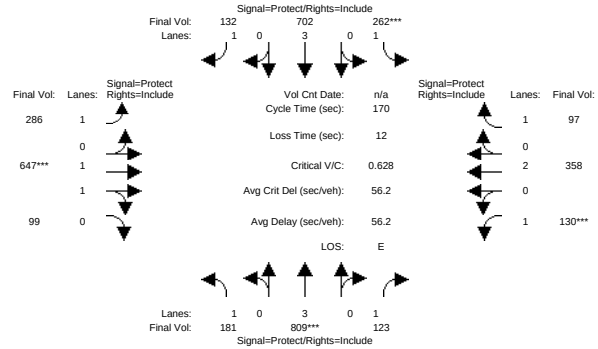
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	186		346		76	95		659		137	104		285		107	85		381		29
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	186		346		76	95		659		137	104		285		107	85		381		29
Added Vol:	0		0		0	0		0		0	0		5		0	0		11		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	186		346		76	95		659		137	104		290		107	85		392		29
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	186		346		76	95		659		137	104		290		107	85		392		29
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	186		346		76	95		659		137	104		290		107	85		392		29
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	186		346		76	95		659		137	104		290		107	85		392		29
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.91		0.91	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.46		0.54	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		2532		934	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.10		0.07		0.05	0.05		0.13		0.08	0.06		0.11		0.11	0.05		0.11		0.02
Crit Moves:	****							****			****							****		
Green/Cycle:	0.24		0.30		0.30	0.24		0.30		0.30	0.14		0.28		0.28	0.11		0.25		0.25
Volume/Cap:	0.43		0.22		0.16	0.22		0.43		0.28	0.43		0.41		0.41	0.41		0.43		0.07
Delay/Veh:	55.2		44.5		43.7	52.4		48.2		46.1	68.7		50.6		50.6	71.5		53.3		48.2
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	55.2		44.5		43.7	52.4		48.2		46.1	68.7		50.6		50.6	71.5		53.3		48.2
LOS by Move:	E		D		D	D		D		D	E		D		D	E		D		D
HCM2kAvgQ:	196		117		68	94		240		129	131		219		219	110		222		28

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1011: Olive Ave / R St



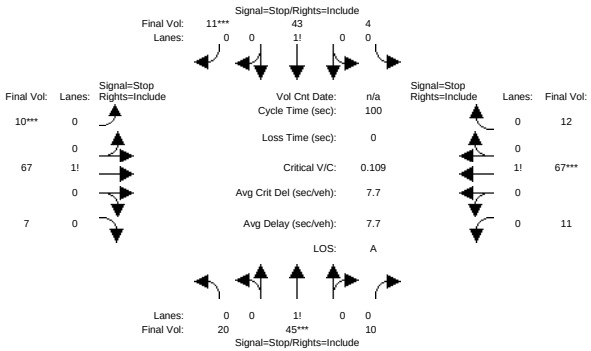
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	181		809		123	262		702		132	286		636		99	130		353		97
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	181		809		123	262		702		132	286		636		99	130		353		97
Added Vol:	0		0		0	0		0		0	0		11		0	0		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	181		809		123	262		702		132	286		647		99	130		358		97
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	181		809		123	262		702		132	286		647		99	130		358		97
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	181		809		123	262		702		132	286		647		99	130		358		97
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	181		809		123	262		702		132	286		647		99	130		358		97
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.93		0.93	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.73		0.27	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		3068		469	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.10		0.16		0.08	0.15		0.14		0.08	0.16		0.21		0.21	0.07		0.10		0.06
Crit Moves:			****			****							****			****				
Green/Cycle:	0.20		0.25		0.25	0.23		0.28		0.28	0.28		0.34		0.34	0.11		0.17		0.17
Volume/Cap:	0.49		0.63		0.31	0.63		0.49		0.30	0.57		0.63		0.63	0.63		0.57		0.35
Delay/Veh:	60.9		57.9		52.4	61.8		51.9		49.0	54.4		48.6		48.6	77.8		65.8		62.6
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	60.9		57.9		52.4	61.8		51.9		49.0	54.4		48.6		48.6	77.8		65.8		62.6
LOS by Move:	E		E		D	E		D		D	D		D		D	E		E		E
HCM2kAvgQ:	199		331		123	294		265		127	322		430		430	183		235		114

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #1012: 15th St / O St

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Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8    44    10     4    40    11    10    67     7    11    67    12
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    8    44    10     4    40    11    10    67     7    11    67    12
Added Vol:     12     1     0     0     3     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   20    45    10     4    43    11    10    67     7    11    67    12
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    20    45    10     4    43    11    10    67     7    11    67    12
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   20    45    10     4    43    11    10    67     7    11    67    12
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   20    45    10     4    43    11    10    67     7    11    67    12
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.27  0.60  0.13  0.07  0.74  0.19  0.12  0.80  0.08  0.12  0.75  0.13
Final Sat.:   215   483   107    56   604   155    98   655    68   101   617   110
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09  0.09  0.09  0.07  0.07  0.07  0.10  0.10  0.10  0.11  0.11  0.11
Crit Moves:        ****                      ****  ****                      ****
Delay/Veh:    7.7   7.7   7.7   7.6   7.6   7.6   7.7   7.7   7.7   7.7   7.7   7.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.7   7.7   7.7   7.6   7.6   7.6   7.7   7.7   7.7   7.7   7.7   7.7
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        7.7               7.6               7.7               7.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.7               7.6               7.7               7.7
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   2.4   2.4   2.4   1.8   1.8   1.8   2.7   2.7   2.7   2.9   2.9   2.9
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
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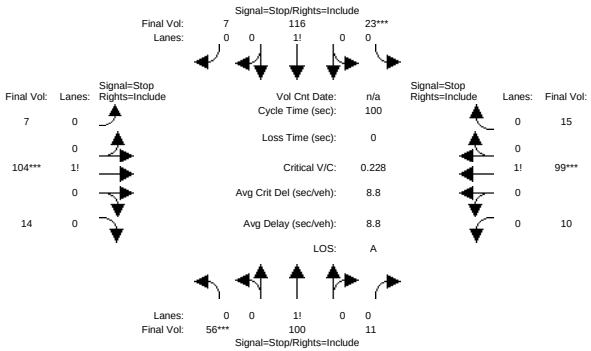
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   20   45    10     4   43    11    10   67     7    11   67    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             174
Minor Approach Volume:           75
Minor Approach Volume Threshold: 686
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #1012: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9   97    11    23  115     7     7  104    14    10   99    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9   97    11    23  115     7     7  104    14    10   99    15
Added Vol:     47    3     0     0    1     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   56  100    11    23  116     7     7  104    14    10   99    15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    56  100    11    23  116     7     7  104    14    10   99    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   56  100    11    23  116     7     7  104    14    10   99    15
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   56  100    11    23  116     7     7  104    14    10   99    15
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.33 0.60  0.07  0.16 0.79  0.05  0.06 0.83  0.11  0.08 0.80  0.12
Final Sat.:   246  439    48   115  581    35    40  597    80    58  573    87
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23 0.23  0.23  0.20 0.20  0.20  0.17 0.17  0.17  0.17 0.17  0.17
Crit Moves:  ****             ****                  ****             ****
Delay/Veh:    9.0  9.0   9.0   8.8  8.8   8.8   8.6  8.6   8.6   8.6  8.6   8.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.0  9.0   9.0   8.8  8.8   8.8   8.6  8.6   8.6   8.6  8.6   8.6
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       9.0              8.8              8.6              8.6
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        9.0              8.8              8.6              8.6
LOS by Appr:         A                A                A                A
AllWayAvgQ:   6.6  6.6   6.6   5.6  5.6   5.6   4.6  4.6   4.6   4.6  4.6   4.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
```



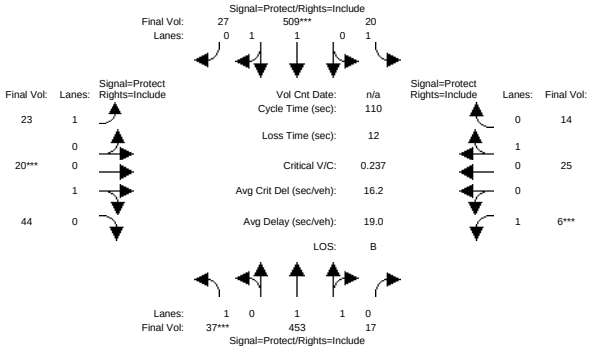
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   56  100    11    23  116     7     7  104    14    10   99    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             313
Minor Approach Volume:           125
Minor Approach Volume Threshold: 529
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1013: 16th St / O St



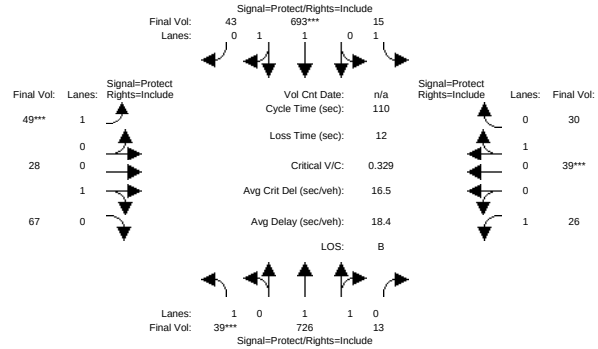
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	37	369	17	20	413	27	23	20	44	6	25	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	369	17	20	413	27	23	20	44	6	25	14
Added Vol:	0	84	0	0	96	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	37	453	17	20	509	27	23	20	44	6	25	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	453	17	20	509	27	23	20	44	6	25	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	453	17	20	509	27	23	20	44	6	25	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	453	17	20	509	27	23	20	44	6	25	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.93	0.07	1.00	1.90	0.10	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3462	130	1805	3404	181	1805	533	1172	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.01	0.15	0.15	0.01	0.04	0.04	0.00	0.02	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.08	0.46	0.46	0.22	0.60	0.60	0.09	0.15	0.15	0.06	0.13	0.13
Volume/Cap:	0.25	0.29	0.29	0.05	0.25	0.25	0.15	0.25	0.25	0.05	0.17	0.17
Delay/Veh:	48.2	18.8	18.8	33.7	10.6	10.6	46.8	41.8	41.8	48.6	43.4	43.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.2	18.8	18.8	33.7	10.6	10.6	46.8	41.8	41.8	48.6	43.4	43.4
LOS by Move:	D	B	B	C	B	B	D	D	D	D	D	D
HCM2kAvgQ:	35	128	128	13	111	111	20	51	51	6	32	32

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1013: 16th St / O St



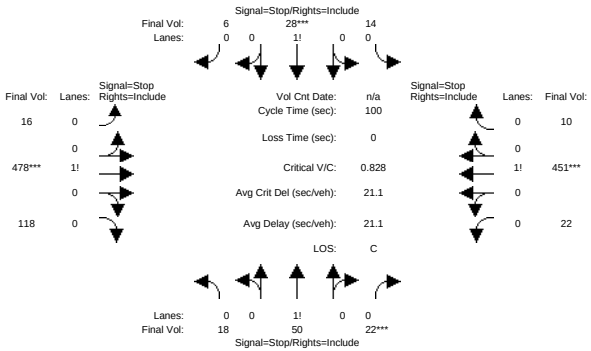
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	39	623	13	15	613	43	49	28	67	26	39	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	623	13	15	613	43	49	28	67	26	39	30
Added Vol:	0	103	0	0	80	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	726	13	15	693	43	49	28	67	26	39	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	726	13	15	693	43	49	28	67	26	39	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	726	13	15	693	43	49	28	67	26	39	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	726	13	15	693	43	49	28	67	26	39	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.88	0.12	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3536	63	1805	3368	209	1805	501	1198	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.02	0.21	0.21	0.01	0.21	0.21	0.03	0.06	0.06	0.01	0.04	0.04
Crit Moves:	****				****		****				****	
Green/Cycle:	0.07	0.53	0.53	0.16	0.62	0.62	0.08	0.12	0.12	0.08	0.12	0.12
Volume/Cap:	0.33	0.39	0.39	0.05	0.33	0.33	0.33	0.47	0.47	0.17	0.33	0.33
Delay/Veh:	50.7	15.6	15.6	38.9	9.8	9.8	48.9	47.1	47.1	47.5	45.4	45.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.7	15.6	15.6	38.9	9.8	9.8	48.9	47.1	47.1	47.5	45.4	45.4
LOS by Move:	D	B	B	D	A	A	D	D	D	D	D	D
HCM2kAvgQ:	40	193	193	11	152	152	47	89	89	24	60	60

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #1014: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    38    18    14    25     6    16   337     6     7   343    10
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2    38    18    14    25     6    16   337     6     7   343    10
Added Vol:     16    12     4     0     3     0     0   141   112    15   108     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   18    50    22    14    28     6    16   478   118    22   451    10
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    18    50    22    14    28     6    16   478   118    22   451    10
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   18    50    22    14    28     6    16   478   118    22   451    10
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   18    50    22    14    28     6    16   478   118    22   451    10
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.20  0.56  0.24  0.29  0.58  0.13  0.03  0.78  0.19  0.05  0.93  0.02
Final Sat.:   103   287   126   143   287    61    19   578   143    32   653    14
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17  0.17  0.17  0.10  0.10  0.10  0.83  0.83  0.83  0.69  0.69  0.69
Crit Moves:               ****        ****              ****              ****
Delay/Veh:   10.5  10.5  10.5  10.1  10.1  10.1  25.9  25.9  25.9  18.1  18.1  18.1
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.5  10.5  10.5  10.1  10.1  10.1  25.9  25.9  25.9  18.1  18.1  18.1
LOS by Move:    B     B     B     B     B     B     D     D     D     C     C     C
ApproachDel:       10.5              10.1              25.9              18.1
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        10.5              10.1              25.9              18.1
LOS by Appr:          B                 B                 D                 C
AllWayAvgQ:   4.2   4.2   4.2   2.1   2.1   2.1  92.7  92.7  92.7  48.5  48.5  48.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
```



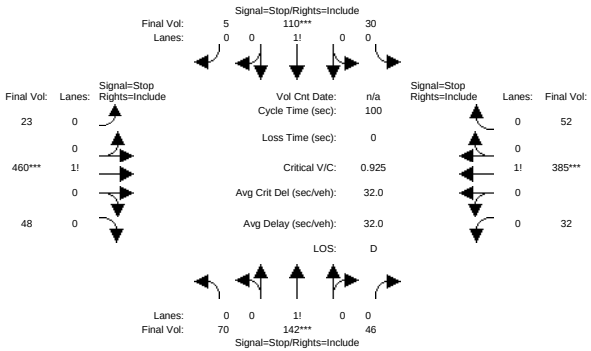
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   18   50    22    14   28     6    16  478   118    22  451    10
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1095
Minor Approach Volume:           90
Minor Approach Volume Threshold: 195
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #1014: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    92    32    30   109     5    23   346    20    28   250    52
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    5    92    32    30   109     5    23   346    20    28   250    52
Added Vol:     65    50    14     0     1     0     0   114    28     4   135     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   70   142    46    30   110     5    23   460    48    32   385    52
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    70   142    46    30   110     5    23   460    48    32   385    52
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   70   142    46    30   110     5    23   460    48    32   385    52
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   70   142    46    30   110     5    23   460    48    32   385    52
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.27  0.55  0.18  0.21  0.76  0.03  0.04  0.87  0.09  0.07  0.82  0.11
Final Sat.:   128   260    84    89   327    15    25   497    52    38   457    62
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.55  0.55  0.55  0.34  0.34  0.34  0.93  0.93  0.93  0.84  0.84  0.84
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   17.2  17.2  17.2  13.9  13.9  13.9  44.2  44.2  44.2  32.0  32.0  32.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  17.2  17.2  17.2  13.9  13.9  13.9  44.2  44.2  44.2  32.0  32.0  32.0
LOS by Move:    C     C     C     B     B     B     E     E     E     D     D     D
ApproachDel:       17.2              13.9              44.2              32.0
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        17.2              13.9              44.2              32.0
LOS by Appr:          C                 B                 E                 D
AllWayAvgQ:  23.3  23.3  23.3   9.9   9.9   9.9   140   140 139.6  87.8  87.8  87.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
```



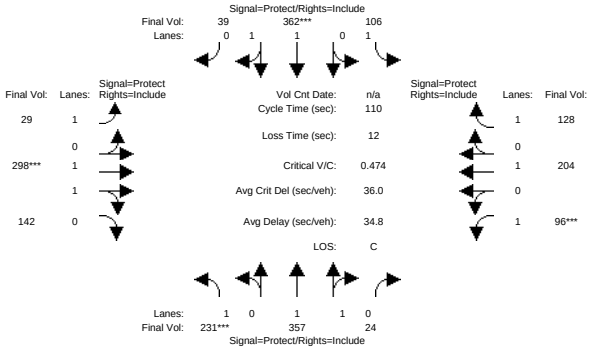
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   70  142    46    30  110     5    23  460    48    32  385    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1000
Minor Approach Volume:           258
Minor Approach Volume Threshold: 219
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1015: 16th St / M St



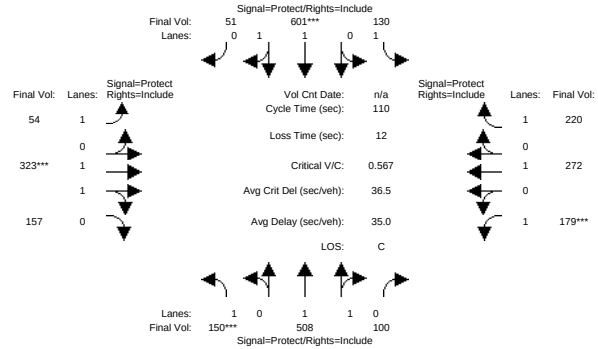
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	124		278	20	105		274	32	25		282	18	91		195	126
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	124		278	20	105		274	32	25		282	18	91		195	126
Added Vol:	107		79	4	1		88	7	4		16	124	5		9	2
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	231		357	24	106		362	39	29		298	142	96		204	128
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	231		357	24	106		362	39	29		298	142	96		204	128
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	231		357	24	106		362	39	29		298	142	96		204	128
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	231		357	24	106		362	39	29		298	142	96		204	128
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.94	0.94	0.95		0.94	0.94	0.95		0.90	0.90	0.95		1.00	0.85
Lanes:	1.00		1.87	0.13	1.00		1.81	0.19	1.00		1.35	0.65	1.00		1.00	1.00
Final Sat.:	1805		3352	225	1805		3210	346	1805		2328	1109	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.13		0.11	0.11	0.06		0.11	0.11	0.02		0.13	0.13	0.05		0.11	0.08
Crit Moves:	****						****				****		****			
Green/Cycle:	0.27		0.32	0.32	0.19		0.24	0.24	0.14		0.27	0.27	0.11		0.24	0.24
Volume/Cap:	0.47		0.33	0.33	0.31		0.47	0.47	0.11		0.47	0.47	0.47		0.45	0.33
Delay/Veh:	34.3		28.8	28.8	38.8		36.4	36.4	41.3		34.0	34.0	47.5		36.3	35.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	34.3		28.8	28.8	38.8		36.4	36.4	41.3		34.0	34.0	47.5		36.3	35.0
LOS by Move:	C		C	C	D		D	D	D		C	C	D		D	C
HCM2kAvgQ:	157		123	123	81		160	160	22		170	170	75		142	86

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1015: 16th St / M St



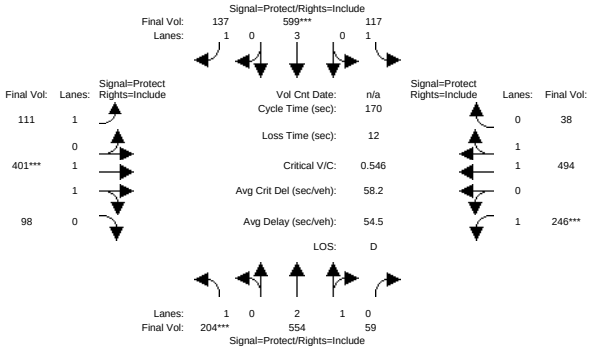
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	30		415	95	129		526	47	45		314	47	175		256	218
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	30		415	95	129		526	47	45		314	47	175		256	218
Added Vol:	120		93	5	1		75	4	9		9	110	4		16	2
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	150		508	100	130		601	51	54		323	157	179		272	220
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	150		508	100	130		601	51	54		323	157	179		272	220
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	150		508	100	130		601	51	54		323	157	179		272	220
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	150		508	100	130		601	51	54		323	157	179		272	220
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.93	0.93	0.95		0.94	0.94	0.95		0.90	0.90	0.95		1.00	0.85
Lanes:	1.00		1.67	0.33	1.00		1.84	0.16	1.00		1.35	0.65	1.00		1.00	1.00
Final Sat.:	1805		2941	579	1805		3288	279	1805		2310	1123	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.08		0.17	0.17	0.07		0.18	0.18	0.03		0.14	0.14	0.10		0.14	0.14
Crit Moves:	****						****				****		****			
Green/Cycle:	0.15		0.33	0.33	0.14		0.32	0.32	0.13		0.25	0.25	0.17		0.29	0.29
Volume/Cap:	0.57		0.52	0.52	0.52		0.57	0.57	0.23		0.57	0.57	0.57		0.49	0.47
Delay/Veh:	46.5		30.2	30.2	46.0		31.6	31.6	43.4		37.2	37.2	44.0		32.9	32.7
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	46.5		30.2	30.2	46.0		31.6	31.6	43.4		37.2	37.2	44.0		32.9	32.7
LOS by Move:	D		C	C	D		C	C	D		D	D	D		C	C
HCM2kAvgQ:	113		207	207	118		249	249	44		200	200	137		184	148

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1016: Olive Ave / M St

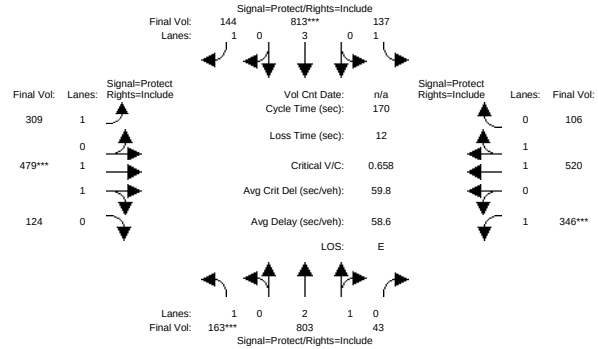



```
Street Name:           Olive Avenue                          M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     204  554    59   117  599   137   111  396    98   246  483    38
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  204  554    59   117  599   137   111  396    98   246  483    38
Added Vol:      0    0     0     0    0     0     0    5     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  204  554    59   117  599   137   111  401    98   246  494    38
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   204  554    59   117  599   137   111  401    98   246  494    38
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  204  554    59   117  599   137   111  401    98   246  494    38
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  204  554    59   117  599   137   111  401    98   246  494    38
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.90  0.90  0.95 0.91  0.85  0.95 0.92  0.92  0.95 0.94  0.94
Lanes:       1.00 2.71  0.29  1.00 3.00  1.00  1.00 1.61  0.39  1.00 1.86  0.14
Final Sat.:  1805 4622   492  1805 5187  1615  1805 2817   688  1805 3315   255
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.12  0.12  0.06 0.12  0.08  0.06 0.14  0.14  0.14 0.15  0.15
Crit Moves:  ****                ****             ****             ****
Green/Cycle: 0.21 0.27  0.27  0.15 0.21  0.21  0.15 0.26  0.26  0.25 0.36  0.36
Volume/Cap:  0.55 0.44  0.44  0.44 0.55  0.40  0.41 0.55  0.55  0.55 0.41  0.41
Delay/Veh:   61.9 51.4  51.4  67.3 60.3  58.5  66.6 54.8  54.8  56.8 40.9  40.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  61.9 51.4  51.4  67.3 60.3  58.5  66.6 54.8  54.8  56.8 40.9  40.9
LOS by Move:    E    D     D     E    E     E     E    D     D     E    D     D
HCM2kAvgQ:    228  230   230   134  246   147   136  296   296   281  265   265
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1016: Olive Ave / M St

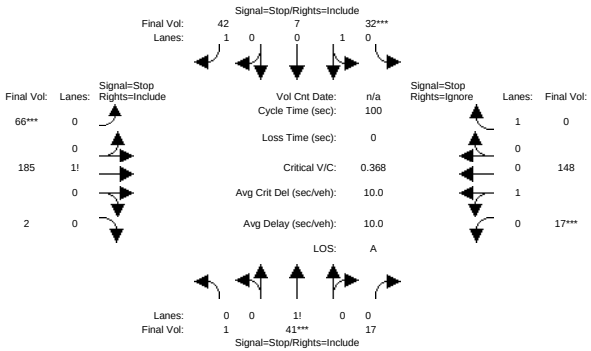



```
Street Name:           Olive Avenue                          M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     163  803    43   137  813   144   309  468   124   346  515   106
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  163  803    43   137  813   144   309  468   124   346  515   106
Added Vol:      0    0     0     0    0     0     0   11     0     0    5     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  163  803    43   137  813   144   309  479   124   346  520   106
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   163  803    43   137  813   144   309  479   124   346  520   106
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  163  803    43   137  813   144   309  479   124   346  520   106
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  163  803    43   137  813   144   309  479   124   346  520   106
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.90  0.90  0.95 0.91  0.85  0.95 0.92  0.92  0.95 0.93  0.93
Lanes:       1.00 2.85  0.15  1.00 3.00  1.00  1.00 1.59  0.41  1.00 1.66  0.34
Final Sat.:  1805 4884   262  1805 5187  1615  1805 2779   719  1805 2924   596
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.16  0.16  0.08 0.16  0.09  0.17 0.17  0.17  0.19 0.18  0.18
Crit Moves:  ****                ****             ****             ****
Green/Cycle: 0.14 0.26  0.26  0.12 0.24  0.24  0.27 0.26  0.26  0.29 0.28  0.28
Volume/Cap:  0.66 0.64  0.64  0.64 0.66  0.37  0.63 0.66  0.66  0.66 0.63  0.63
Delay/Veh:   75.9 57.2  57.2  77.8 59.8  54.7  57.1 57.7  57.7  55.8 54.6  54.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  75.9 57.2  57.2  77.8 59.8  54.7  57.1 57.7  57.7  55.8 54.6  54.6
LOS by Move:    E    E     E     E    E     D     E    E     E     E    D     D
HCM2kAvgQ:    197  346   346   169  342   149   360  378   378   403  380   380
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue              Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   41    17    15    7    40    56  185     2    17  148    52
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   41    17    15    7    40    56  185     2    17  148    52
Added Vol:      0    0     0    17    0     2    10    0     0     0    0    56
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   41    17    32    7    42    66  185     2    17  148   108
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     1   41    17    32    7    42    66  185     2    17  148     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1   41    17    32    7    42    66  185     2    17  148     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    1   41    17    32    7    42    66  185     2    17  148     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.69  0.29  0.82 0.18  1.00  0.26 0.73  0.01  0.10 0.90  1.00
Final Sat.:    10  425   176   462  101   680   179  503     5    70  611   792
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.10  0.07 0.07  0.06  0.37 0.37  0.37  0.24 0.24  0.00
Crit Moves:        ****        ****              ****              ****
Delay/Veh:    9.0  9.0   9.0   9.1  9.1   7.9  11.0 11.0  11.0   9.4  9.4   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.0  9.0   9.0   9.1  9.1   7.9  11.0 11.0  11.0   9.4  9.4   0.0
LOS by Move:    A    A     A     A    A     A     B    B     B     A    A     *
ApproachDel:       9.0              8.5             11.0              9.4
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        9.0              8.5             11.0              9.4
LOS by Appr:         A                A                B                A
AllWayAvgQ:   2.3  2.3   2.3   1.6  1.6   1.4  13.7 13.7  13.7   7.5  7.5   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



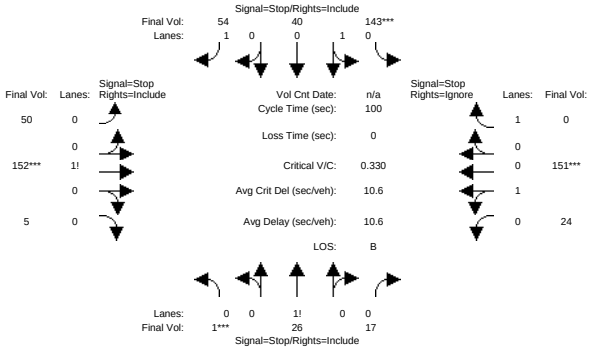
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   41    17    32    7    42    66  185     2    17  148   108
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             526
Minor Approach Volume:           81
Minor Approach Volume Threshold: 650
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue              Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   26    17    87   40    44    48  152     5    24  151    45
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   26    17    87   40    44    48  152     5    24  151    45
Added Vol:      0    0     0    56    0    10     2    0     0     0    0    17
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   26    17   143   40    54    50  152     5    24  151    62
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     1   26    17   143   40    54    50  152     5    24  151     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1   26    17   143   40    54    50  152     5    24  151     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    1   26    17   143   40    54    50  152     5    24  151     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.78 0.22  1.00  0.24 0.74  0.02  0.14 0.86  1.00
Final Sat.:    13  348   227   452  126   700   151  460    15    85  535   712
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.07  0.32 0.32  0.08  0.33 0.33  0.33  0.28 0.28  0.00
Crit Moves:  ****             ****                  ****              ****
Delay/Veh:    9.1  9.1   9.1  11.3 11.3   8.0  11.1 11.1  11.1  10.4 10.4   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.1  9.1   9.1  11.3 11.3   8.0  11.1 11.1  11.1  10.4 10.4   0.0
LOS by Move:    A    A     A     B    B     A     B    B     B     B    B     *
ApproachDel:       9.1             10.5             11.1             10.4
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        9.1             10.5             11.1             10.4
LOS by Appr:         A                B                B                B
AllWayAvgQ:   1.7  1.7   1.7  10.4 10.4   1.9  11.3 11.3  11.3   8.9  8.9   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   26    17   143   40    54    50  152     5    24  151    62
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             444
Minor Approach Volume:           237
Minor Approach Volume Threshold: 723
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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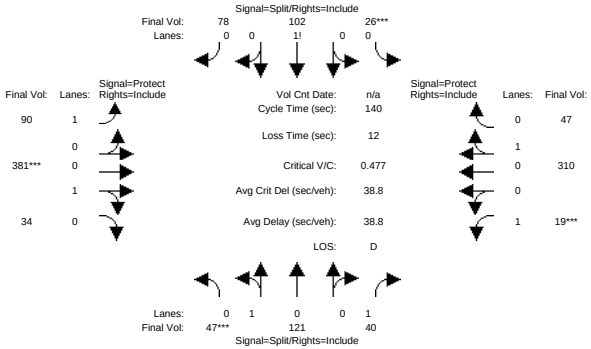
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1018: Childs Ave / Martin Luther King Wy



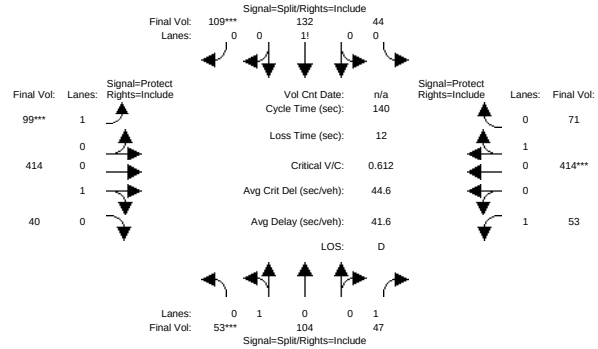
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	45	117	40	26	101	77	86	354	27	19	294	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	117	40	26	101	77	86	354	27	19	294	45
Added Vol:	2	4	0	0	1	1	4	27	7	0	16	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	121	40	26	102	78	90	381	34	19	310	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	121	40	26	102	78	90	381	34	19	310	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	121	40	26	102	78	90	381	34	19	310	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	121	40	26	102	78	90	381	34	19	310	47
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.13	0.49	0.38	1.00	0.92	0.08	1.00	0.87	0.13
Final Sat.:	524	1349	1615	226	887	679	1805	1723	154	1805	1617	245
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.02	0.11	0.11	0.11	0.05	0.22	0.22	0.01	0.19	0.19
Crit Moves:	****			****				****		****		
Green/Cycle:	0.18	0.18	0.18	0.23	0.23	0.23	0.10	0.45	0.45	0.05	0.40	0.40
Volume/Cap:	0.49	0.49	0.14	0.49	0.49	0.49	0.48	0.49	0.49	0.21	0.48	0.48
Delay/Veh:	52.6	52.6	48.2	47.4	47.4	47.4	61.2	27.8	27.8	65.0	32.1	32.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.6	52.6	48.2	47.4	47.4	47.4	61.2	27.8	27.8	65.0	32.1	32.1
LOS by Move:	D	D	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	170	170	37	197	197	197	104	309	309	19	276	276

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1018: Childs Ave / Martin Luther King Wy



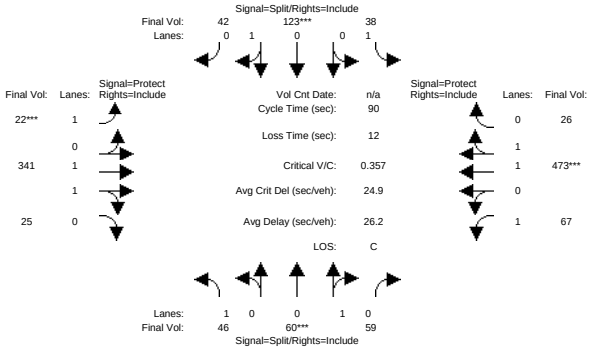
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	46	103	47	42	128	105	98	398	38	53	387	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	103	47	42	128	105	98	398	38	53	387	71
Added Vol:	7	1	0	2	4	4	1	16	2	0	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	104	47	44	132	109	99	414	40	53	414	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	104	47	44	132	109	99	414	40	53	414	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	104	47	44	132	109	99	414	40	53	414	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	104	47	44	132	109	99	414	40	53	414	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.34	0.66	1.00	0.15	0.47	0.38	1.00	0.91	0.09	1.00	0.85	0.15
Final Sat.:	630	1237	1615	276	828	683	1805	1710	165	1805	1586	272
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.03	0.16	0.16	0.16	0.05	0.24	0.24	0.03	0.26	0.26
Crit Moves:	****					****	****				****	
Green/Cycle:	0.14	0.14	0.14	0.26	0.26	0.26	0.09	0.43	0.43	0.09	0.43	0.43
Volume/Cap:	0.61	0.61	0.21	0.61	0.61	0.61	0.61	0.57	0.57	0.33	0.61	0.61
Delay/Veh:	61.2	61.2	54.1	47.9	47.9	47.9	68.1	31.2	31.2	61.2	32.6	32.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.2	61.2	54.1	47.9	47.9	47.9	68.1	31.2	31.2	61.2	32.6	32.6
LOS by Move:	E	E	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	179	179	47	281	281	281	126	365	365	51	391	391

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1019: 13th St / Martin Luther King Wy



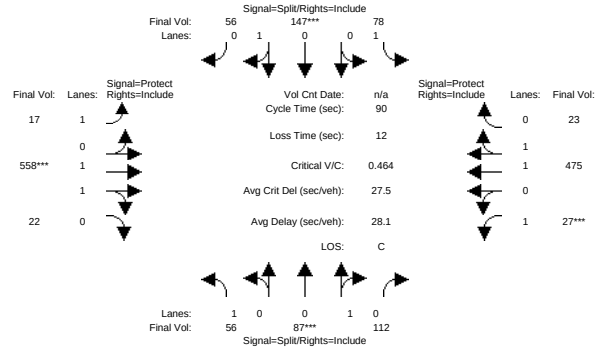
Street Name:	13th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	46	60	59	37	119	32	13	325	25	67	410	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	60	59	37	119	32	13	325	25	67	410	26
Added Vol:	0	0	0	1	4	10	9	16	0	0	63	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	60	59	38	123	42	22	341	25	67	473	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	60	59	38	123	42	22	341	25	67	473	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	60	59	38	123	42	22	341	25	67	473	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	60	59	38	123	42	22	341	25	67	473	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	0.95	0.96	0.96	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.50	0.50	1.00	0.75	0.25	1.00	1.86	0.14	1.00	1.90	0.10
Final Sat.:	1805	887	872	1805	1363	465	1805	3330	244	1805	3395	187
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.07	0.02	0.09	0.09	0.01	0.10	0.10	0.04	0.14	0.14
Crit Moves:		****			****		****				****	
Green/Cycle:	0.18	0.18	0.18	0.24	0.24	0.24	0.08	0.26	0.26	0.18	0.37	0.37
Volume/Cap:	0.14	0.38	0.38	0.09	0.38	0.38	0.16	0.39	0.39	0.20	0.38	0.38
Delay/Veh:	31.3	33.2	33.2	26.7	29.1	29.1	39.3	27.5	27.5	31.4	20.9	20.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.3	33.2	33.2	26.7	29.1	29.1	39.3	27.5	27.5	31.4	20.9	20.9
LOS by Move:	C	C	C	C	C	C	D	C	C	C	C	C
HCM2kAvgQ:	28	80	80	21	101	101	14	105	105	38	128	128

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1019: 13th St / Martin Luther King Wy



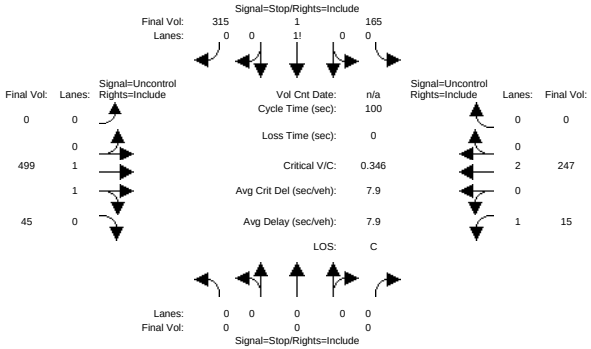
Street Name:	13th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	56	87	112	75	145	47	7	495	22	27	459	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	87	112	75	145	47	7	495	22	27	459	23
Added Vol:	0	0	0	3	2	9	10	63	0	0	16	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	87	112	78	147	56	17	558	22	27	475	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	87	112	78	147	56	17	558	22	27	475	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	87	112	78	147	56	17	558	22	27	475	23
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	87	112	78	147	56	17	558	22	27	475	23
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.96	0.96	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.44	0.56	1.00	0.72	0.28	1.00	1.92	0.08	1.00	1.91	0.09
Final Sat.:	1805	761	980	1805	1319	503	1805	3452	136	1805	3419	166
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.11	0.04	0.11	0.11	0.01	0.16	0.16	0.01	0.14	0.14
Crit Moves:		****			****			****			****	
Green/Cycle:	0.23	0.23	0.23	0.23	0.23	0.23	0.15	0.33	0.33	0.08	0.26	0.26
Volume/Cap:	0.13	0.49	0.49	0.19	0.49	0.49	0.06	0.49	0.49	0.19	0.53	0.53
Delay/Veh:	27.5	30.8	30.8	28.3	31.2	31.2	33.2	24.5	24.5	39.5	29.1	29.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.5	30.8	30.8	28.3	31.2	31.2	33.2	24.5	24.5	39.5	29.1	29.1
LOS by Move:	C	C	C	C	C	C	C	C	C	D	C	C
HCM2kAvgQ:	32	131	131	45	134	134	10	163	163	17	153	153

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   165    1   254     0  484    44    15  245     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   165    1   254     0  484    44    15  245     0
Added Vol:      0    0     0     0    0    61     0   15     1     0    2     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   165    1   315     0  499    45    15  247     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   165    1   315     0  499    45    15  247     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   165    1   315     0  499    45    15  247     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   527  821   124  xxxx xxxx xxxxx   544 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   486  312   911  xxxx xxxx xxxxx  1035 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   481  307   911  xxxx xxxx xxxxx  1035 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.34 0.00  0.35  xxxx xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  695 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  5.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 21.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             21.0           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   165    1   315     0  499    45    15  247     0
ApproachDel:    xxxxxx              21.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=481]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1287]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

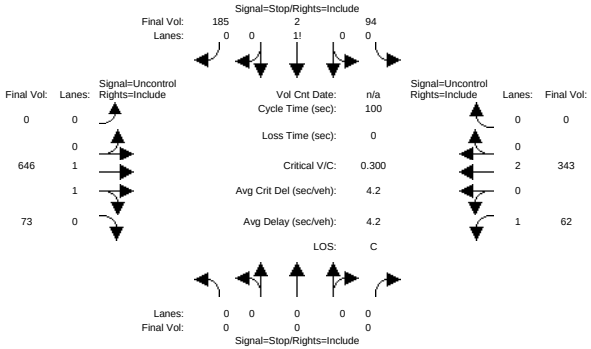
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   165    1   315     0  499    45    15  247     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             806
Minor Approach Volume:           481
Minor Approach Volume Threshold: 359
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    94    2   170     0  585    68    62  343     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    94    2   170     0  585    68    62  343     0
Added Vol:      0    0     0     0    0    15     0   61     5     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    94    2   185     0  646    73    62  343     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    94    2   185     0  646    73    62  343     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    94    2   185     0  646    73    62  343     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   790 1186   172  xxxx xxxx xxxxx   719 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   331  190   849  xxxx xxxx xxxxx   892 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   314  177   849  xxxx xxxx xxxxx   892 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.30 0.01  0.22  xxxx xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  531 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 19.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             19.1           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0    94    2   185     0  646    73    62  343     0
ApproachDel:    xxxxxx             19.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=281]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1405]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

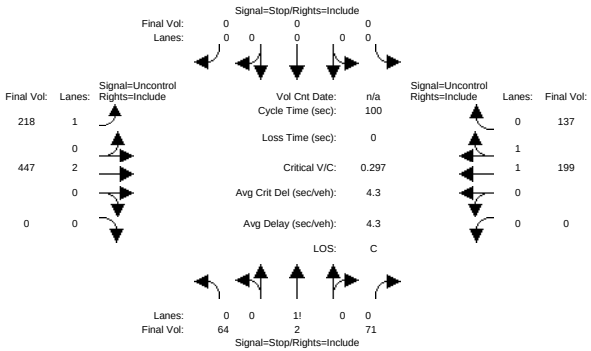
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0    94    2   185     0  646    73    62  343     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1124
Minor Approach Volume:           281
Minor Approach Volume Threshold: 245
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                 Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62    2    71     0    0     0   203  447     0     0  199   137
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62    2    71     0    0     0   203  447     0     0  199   137
Added Vol:      2    0     0     0    0     0    15    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   64    2    71     0    0     0   218  447     0     0  199   137
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    64    2    71     0    0     0   218  447     0     0  199   137
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   64    2    71     0    0     0   218  447     0     0  199   137
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  983 1219   224  xxxx xxxx xxxxx   336 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  250  182   786  xxxx xxxx xxxxx  1235 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    216  150   786  xxxx xxxx xxxxx  1235 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.30 0.01  0.09  xxxx xxxx  xxxx  0.18 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  16.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  342 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 22.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      22.4           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   64    2    71     0    0     0   218  447     0     0  199   137
ApproachDel:      22.4           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=137]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1138]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

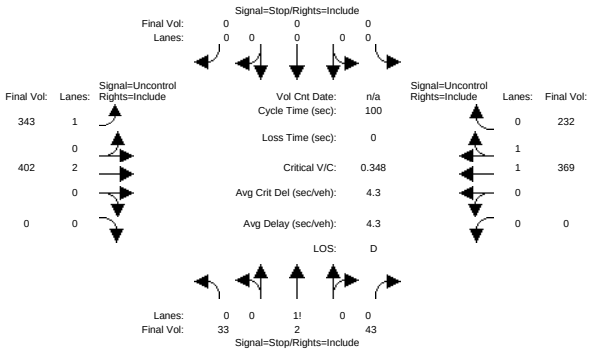
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   64    2    71     0    0     0   218  447     0     0  199   137
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1001
Minor Approach Volume:           137
Minor Approach Volume Threshold: 284
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    2    43     0    0     0   282  402     0     0  369   232
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   33    2    43     0    0     0   282  402     0     0  369   232
Added Vol:      0    0     0     0    0     0    61    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   33    2    43     0    0     0   343  402     0     0  369   232
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    33    2    43     0    0     0   343  402     0     0  369   232
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   33    2    43     0    0     0   343  402     0     0  369   232
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1273 1689   201  xxxx xxxx xxxxx   601 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  162   94   813  xxxx xxxx xxxxx   986 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    118   62   813  xxxx xxxx xxxxx   986 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.28 0.03  0.05  xxxx xxxx  xxxx  0.35 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  39.2 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  214 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 31.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    *     *     *    *     *     *    *     *
ApproachDel:      31.2           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         D                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   343  402     0     0  369   232
ApproachDel:      31.2           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=78]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1424]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

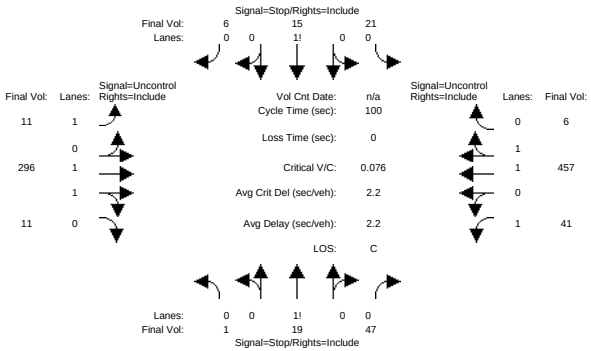
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   343  402     0     0  369   232
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1346
Minor Approach Volume:           78
Minor Approach Volume Threshold: 182
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   15    47    21   15     6    11  296    11    41  457     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   15    47    21   15     6    11  296    11    41  457     6
Added Vol:      0    4     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   19    47    21   15     6    11  296    11    41  457     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1   19    47    21   15     6    11  296    11    41  457     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1   19    47    21   15     6    11  296    11    41  457     6
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  642  869   154   722  871   232   463 xxxx xxxxx   307 xxxx xxxxx
Potent Cap.:  363  292   871   318  291   777  1109 xxxx xxxxx  1265 xxxx xxxxx
Move Cap.:    335  280   871   276  279   777  1109 xxxx xxxxx  1265 xxxx xxxxx
Volume/Cap:  0.00 0.07  0.05  0.08 0.05  0.01  0.01 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.8 xxxx xxxxx   2.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx   7.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  537 xxxxx  xxxx  306 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.4 xxxxx xxxxx  0.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.7 xxxxx xxxxx 18.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    C     *     *    *     *     *    *     *
ApproachDel:      12.7             18.6           xxxxxx           xxxxxx
ApproachLOS:         B                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   19    47    21   15     6    11  296    11    41  457     6
ApproachDel:      12.7             18.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=67]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=931]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=42]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=931]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

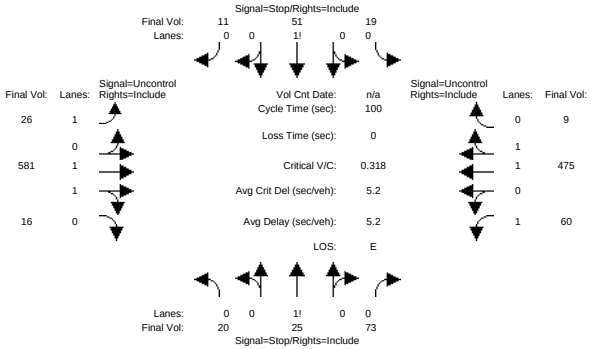
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   19    47    21   15     6    11  296    11    41  457     6
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             822
Minor Approach Volume:           67
Minor Approach Volume Threshold: 352
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20   24    73    19   51    11    26  581    16    60  475     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   20   24    73    19   51    11    26  581    16    60  475     9
Added Vol:      0    1     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20   25    73    19   51    11    26  581    16    60  475     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20   25    73    19   51    11    26  581    16    60  475     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20   25    73    19   51    11    26  581    16    60  475     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1024 1245   299   955 1249   242   484 xxxx xxxxx   597 xxxx xxxxx
Potent Cap.:  192  176   704   216  175   765  1089 xxxx xxxxx   989 xxxx xxxxx
Move Cap.:    134  161   704   160  160   765  1089 xxxx xxxxx   989 xxxx xxxxx
Volume/Cap:  0.15 0.16  0.10  0.12 0.32  0.01  0.02 xxxx  xxxx  0.06 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.8 xxxx xxxxx   4.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx   8.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  289 xxxxx  xxxx  179 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.9 xxxxx xxxxx  2.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 25.8 xxxxx xxxxx 40.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    E     *     *    *     *     *    *     *
ApproachDel:      25.8             40.6           xxxxxx           xxxxxx
ApproachLOS:         D                E                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   25    73    19   51    11    26  581    16    60  475     9
ApproachDel:      25.8             40.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=118]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1366]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=81]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1366]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

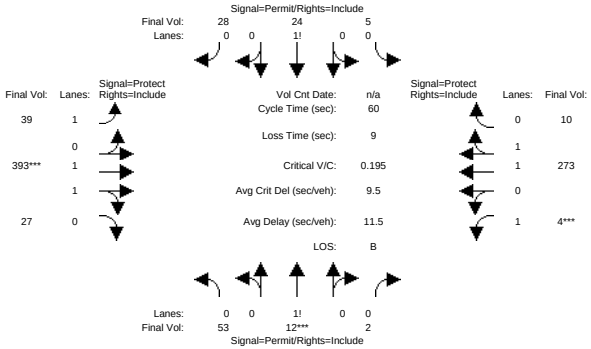
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   25    73    19   51    11    26  581    16    60  475     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1167
Minor Approach Volume:           118
Minor Approach Volume Threshold: 232
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1023: 15th St / Martin Luther King Wy



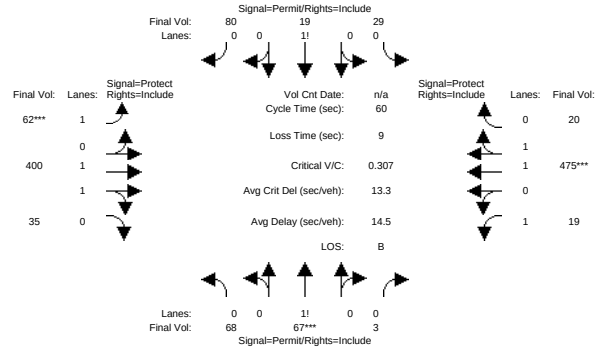
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	6	2	5	1	28	39	393	27	4	273	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	6	2	5	1	28	39	393	27	4	273	10
Added Vol:	0	6	0	0	23	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	12	2	5	24	28	39	393	27	4	273	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	12	2	5	24	28	39	393	27	4	273	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	12	2	5	24	28	39	393	27	4	273	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	12	2	5	24	28	39	393	27	4	273	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.77	0.77	0.92	0.92	0.92	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.79	0.18	0.03	0.09	0.42	0.49	1.00	1.87	0.13	1.00	1.93	0.07
Final Sat.:	1153	261	43	153	732	854	1805	3344	230	1805	3465	127
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.03	0.03	0.03	0.02	0.12	0.12	0.00	0.08	0.08
Crit Moves:		****						****		****		
Green/Cycle:	0.21	0.21	0.21	0.21	0.21	0.21	0.27	0.53	0.53	0.12	0.38	0.38
Volume/Cap:	0.22	0.22	0.22	0.16	0.16	0.16	0.08	0.22	0.22	0.02	0.21	0.21
Delay/Veh:	20.2	20.2	20.2	19.8	19.8	19.8	16.6	7.7	7.7	23.5	12.6	12.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.2	20.2	20.2	19.8	19.8	19.8	16.6	7.7	7.7	23.5	12.6	12.6
LOS by Move:	C	C	C	B	B	B	B	A	A	C	B	B
HCM2kAvgQ:	30	30	30	24	24	24	13	53	53	2	44	44

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1023: 15th St / Martin Luther King Wy



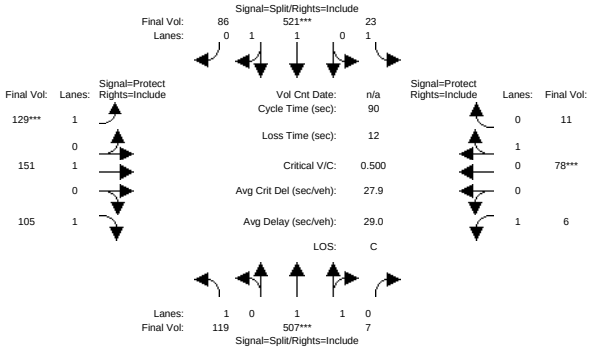
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	68	44	3	29	13	80	62	400	35	19	475	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	68	44	3	29	13	80	62	400	35	19	475	20
Added Vol:	0	23	0	0	6	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68	67	3	29	19	80	62	400	35	19	475	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	67	3	29	19	80	62	400	35	19	475	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	67	3	29	19	80	62	400	35	19	475	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	67	3	29	19	80	62	400	35	19	475	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.82	0.82	0.82	0.85	0.85	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	0.49	0.49	0.02	0.23	0.15	0.62	1.00	1.84	0.16	1.00	1.92	0.08
Final Sat.:	764	753	34	364	239	1005	1805	3280	287	1805	3443	145
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.08	0.08	0.08	0.03	0.12	0.12	0.01	0.14	0.14
Crit Moves:		****					****				****	
Green/Cycle:	0.29	0.29	0.29	0.29	0.29	0.29	0.12	0.33	0.33	0.23	0.45	0.45
Volume/Cap:	0.31	0.31	0.31	0.28	0.28	0.28	0.29	0.37	0.37	0.05	0.31	0.31
Delay/Veh:	17.1	17.1	17.1	16.9	16.9	16.9	25.0	15.5	15.5	17.9	10.8	10.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.1	17.1	17.1	16.9	16.9	16.9	25.0	15.5	15.5	17.9	10.8	10.8
LOS by Move:	B	B	B	B	B	B	C	B	B	B	B	B
HCM2kAvgQ:	56	56	56	51	51	51	26	78	78	6	73	73

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1024: 16th St / Martin Luther King Wy

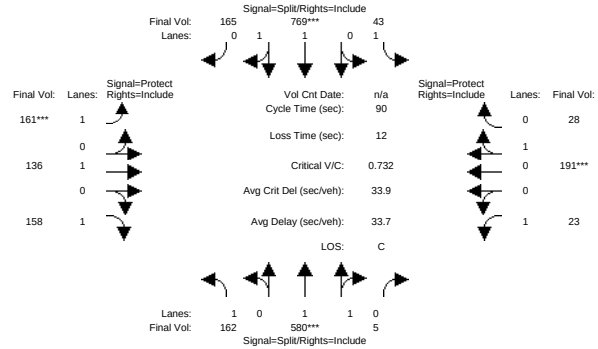



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119  318     7   23  304    86  129  151   105    6   78    11
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  119  318     7   23  304    86  129  151   105    6   78    11
Added Vol:      0  189     0    0  217     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  119  507     7   23  521    86  129  151   105    6   78    11
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   119  507     7   23  521    86  129  151   105    6   78    11
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  119  507     7   23  521    86  129  151   105    6   78    11
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  119  507     7   23  521    86  129  151   105    6   78    11
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.93  0.93 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.97  0.03 1.00 1.72  0.28 1.00 1.00  1.00 1.00 0.88  0.12
Final Sat.:  1805 3554    49 1805 3033   501 1805 1900  1615 1805 1634   230
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.14  0.14 0.01 0.17  0.17 0.07 0.08  0.07 0.00 0.05  0.05
Crit Moves:        ****            ****            ****            ****
Green/Cycle: 0.28 0.28  0.28 0.34 0.34  0.34 0.14 0.15  0.15 0.10 0.11  0.11
Volume/Cap:  0.24 0.51  0.51 0.04 0.51  0.51 0.51 0.54  0.44 0.03 0.43  0.43
Delay/Veh:   25.3 27.7  27.7 20.1 24.3  24.3 37.6 37.6  36.3 36.4 38.8  38.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  25.3 27.7  27.7 20.1 24.3  24.3 37.6 37.6  36.3 36.4 38.8  38.8
LOS by Move:    C    C     C    C    C     C    D    D     D    D    D     D
HCM2kAvgQ:     65  167   167   10  172   172   82   96    65    4   57    57
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1024: 16th St / Martin Luther King Wy

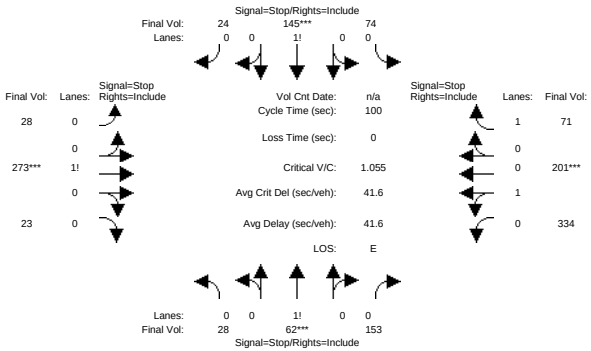



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     162  363     5   43  580   165  161  136   158   23  191    28
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  162  363     5   43  580   165  161  136   158   23  191    28
Added Vol:      0  217     0    0  189     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  162  580     5   43  769   165  161  136   158   23  191    28
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   162  580     5   43  769   165  161  136   158   23  191    28
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  162  580     5   43  769   165  161  136   158   23  191    28
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  162  580     5   43  769   165  161  136   158   23  191    28
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.92  0.92 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.98  0.02 1.00 1.65  0.35 1.00 1.00  1.00 1.00 0.87  0.13
Final Sat.:  1805 3576    31 1805 2892   621 1805 1900  1615 1805 1626   238
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.16  0.16 0.02 0.27  0.27 0.09 0.07  0.10 0.01 0.12  0.12
Crit Moves:        ****            ****            ****            ****
Green/Cycle: 0.22 0.22  0.22 0.36 0.36  0.36 0.12 0.17  0.17 0.12 0.16  0.16
Volume/Cap:  0.41 0.73  0.73 0.07 0.73  0.73 0.73 0.43  0.59 0.11 0.73  0.73
Delay/Veh:   30.6 36.1  36.1 18.7 27.1  27.1 50.0 34.7  38.1 35.8 44.9  44.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  30.6 36.1  36.1 18.7 27.1  27.1 50.0 34.7  38.1 35.8 44.9  44.9
LOS by Move:    C    D     D    B    C     C    D    C     D    D    D     D
HCM2kAvgQ:    103  237   237   18  295   295  113   82   102   14  151   151
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #1025: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      28    62   153    74   145    20    28   265    23   334   185    71
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   28    62   153    74   145    20    28   265    23   334   185    71
Added Vol:      0     0     0     0     0     4     0     8     0     0    16     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   28    62   153    74   145    24    28   273    23   334   201    71
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    28    62   153    74   145    24    28   273    23   334   201    71
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   28    62   153    74   145    24    28   273    23   334   201    71
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   28    62   153    74   145    24    28   273    23   334   201    71
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.12  0.25  0.63  0.30  0.60  0.10  0.09  0.84  0.07  0.62  0.38  1.00
Final Sat.:    57   125   309   144   281    47    44   428    36   317   191   592
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.50  0.50  0.50  0.52  0.52  0.52  0.64  0.64  0.64  1.05  1.05  0.12
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   16.0  16.0  16.0  17.1  17.1  17.1  20.4  20.4  20.4  81.4  81.4   9.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  16.0  16.0  16.0  17.1  17.1  17.1  20.4  20.4  20.4  81.4  81.4   9.6
LOS by Move:    C     C     C     C     C     C     C     C     C     F     F     A
ApproachDel:       16.0              17.1              20.4              73.0
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        16.0              17.1              20.4              73.0
LOS by Appr:          C                 C                 C                 F
AllWayAvgQ:  20.6  20.6  20.6  22.4  22.4  22.4  37.0  37.0  37.0   252   252   3.4
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1025 13th St / G St
*******************************************************************************
```



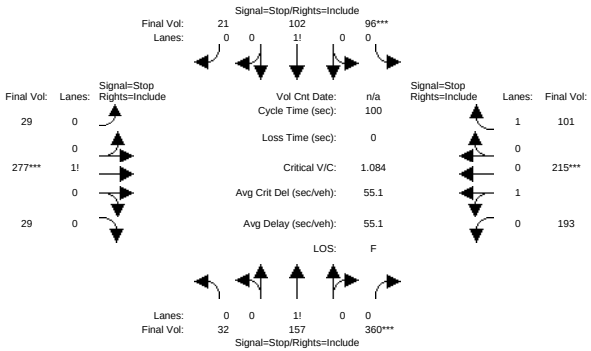
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   28   62   153    74  145    24    28  273    23   334  201    71
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             930
Minor Approach Volume:           243
Minor Approach Volume Threshold: 310
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #1025: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      32   157   360    95   102    20    29   261    29   193   207   101
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   32   157   360    95   102    20    29   261    29   193   207   101
Added Vol:      0     0     0     1     0     1     0    16     0     0     8     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   32   157   360    96   102    21    29   277    29   193   215   101
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    32   157   360    96   102    21    29   277    29   193   215   101
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   32   157   360    96   102    21    29   277    29   193   215   101
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   32   157   360    96   102    21    29   277    29   193   215   101
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.06  0.29  0.65  0.44  0.46  0.10  0.08  0.83  0.09  0.47  0.53  1.00
Final Sat.:    30   145   332   179   190    39    38   365    38   206   229   491
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.08  1.08  1.08  0.54  0.54  0.54  0.76  0.76  0.76  0.94  0.94  0.21
Crit Moves:                ****  ****                    ****              ****
Delay/Veh:   90.7  90.7  90.7  20.1  20.1  20.1  30.8  30.8  30.8  56.7  56.7  11.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  90.7  90.7  90.7  20.1  20.1  20.1  30.8  30.8  30.8  56.7  56.7  11.9
LOS by Move:    F     F     F     C     C     C     D     D     D     F     F     B
ApproachDel:       90.7             20.1             30.8             47.8
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:        90.7             20.1             30.8             47.8
LOS by Appr:          F               C               D               E
AllWayAvgQ:   284  284 283.5  24.4 24.4  24.4  60.7 60.7  60.7   138   138   6.4
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1025 13th St / G St
*******************************************************************************
```



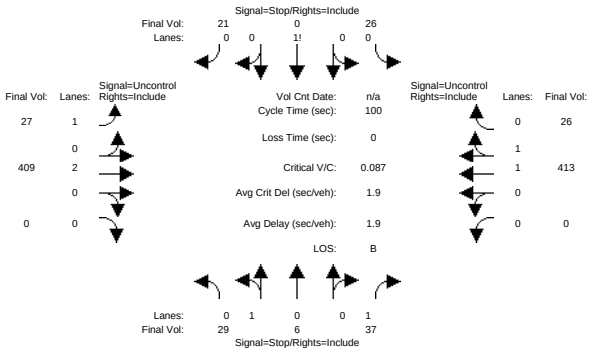
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   32  157   360    96  102    21    29  277    29   193  215   101
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             844
Minor Approach Volume:           549
Minor Approach Volume Threshold: 343
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26    2    37    26    0    21    27  401     0     0  394    26
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26    2    37    26    0    21    27  401     0     0  394    26
Added Vol:      3    4     0     0    0     0     0    8     0     0   19     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   29    6    37    26    0    21    27  409     0     0  413    26
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    29    6    37    26    0    21    27  409     0     0  413    26
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   29    6    37    26    0    21    27  409     0     0  413    26
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  670  902   205   688  889   220   439 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  347  280   808   337  285   791  1132 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    332  273   808   310  278   791  1132 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.09 0.02  0.05  0.08 0.00  0.03  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.6  xxxx xxxx xxxxx   1.8 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx   9.7 xxxxx xxxx xxxxx   8.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     A     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  320 xxxx xxxxx  xxxx  426 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.4 xxxx xxxxx xxxxx  0.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 17.6 xxxx xxxxx xxxxx 14.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:      13.5             14.5           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   29    6    37    26    0    21    27  409     0     0  413    26
ApproachDel:      13.5             14.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=72]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=994]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=47]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=994]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

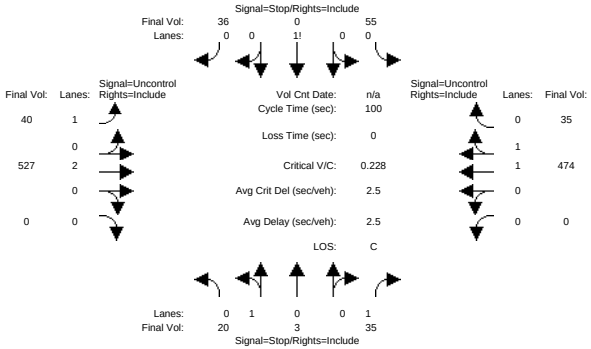
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   29    6    37    26    0    21    27  409     0     0  413    26
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             875
Minor Approach Volume:           72
Minor Approach Volume Threshold: 432
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      19    2    35    55    0    36    40  514     0     0  459    35
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   19    2    35    55    0    36    40  514     0     0  459    35
Added Vol:      1    1     0     0    0     0     0   13     0     0   15     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20    3    35    55    0    36    40  527     0     0  474    35
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20    3    35    55    0    36    40  527     0     0  474    35
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20    3    35    55    0    36    40  527     0     0  474    35
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  844 1116   264   837 1099   255   509 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  260  209   741   263  214   751  1066 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    240  202   741   241  206   751  1066 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.08 0.01  0.05  0.23 0.00  0.05  0.04 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.7  xxxx xxxx xxxxx   2.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  10.1 xxxxx xxxx xxxxx   8.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  234 xxxx xxxxx  xxxx  329 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.3 xxxx xxxxx xxxxx  1.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 22.0 xxxx xxxxx xxxxx 20.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:      14.8             20.1           xxxxxx           xxxxxx
ApproachLOS:         B                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   20    3    35    55    0    36    40  527     0     0  474    35
ApproachDel:      14.8             20.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=58]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1225]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=91]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1225]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

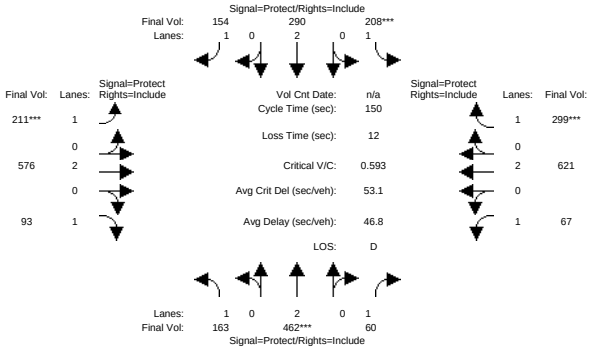
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   20    3    35    55    0    36    40  527     0     0  474    35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1076
Minor Approach Volume:           91
Minor Approach Volume Threshold: 260
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1028: Olive Ave / G St



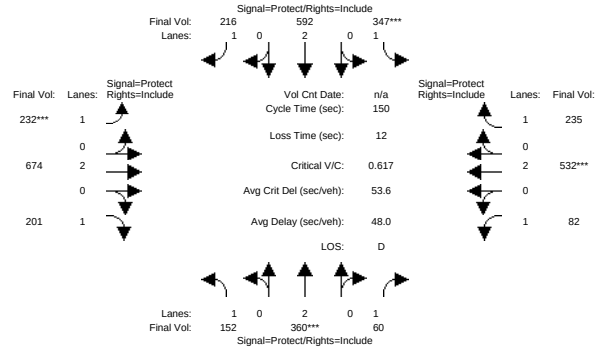
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	158	462	60	208	290	154	211	573	90	67	615	299
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	158	462	60	208	290	154	211	573	90	67	615	299
Added Vol:	5	0	0	0	0	0	0	3	3	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	163	462	60	208	290	154	211	576	93	67	621	299
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	163	462	60	208	290	154	211	576	93	67	621	299
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	163	462	60	208	290	154	211	576	93	67	621	299
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	163	462	60	208	290	154	211	576	93	67	621	299
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.04	0.12	0.08	0.10	0.12	0.16	0.06	0.04	0.17	0.19
Crit Moves:		****		****			****					****
Green/Cycle:	0.20	0.22	0.22	0.19	0.21	0.21	0.20	0.39	0.39	0.12	0.31	0.31
Volume/Cap:	0.45	0.59	0.17	0.59	0.38	0.45	0.59	0.40	0.15	0.32	0.55	0.59
Delay/Veh:	53.7	54.1	48.1	57.7	51.1	52.6	57.4	32.9	29.3	61.9	43.4	45.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.7	54.1	48.1	57.7	51.1	52.6	57.4	32.9	29.3	61.9	43.4	45.4
LOS by Move:	D	D	D	E	D	D	E	C	C	E	D	D
HCM2kAvgQ:	169	262	56	212	143	148	234	244	67	76	312	297

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1028: Olive Ave / G St



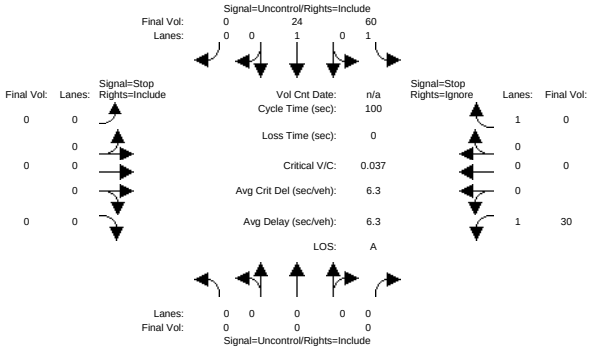
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	149	360	60	347	592	216	232	668	196	82	529	235
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	360	60	347	592	216	232	668	196	82	529	235
Added Vol:	3	0	0	0	0	0	0	6	5	0	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	152	360	60	347	592	216	232	674	201	82	532	235
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	152	360	60	347	592	216	232	674	201	82	532	235
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	152	360	60	347	592	216	232	674	201	82	532	235
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	152	360	60	347	592	216	232	674	201	82	532	235
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.10	0.04	0.19	0.16	0.13	0.13	0.19	0.12	0.05	0.15	0.15
Crit Moves:		****		****			****					****
Green/Cycle:	0.16	0.16	0.16	0.31	0.31	0.31	0.21	0.36	0.36	0.09	0.24	0.24
Volume/Cap:	0.52	0.62	0.23	0.62	0.52	0.43	0.62	0.52	0.35	0.51	0.62	0.61
Delay/Veh:	59.5	60.6	55.2	46.1	42.9	41.5	57.0	38.4	35.7	67.8	52.3	53.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.5	60.6	55.2	46.1	42.9	41.5	57.0	38.4	35.7	67.8	52.3	53.7
LOS by Move:	E	E	E	D	D	D	E	D	D	E	D	D
HCM2kAvgQ:	171	220	62	326	280	187	257	318	167	105	298	254

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    51   24     0     0    0     0    30    0   161
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    51   24     0     0    0     0    30    0   161
Added Vol:      0    0     0     9    0     0     0    0     0     0    0    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    60   24     0     0    0     0    30    0   175
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0    60   24     0     0    0     0    30    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    60   24     0     0    0     0    30    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   144 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   853 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   829 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.04 xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   2.9 xxxx xxxxx  xxxx xxxx xxxxx   2.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx   9.5 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.5
ApproachLOS:         *                *                *                A
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0    60   24     0     0    0     0    30    0   175
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.5
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=205]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=289]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

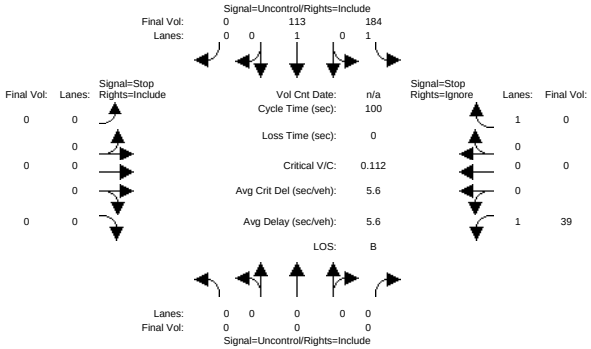
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0    60   24     0     0    0     0    30    0   175
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             84
Minor Approach Volume:          205
Minor Approach Volume Threshold: 1439
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   170  113     0     0    0     0    39    0    96
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   170  113     0     0    0     0    39    0    96
Added Vol:      0    0     0    14    0     0     0    0     0     0    0     9
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   184  113     0     0    0     0    39    0   105
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   184  113     0     0    0     0    39    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   184  113     0     0    0     0    39    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   481 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   548 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   500 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.11 xxxx  xxxx  xxxx xxxx  xxxx  0.08 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   9.5 xxxx xxxxx  xxxx xxxx xxxxx   6.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  12.8 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             12.8
ApproachLOS:         *                *                *                B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   184  113     0     0    0     0    39    0   105
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             12.8
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=144]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=441]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

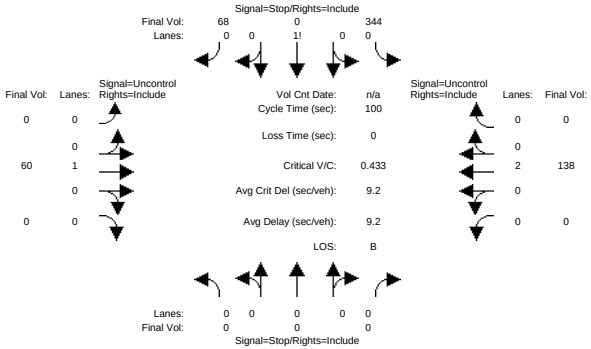
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   184  113     0     0    0     0    39    0   105
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             297
Minor Approach Volume:           144
Minor Approach Volume Threshold: 896
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   344    0    68     0   51     0     0  124     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   344    0    68     0   51     0     0  124     0
Added Vol:      0    0     0     0    0     0     0    9     0     0   14     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   344    0    68     0   60     0     0  138     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   344    0    68     0   60     0     0  138     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   344    0    68     0   60     0     0  138     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   198  198    69  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   795  701  1000  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   795  701  1000  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.43 0.00  0.07  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  823 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 13.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             13.7            xxxxxx           xxxxxx
ApproachLOS:         *               B                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0    68     0   60     0     0  138     0
ApproachDel:    xxxxxx             13.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=412]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=610]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

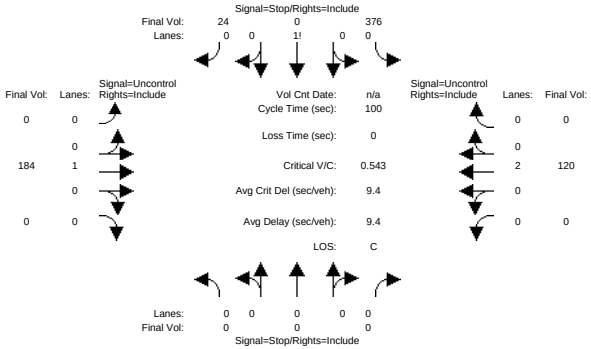
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0    68     0   60     0     0  138     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             198
Minor Approach Volume:           412
Minor Approach Volume Threshold: 843
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   376    0    24     0  170     0     0  111     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   376    0    24     0  170     0     0  111     0
Added Vol:      0    0     0     0    0     0     0   14     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   376    0    24     0  184     0     0  120     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   376    0    24     0  184     0     0  120     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   376    0    24     0  184     0     0  120     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   304  304    60  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   692  613  1011  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   692  613  1011  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.54 0.00  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  705 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 16.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             16.6           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    24     0  184     0     0  120     0
ApproachDel:    xxxxxx              16.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=400]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=704]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

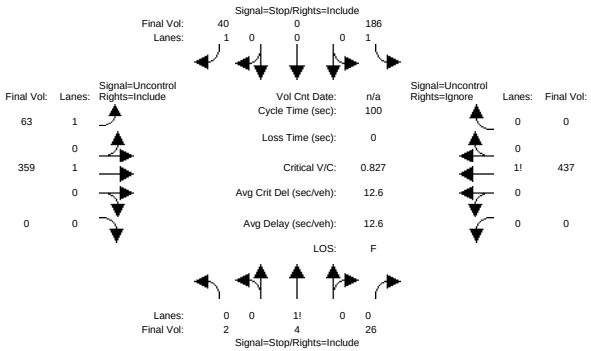
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    24     0  184     0     0  120     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             304
Minor Approach Volume:           400
Minor Approach Volume Threshold: 695
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    3    26   184    0    40    63  350     0     0  423   439
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    3    26   184    0    40    63  350     0     0  423   439
Added Vol:      0    1     0     2    0     0     0    9     0     0   14     8
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    4    26   186    0    40    63  359     0     0  437   447
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2    4    26   186    0    40    63  359     0     0  437     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    4    26   186    0    40    63  359     0     0  437     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  942  922   359   937 xxxx   437   437 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  245  272   690   247 xxxx   624  1134 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    220  257   690   225 xxxx   624  1134 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.01 0.02  0.04  0.83 xxxx  0.06  0.06 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   157 xxxx   5.1   4.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  68.6 xxxx  11.2   8.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     B     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  513 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     *    *     *
ApproachDel:      12.5             58.4            xxxxxx            xxxxxx
ApproachLOS:         B                F                 *                 *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    2    4    26   186    0    40    63  359     0     0  437   447
ApproachDel:      12.5             58.4            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1564]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=226]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1564]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

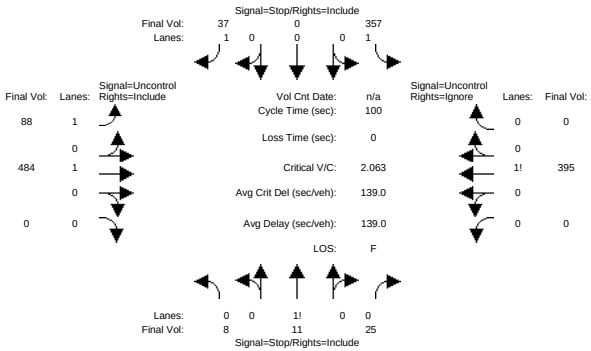
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    2    4    26   186    0    40    63  359     0     0  437   447
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1306
Minor Approach Volume:           226
Minor Approach Volume Threshold: 259
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8   11    25   349    0    37    88  470     0     0  386   312
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    8   11    25   349    0    37    88  470     0     0  386   312
Added Vol:      0    0     0     8    0     0     0   14     0     0    9     2
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    8   11    25   357    0    37    88  484     0     0  395   314
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     8   11    25   357    0    37    88  484     0     0  395     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    8   11    25   357    0    37    88  484     0     0  395     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1074 1055   484  1073 xxxx   395   395 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  199  227   587   200 xxxx   659  1175 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    177  210   587   173 xxxx   659  1175 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.05 0.05  0.04  2.06 xxxx  0.06  0.07 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   695 xxxx   4.5   6.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 541.6 xxxx  10.8   8.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     B     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  314 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 18.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      18.3            491.7           xxxxxx           xxxxxx
ApproachLOS:         C                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    8   11    25   357    0    37    88  484     0     0  395   314
ApproachDel:      18.3            491.7           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=44]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1719]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=53.8]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=394]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1719]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

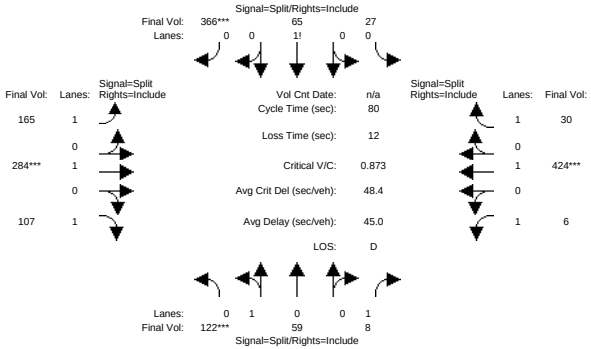
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    8   11    25   357    0    37    88  484     0     0  395   314
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1281
Minor Approach Volume:           394
Minor Approach Volume Threshold: 268
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

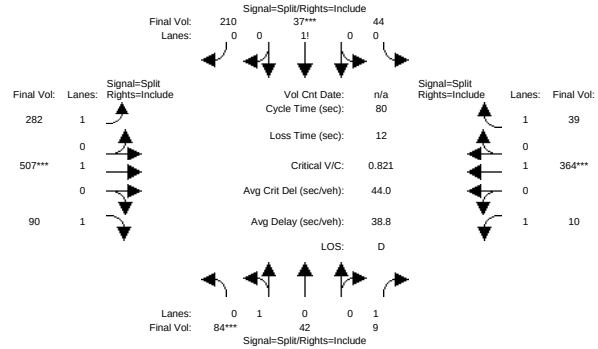



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     122   59     8   27   65   366  165  273   107    6  402    30
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  122   59     8   27   65   366  165  273   107    6  402    30
Added Vol:      0    0     0    0    0     0    0   11     0    0   22     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  122   59     8   27   65   366  165  284   107    6  424    30
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   122   59     8   27   65   366  165  284   107    6  424    30
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  122   59     8   27   65   366  165  284   107    6  424    30
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  122   59     8   27   65   366  165  284   107    6  424    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.89 0.89  0.89 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.06 0.14  0.80 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1238  599  1615  100  240  1350 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.00 0.27 0.27  0.27 0.09 0.15  0.07 0.00 0.22  0.02
Crit Moves:  ****                      ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.31 0.31  0.31 0.17 0.17  0.17 0.25 0.25  0.25
Volume/Cap:  0.79 0.79  0.04 0.89 0.89  0.89 0.54 0.89  0.39 0.01 0.89  0.07
Delay/Veh:   50.5 50.5  30.9 43.4 43.4  43.4 32.5 57.1  30.6 22.5 46.9  22.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  50.5 50.5  30.9 43.4 43.4  43.4 32.5 57.1  30.6 22.5 46.9  22.9
LOS by Move:    D    D     C    D    D     D    C    E     C    C    D     C
HCM2kAvgQ:    163  163     5  362  362   362  112  257    69    3  344    15
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

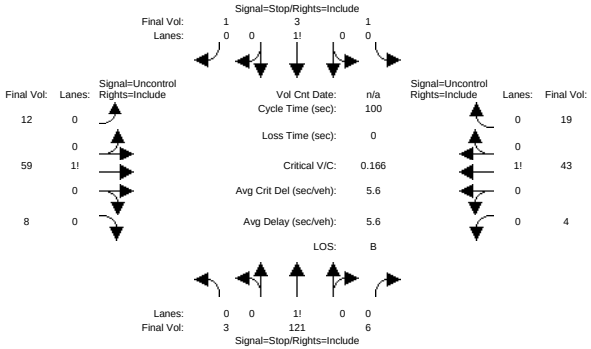



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      84   42     9   44   37   210  282  485    90   10  353    39
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   84   42     9   44   37   210  282  485    90   10  353    39
Added Vol:      0    0     0    0    0     0    0   22     0    0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   84   42     9   44   37   210  282  507    90   10  364    39
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    84   42     9   44   37   210  282  507    90   10  364    39
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   84   42     9   44   37   210  282  507    90   10  364    39
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   84   42     9   44   37   210  282  507    90   10  364    39
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.90 0.90  0.90 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.15 0.13  0.72 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1226  613  1615  258  217  1229 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.01 0.17 0.17  0.17 0.16 0.27  0.06 0.01 0.19  0.02
Crit Moves:  ****                      ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.20 0.20  0.20 0.31 0.31  0.31 0.22 0.22  0.22
Volume/Cap:  0.55 0.55  0.04 0.87 0.87  0.87 0.51 0.87  0.18 0.03 0.87  0.11
Delay/Veh:   35.7 35.7  30.9 51.8 51.8  51.8 23.5 39.3  20.5 24.5 47.3  25.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  35.7 35.7  30.9 51.8 51.8  51.8 23.5 39.3  20.5 24.5 47.3  25.0
LOS by Move:    D    D     C    D    D     D    C    D     C    C    D     C
HCM2kAvgQ:     94   94     6  253  253   253  154  378    42    5  298    20
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                         O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3   18     6     1     3     1    11   59     8     4   43     7
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3   18     6     1     3     1    11   59     8     4   43     7
Added Vol:      0  103     0     0     0     0     1    0     0     0    0    12
PasserByVol:    0    0     0     0     0     0     0    0     0     0    0     0
Initial Fut:    3  121     6     1     3     1    12   59     8     4   43    19
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3  121     6     1     3     1    12   59     8     4   43    19
Reduct Vol:     0    0     0     0     0     0     0    0     0     0    0     0
FinalVolume:    3  121     6     1     3     1    12   59     8     4   43    19
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  150  157    63   211  152    53    62 xxxx xxxxx    67 xxxx xxxxx
Potent Cap.:  823  739  1007   750  744  1021  1554 xxxx xxxxx  1547 xxxx xxxxx
Move Cap.:    813  731  1007   646  736  1021  1554 xxxx xxxxx  1547 xxxx xxxxx
Volume/Cap:  0.00 0.17  0.01  0.00 0.00  0.00  0.01 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  742 xxxxx  xxxx  757 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.9 xxxxx xxxxx  9.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    A     *     *    *     *     *    *     *
ApproachDel:      10.9              9.8           xxxxxx           xxxxxx
ApproachLOS:         B                A                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3  121     6     1     3     1    12   59     8     4   43    19
ApproachDel:      10.9              9.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=130]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=280]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=280]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3  121     6     1     3     1    12   59     8     4   43    19
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             145
Minor Approach Volume:           130
Minor Approach Volume Threshold: 734
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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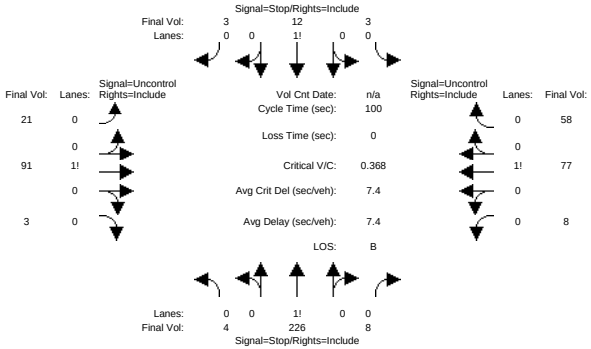
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                          O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   58     8     3   12     3    18   91     3     8   77    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   58     8     3   12     3    18   91     3     8   77    11
Added Vol:      0  168     0     0    0     0     3    0     0     0    0    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4  226     8     3   12     3    21   91     3     8   77    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4  226     8     3   12     3    21   91     3     8   77    58
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4  226     8     3   12     3    21   91     3     8   77    58
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  264  286    93   374  258   106   135 xxxx xxxxx    94 xxxx xxxxx
Potent Cap.:  693  627   970   587  650   954  1462 xxxx xxxxx  1513 xxxx xxxxx
Move Cap.:    671  615   970   410  637   954  1462 xxxx xxxxx  1513 xxxx xxxxx
Volume/Cap:  0.01 0.37  0.01  0.01 0.02  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  623 xxxxx  xxxx  614 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.8 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 14.3 xxxxx xxxxx 11.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      14.3             11.0            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  226     8     3   12     3    21   91     3     8   77    58
ApproachDel:      14.3             11.0            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=238]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=514]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=514]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

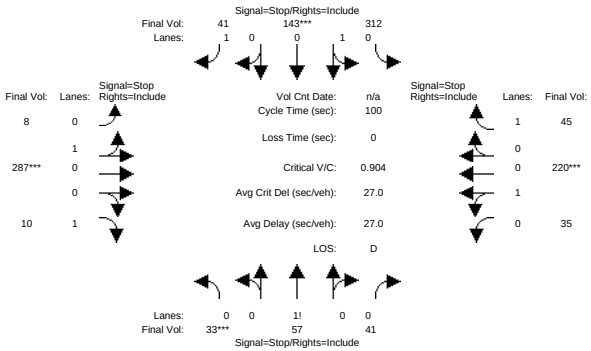
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  226     8     3   12     3    21   91     3     8   77    58
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             258
Minor Approach Volume:           238
Minor Approach Volume Threshold: 581
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    56    33    91   138    41     8   266    10    25   209    45
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   33    56    33    91   138    41     8   266    10    25   209    45
Added Vol:      0     1     8   221     5     0     0    21     0    10    11     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   33    57    41   312   143    41     8   287    10    35   220    45
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    33    57    41   312   143    41     8   287    10    35   220    45
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   33    57    41   312   143    41     8   287    10    35   220    45
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   33    57    41   312   143    41     8   287    10    35   220    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.25  0.44  0.31  0.69  0.31  1.00  0.03  0.97  1.00  0.14  0.86  1.00
Final Sat.:   111   191   137   345   158   581    13   464   525    64   405   520
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.30  0.30  0.30  0.90  0.90  0.07  0.62  0.62  0.02  0.54  0.54  0.09
Crit Moves:  ****                  ****              ****              ****
Delay/Veh:   13.4  13.4  13.4  44.5  44.5   9.2  19.8  19.8   9.3  17.6  17.6   9.8
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  13.4  13.4  13.4  44.5  44.5   9.2  19.8  19.8   9.3  17.6  17.6   9.8
LOS by Move:    B     B     B     E     E     A     C     C     A     C     C     A
ApproachDel:      13.4              41.6              19.5              16.5
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       13.4              41.6              19.5              16.5
LOS by Appr:         B                 E                 C                 C
AllWayAvgQ:   8.6   8.6   8.6   121   121   1.8  32.9  32.9   0.4  24.8  24.8   2.1
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



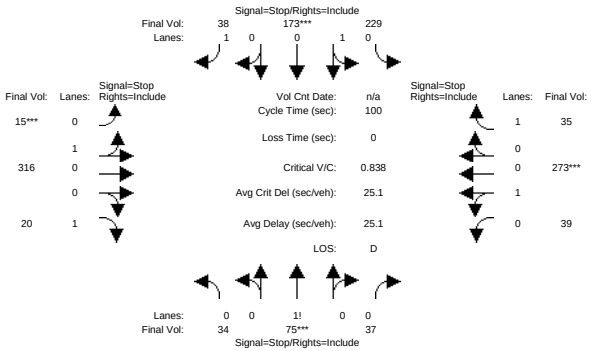
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   33   57    41   312  143    41     8  287    10    35  220    45
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             627
Minor Approach Volume:           305
Minor Approach Volume Threshold: 575
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      34    72    30   111   172    38    15   300    20    26   253    35
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   34    72    30   111   172    38    15   300    20    26   253    35
Added Vol:      0     3     7   118     1     0     0    16     0    13    20     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   34    75    37   229   173    38    15   316    20    39   273    35
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    34    75    37   229   173    38    15   316    20    39   273    35
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   34    75    37   229   173    38    15   316    20    39   273    35
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   34    75    37   229   173    38    15   316    20    39   273    35
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.23  0.52  0.25  0.57  0.43  1.00  0.05  0.95  1.00  0.12  0.88  1.00
Final Sat.:    96   212   104   273   206   545    22   456   521    59   413   518
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35  0.35  0.35  0.84  0.84  0.07  0.69  0.69  0.04  0.66  0.66  0.07
Crit Moves:        ****              ****        ****                    ****
Delay/Veh:   14.5  14.5  14.5  36.0  36.0   9.6  23.6  23.6   9.5  22.1  22.1   9.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  14.5  14.5  14.5  36.0  36.0   9.6  23.6  23.6   9.5  22.1  22.1   9.7
LOS by Move:    B     B     B     E     E     A     C     C     A     C     C     A
ApproachDel:       14.5              33.7              22.8              20.8
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        14.5              33.7              22.8              20.8
LOS by Appr:          B                 D                 C                 C
AllWayAvgQ:  10.4  10.4  10.4  86.3  86.3   1.7  45.0  45.0   0.9  39.4  39.4   1.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



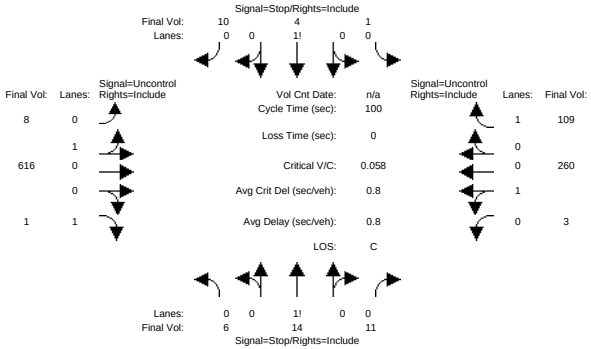
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   34   75   37   229  173   38    15  316   20    39  273   35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             698
Minor Approach Volume:           440
Minor Approach Volume Threshold: 529
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   14     7     1    4    10     8  366     1     3  238     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   14     7     1    4    10     8  366     1     3  238     6
Added Vol:      0    0     4     0    0     0     0  250     0     0   22   103
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6   14    11     1    4    10     8  616     1     3  260   109
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6   14    11     1    4    10     8  616     1     3  260   109
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6   14    11     1    4    10     8  616     1     3  260   109
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  960 1007   616   911  899   260   369 xxxx xxxxx   617 xxxx xxxxx
Potent Cap.:  238  243   494   257  281   784  1201 xxxx xxxxx   973 xxxx xxxxx
Move Cap.:    231  240   494   238  278   784  1201 xxxx xxxxx   973 xxxx xxxxx
Volume/Cap:  0.03 0.06  0.02  0.00 0.01  0.01  0.01 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.0 xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  291 xxxxx  xxxx  479 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.4 xxxxx xxxxx  0.1 xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 18.8 xxxxx xxxxx 12.8 xxxxx   8.0 xxxx xxxxx   8.7 xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     A    *     *     A    *     *
ApproachDel:      18.8             12.8           xxxxxx           xxxxxx
ApproachLOS:         C                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14    11     1    4    10     8  616     1     3  260   109
ApproachDel:      18.8             12.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1043]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1043]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14    11     1    4    10     8  616     1     3  260   109
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             997
Minor Approach Volume:           31
Minor Approach Volume Threshold: 286
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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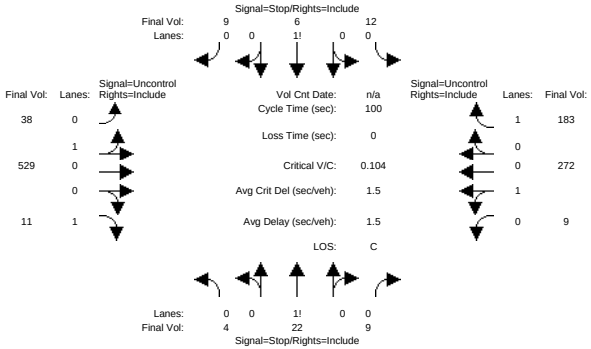
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   22     8    12    6     9    38  388    11     9  240    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   22     8    12    6     9    38  388    11     9  240    15
Added Vol:      0    0     1     0    0     0     0  141     0     0   32   168
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4   22     9    12    6     9    38  529    11     9  272   183
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4   22     9    12    6     9    38  529    11     9  272   183
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4   22     9    12    6     9    38  529    11     9  272   183
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  994 1078   529   916  906   272   455 xxxx xxxxx   540 xxxx xxxxx
Potent Cap.:  226  220   554   255  278   772  1116 xxxx xxxxx  1039 xxxx xxxxx
Move Cap.:    212  211   554   223  266   772  1116 xxxx xxxxx  1039 xxxx xxxxx
Volume/Cap:  0.02 0.10  0.02  0.05 0.02  0.01  0.03 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.6 xxxx xxxxx   0.7 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  251 xxxxx  xxxx  307 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.5 xxxxx xxxxx  0.3 xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 21.6 xxxxx xxxxx 17.8 xxxxx   8.3 xxxx xxxxx   8.5 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      21.6             17.8            xxxxxx           xxxxxx
ApproachLOS:         C                C                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22     9    12    6     9    38  529    11     9  272   183
ApproachDel:      21.6             17.8            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1104]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1104]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

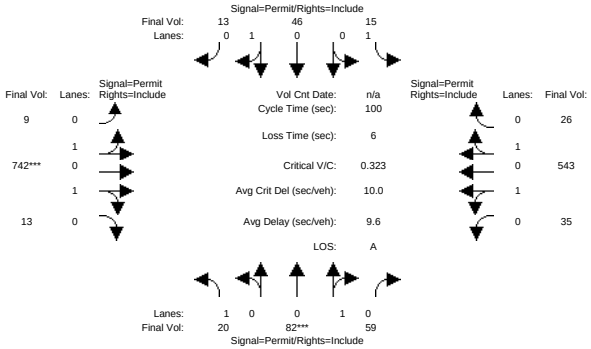
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22     9    12    6     9    38  529    11     9  272   183
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1042
Minor Approach Volume:           35
Minor Approach Volume Threshold: 271
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1036: Main St / M St



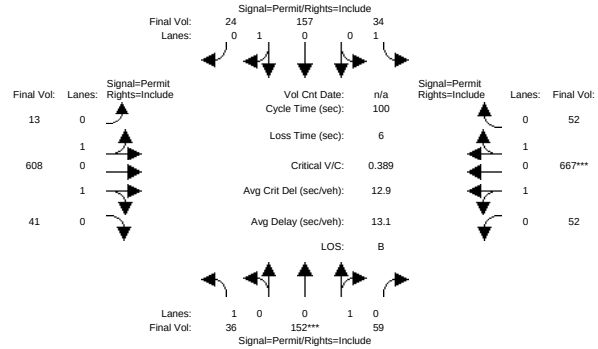
Street Name:	Main Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	19	81	59	15	46	13	9	721	13	35	529	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	81	59	15	46	13	9	721	13	35	529	26
Added Vol:	1	1	0	0	0	0	0	21	0	0	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	82	59	15	46	13	9	742	13	35	543	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	82	59	15	46	13	9	742	13	35	543	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	82	59	15	46	13	9	742	13	35	543	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	82	59	15	46	13	9	742	13	35	543	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.94	0.94	0.57	0.97	0.97	0.90	0.90	0.90	0.83	0.83	0.83
Lanes:	1.00	0.58	0.42	1.00	0.78	0.22	0.02	1.95	0.03	0.11	1.80	0.09
Final Sat.:	1368	1035	745	1083	1432	405	40	3310	58	183	2836	136
Capacity Analysis Module:												
Vol/Sat:	0.01	0.08	0.08	0.01	0.03	0.03	0.22	0.22	0.22	0.19	0.19	0.19
Crit Moves:		****						****				
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.69	0.69	0.69	0.69	0.69	0.69
Volume/Cap:	0.06	0.32	0.32	0.06	0.13	0.13	0.32	0.32	0.32	0.28	0.28	0.28
Delay/Veh:	29.0	31.3	31.3	29.0	29.5	29.5	6.1	6.1	6.1	5.8	5.8	5.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.0	31.3	31.3	29.0	29.5	29.5	6.1	6.1	6.1	5.8	5.8	5.8
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	12	92	92	9	36	36	119	119	119	91	91	91

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1036: Main St / M St



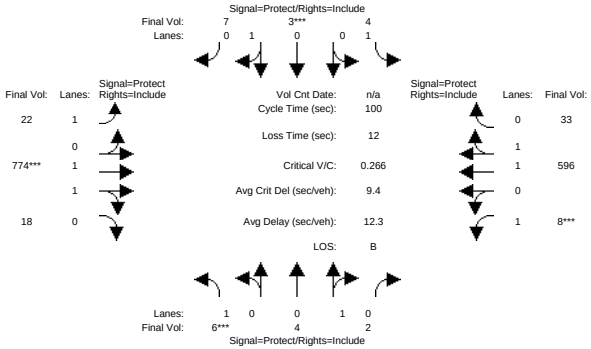
Street Name:	Main Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	36	152	59	34	156	24	13	594	40	52	646	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	152	59	34	156	24	13	594	40	52	646	52
Added Vol:	0	0	0	0	1	0	0	14	1	0	21	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	152	59	34	157	24	13	608	41	52	667	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	152	59	34	157	24	13	608	41	52	667	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	152	59	34	157	24	13	608	41	52	667	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	152	59	34	157	24	13	608	41	52	667	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.53	0.96	0.96	0.49	0.98	0.98	0.88	0.88	0.88	0.81	0.81	0.81
Lanes:	1.00	0.72	0.28	1.00	0.87	0.13	0.04	1.84	0.12	0.13	1.74	0.13
Final Sat.:	1013	1311	509	927	1615	247	66	3075	207	209	2674	209
Capacity Analysis Module:												
Vol/Sat:	0.04	0.12	0.12	0.04	0.10	0.10	0.20	0.20	0.20	0.25	0.25	0.25
Crit Moves:		****									****	
Green/Cycle:	0.30	0.30	0.30	0.30	0.30	0.30	0.64	0.64	0.64	0.64	0.64	0.64
Volume/Cap:	0.12	0.39	0.39	0.12	0.33	0.33	0.31	0.31	0.31	0.39	0.39	0.39
Delay/Veh:	25.7	28.3	28.3	25.8	27.6	27.6	8.1	8.1	8.1	8.7	8.7	8.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.7	28.3	28.3	25.8	27.6	27.6	8.1	8.1	8.1	8.7	8.7	8.7
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	22	132	132	21	110	110	115	115	115	146	146	146

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1037: 18th St / M St



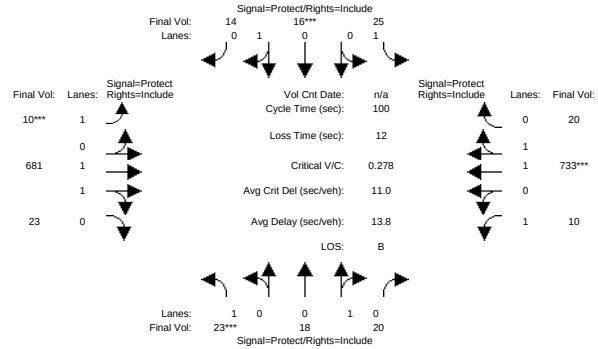
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	2		3		2	4		2		7	22		769		2	8		586		32
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	2		3		2	4		2		7	22		769		2	8		586		32
Added Vol:	4		1		0	0		1		0	0		5		16	0		10		1
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	6		4		2	4		3		7	22		774		18	8		596		33
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	6		4		2	4		3		7	22		774		18	8		596		33
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	6		4		2	4		3		7	22		774		18	8		596		33
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	6		4		2	4		3		7	22		774		18	8		596		33
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.95		0.95	0.95		0.90		0.90	0.95		0.95		0.95	0.95		0.94		0.94
Lanes:	1.00		0.67		0.33	1.00		0.30		0.70	1.00		1.95		0.05	1.00		1.90		0.10
Final Sat.:	1805		1203		602	1805		510		1190	1805		3517		82	1805		3393		188
Capacity Analysis Module:																				
Vol/Sat:	0.00		0.00		0.00	0.00		0.01		0.01	0.01		0.22		0.22	0.00		0.18		0.18
Crit Moves:	****							****					****			****				
Green/Cycle:	0.07		0.10		0.10	0.07		0.10		0.10	0.20		0.64		0.64	0.07		0.51		0.51
Volume/Cap:	0.05		0.03		0.03	0.03		0.06		0.06	0.06		0.34		0.34	0.06		0.35		0.35
Delay/Veh:	43.5		40.7		40.7	43.4		40.9		40.9	32.3		8.4		8.4	43.6		14.8		14.8
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	43.5		40.7		40.7	43.4		40.9		40.9	32.3		8.4		8.4	43.6		14.8		14.8
LOS by Move:	D		D		D	D		D		D	C		A		A	D		B		B
HCM2kAvgQ:	5		5		5	3		7		7	13		144		144	7		150		150

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1037: 18th St / M St



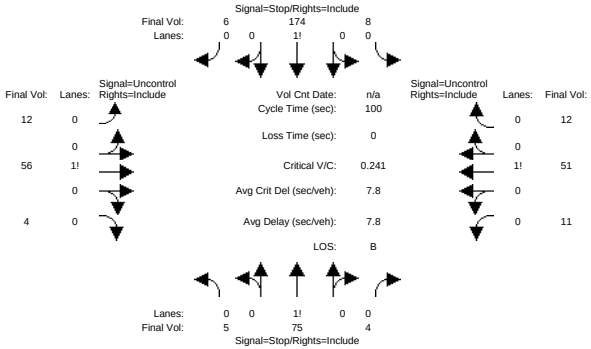
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	7		17		20	24		15		14	10		671		19	10		728		20
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	7		17		20	24		15		14	10		671		19	10		728		20
Added Vol:	16		1		0	1		1		0	0		10		4	0		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	23		18		20	25		16		14	10		681		23	10		733		20
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	23		18		20	25		16		14	10		681		23	10		733		20
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	23		18		20	25		16		14	10		681		23	10		733		20
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	23		18		20	25		16		14	10		681		23	10		733		20
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.92		0.92	0.95		0.93		0.93	0.95		0.95		0.95	0.95		0.95		0.95
Lanes:	1.00		0.47		0.53	1.00		0.53		0.47	1.00		1.93		0.07	1.00		1.95		0.05
Final Sat.:	1805		829		921	1805		942		825	1805		3475		117	1805		3500		95
Capacity Analysis Module:																				
Vol/Sat:	0.01		0.02		0.02	0.01		0.02		0.02	0.01		0.20		0.20	0.01		0.21		0.21
Crit Moves:	****							****			****					****				
Green/Cycle:	0.07		0.10		0.10	0.07		0.10		0.10	0.07		0.52		0.52	0.19		0.64		0.64
Volume/Cap:	0.18		0.22		0.22	0.20		0.17		0.17	0.08		0.37		0.37	0.03		0.33		0.33
Delay/Veh:	44.5		42.0		42.0	44.6		41.7		41.7	43.8		14.3		14.3	33.3		8.3		8.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	44.5		42.0		42.0	44.6		41.7		41.7	43.8		14.3		14.3	33.3		8.3		8.3
LOS by Move:	D		D		D	D		D		D	D		B		B	C		A		A
HCM2kAvgQ:	21		31		31	18		20		20	7		163		163	6		137		137

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5   43     4     8   44     6    12   56     4    11   51    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    5   43     4     8   44     6    12   56     4    11   51    12
Added Vol:      0   32     0     0  130     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    5   75     4     8  174     6    12   56     4    11   51    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     5   75     4     8  174     6    12   56     4    11   51    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    5   75     4     8  174     6    12   56     4    11   51    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  251  167    58   201  163    57    63 xxxx xxxxx    60 xxxx xxxxx
Potent Cap.:  707  729  1014   762  733  1015  1553 xxxx xxxxx  1556 xxxx xxxxx
Move Cap.:    566  719  1014   691  722  1015  1553 xxxx xxxxx  1556 xxxx xxxxx
Volume/Cap:  0.01 0.10  0.00  0.01 0.24  0.01  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx   0.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  717 xxxxx  xxxx  728 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.4 xxxxx xxxxx  1.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.7 xxxxx xxxxx 11.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      10.7             11.7            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5   75     4     8  174     6    12   56     4    11   51    12
ApproachDel:      10.7             11.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=84]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=418]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=188]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=418]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

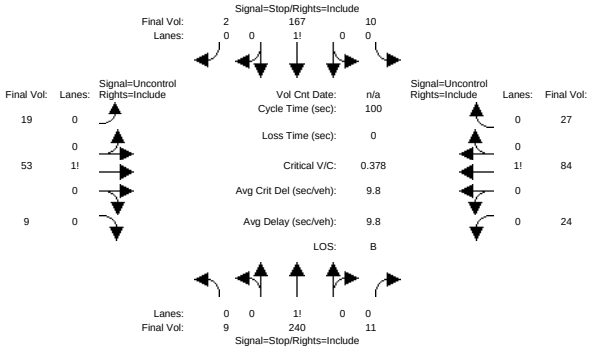
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5   75     4     8  174     6    12   56     4    11   51    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             146
Minor Approach Volume:           188
Minor Approach Volume Threshold: 733
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9  110    11    10  135     2    19   53     9    24   84    27
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9  110    11    10  135     2    19   53     9    24   84    27
Added Vol:      0  130     0     0   32     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    9  240    11    10  167     2    19   53     9    24   84    27
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9  240    11    10  167     2    19   53     9    24   84    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    9  240    11    10  167     2    19   53     9    24   84    27
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  326  255    58   367  246    98   111 xxxx xxxxx    62 xxxx xxxxx
Potent Cap.:  631  653  1014   593  660   964  1492 xxxx xxxxx  1554 xxxx xxxxx
Move Cap.:    493  634  1014   406  641   964  1492 xxxx xxxxx  1554 xxxx xxxxx
Volume/Cap:  0.02 0.38  0.01  0.02 0.26  0.00  0.01 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   1.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  638 xxxxx  xxxx  624 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.0 xxxxx xxxxx  1.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 14.5 xxxxx xxxxx 13.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      14.5             13.1            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  240    11    10  167     2    19   53     9    24   84    27
ApproachDel:      14.5             13.1            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=260]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=655]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=179]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=655]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

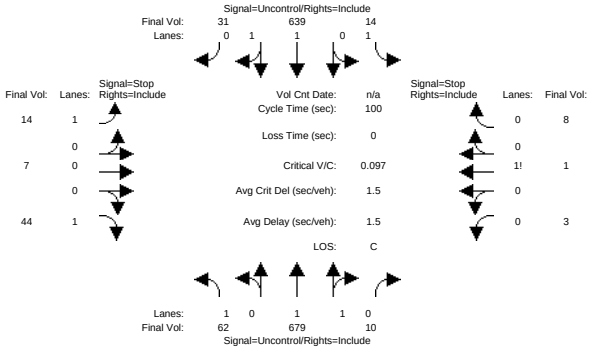
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  240    11    10  167     2    19   53     9    24   84    27
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             216
Minor Approach Volume:           260
Minor Approach Volume Threshold: 628
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62  490    10    14  422    31    14    7    44     3    1     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62  490    10    14  422    31    14    7    44     3    1     8
Added Vol:      0  189     0     0  217     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   62  679    10    14  639    31    14    7    44     3    1     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    62  679    10    14  639    31    14    7    44     3    1     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62  679    10    14  639    31    14    7    44     3    1     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  670 xxxx xxxxx   689 xxxx xxxxx  1147 1496   335  1159 1506   345
Potent Cap.:  930 xxxx xxxxx   915 xxxx xxxxx   157  124   667   153  122   657
Move Cap.:    930 xxxx xxxxx   915 xxxx xxxxx   144  114   667   128  112   657
Volume/Cap:  0.07 xxxx  xxxx  0.02 xxxx  xxxx  0.10 0.06  0.07  0.02 0.01  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    5.3 xxxx xxxxx   1.2 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.1 xxxx xxxxx   9.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   132 xxxx   400  xxxx  270 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.5 xxxx   0.4 xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  37.2 xxxx  15.3 xxxxx 19.0 xxxxx
Shared LOS:     *    *     *     *    *     *     E    *     C     *    C     *
ApproachDel:    xxxxxx           xxxxxx             21.7             19.0
ApproachLOS:         *                *                C                C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   62  679    10    14  639    31    14    7    44     3    1     8
ApproachDel:    xxxxxx           xxxxxx             21.7             19.0
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=65]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1512]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1512]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

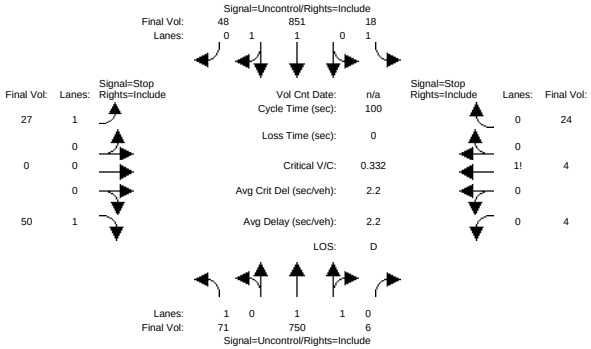
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   62  679    10    14  639    31    14    7    44     3    1     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1435
Minor Approach Volume:           65
Minor Approach Volume Threshold: 219
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  533     6    18  662    48    27    0    50     4    4    24
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   71  533     6    18  662    48    27    0    50     4    4    24
Added Vol:      0  217     0     0  189     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   71  750     6    18  851    48    27    0    50     4    4    24
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    71  750     6    18  851    48    27    0    50     4    4    24
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   71  750     6    18  851    48    27    0    50     4    4    24
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  899 xxxx xxxxx   756 xxxx xxxxx  1430 xxxx   450  1357 1830   378
Potent Cap.:  764 xxxx xxxxx   864 xxxx xxxxx    97 xxxx   562   110   77   625
Move Cap.:    764 xxxx xxxxx   864 xxxx xxxxx    81 xxxx   562    91   69   625
Volume/Cap:  0.09 xxxx  xxxx  0.02 xxxx  xxxx  0.33 xxxx  0.09  0.04 0.06  0.04
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    7.7 xxxx xxxxx   1.6 xxxx xxxxx  31.4 xxxx   7.3  xxxx xxxx xxxxx
Control Del: 10.2 xxxx xxxxx   9.3 xxxx xxxxx  69.8 xxxx  12.0 xxxxx xxxx xxxxx
LOS by Move:    B    *     *     A    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  228 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.5 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 23.4 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             32.3            23.4
ApproachLOS:         *                *                D               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   71  750     6    18  851    48    27    0    50     4    4    24
ApproachDel:    xxxxxx           xxxxxx             32.3            23.4
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=77]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1853]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1853]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

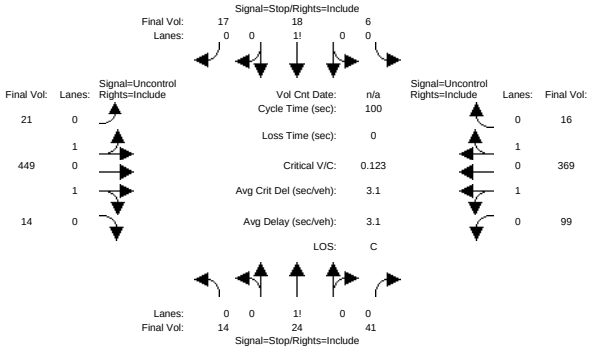
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   71  750     6    18  851    48    27    0    50     4    4    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1744
Minor Approach Volume:           77
Minor Approach Volume Threshold: 135 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      14   23    25     6   16     7     2  440    14    34  360    16
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   14   23    25     6   16     7     2  440    14    34  360    16
Added Vol:      0    1    16     0    2    10    19    9     0    65    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   14   24    41     6   18    17    21  449    14    99  369    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    14   24    41     6   18    17    21  449    14    99  369    16
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   14   24    41     6   18    17    21  449    14    99  369    16
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  890 1081   232   854 1080   193   385 xxxx xxxxx   463 xxxx xxxxx
Potent Cap.:  241  220   777   256  220   823  1185 xxxx xxxxx  1109 xxxx xxxxx
Move Cap.:    201  195   777   201  195   823  1185 xxxx xxxxx  1109 xxxx xxxxx
Volume/Cap:  0.07 0.12  0.05  0.03 0.09  0.02  0.02 xxxx  xxxx  0.09 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.4 xxxx xxxxx   7.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx   8.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  322 xxxxx  xxxx  287 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx  0.5 xxxxx   0.1 xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx 19.8 xxxxx xxxxx 19.6 xxxxx   8.1 xxxx xxxxx   8.6 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      19.8             19.6           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   24    41     6   18    17    21  449    14    99  369    16
ApproachDel:      19.8             19.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=79]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1088]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=41]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1088]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

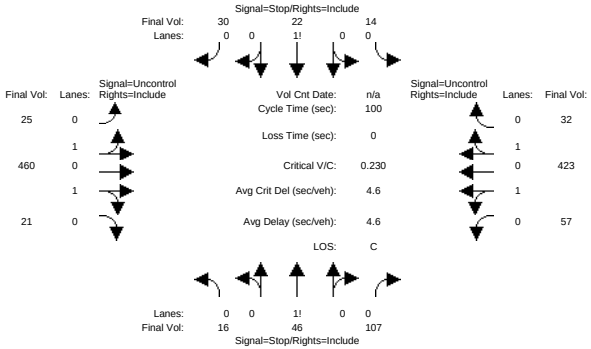
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   24    41     6   18    17    21  449    14    99  369    16
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             968
Minor Approach Volume:           79
Minor Approach Volume Threshold: 296
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      16   40    42    14   22    11    15  451    21    41  414    32
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   16   40    42    14   22    11    15  451    21    41  414    32
Added Vol:      0    6    65     0    0    19    10    9     0    16    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   16   46   107    14   22    30    25  460    21    57  423    32
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    16   46   107    14   22    30    25  460    21    57  423    32
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   16   46   107    14   22    30    25  460    21    57  423    32
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  857 1090   241   856 1084   228   455 xxxx xxxxx   481 xxxx xxxxx
Potent Cap.:  254  217   767   255  219   781  1116 xxxx xxxxx  1092 xxxx xxxxx
Move Cap.:    211  200   767   170  202   781  1116 xxxx xxxxx  1092 xxxx xxxxx
Volume/Cap:  0.08 0.23  0.14  0.08 0.11  0.04  0.02 xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.7 xxxx xxxxx   4.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  380 xxxxx  xxxx  287 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.2 xxxxx xxxxx  0.9 xxxxx   0.1 xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx 21.9 xxxxx xxxxx 21.2 xxxxx   8.3 xxxx xxxxx   8.5 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      21.9             21.2           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   46   107    14   22    30    25  460    21    57  423    32
ApproachDel:      21.9             21.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=169]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1253]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=66]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1253]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

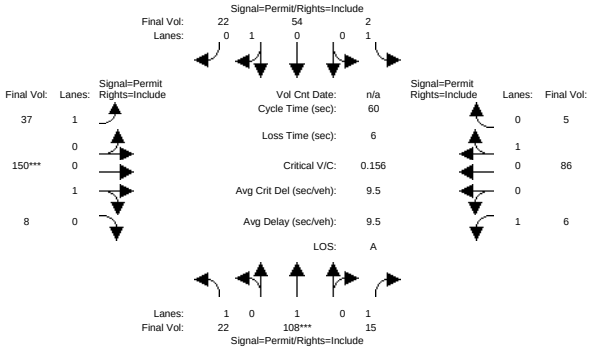
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   46   107    14   22    30    25  460    21    57  423    32
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1018
Minor Approach Volume:           169
Minor Approach Volume Threshold: 279
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1041: Main St / Martin Luther King Wy



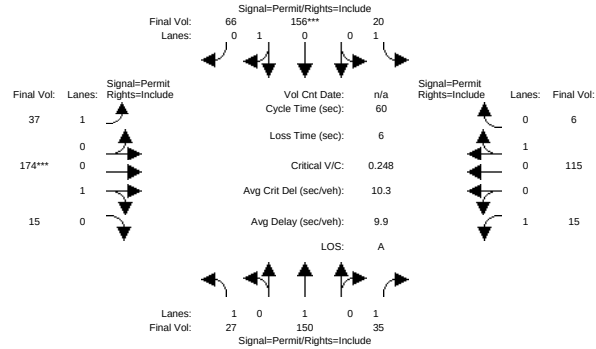
Street Name:	Main Street									Martin Luther King Way							
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	22		106		15	2		54		22	37		150		8	6		86		5
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	22		106		15	2		54		22	37		150		8	6		86		5
Added Vol:	0		2		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	22		108		15	2		54		22	37		150		8	6		86		5
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	22		108		15	2		54		22	37		150		8	6		86		5
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	22		108		15	2		54		22	37		150		8	6		86		5
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	22		108		15	2		54		22	37		150		8	6		86		5
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.71		1.00		0.85	0.68		0.96		0.96	0.70		0.99		0.99	0.65		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.71		0.29	1.00		0.95		0.05	1.00		0.95		0.05
Final Sat.:	1343		1900		1615	1300		1292		526	1322		1789		95	1237		1781		104
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.06		0.01	0.00		0.04		0.04	0.03		0.08		0.08	0.00		0.05		0.05
Crit Moves:			****										****							
Green/Cycle:	0.36		0.36		0.36	0.36		0.36		0.36	0.54		0.54		0.54	0.54		0.54		0.54
Volume/Cap:	0.05		0.16		0.03	0.00		0.11		0.11	0.05		0.16		0.16	0.01		0.09		0.09
Delay/Veh:	12.4		13.0		12.3	12.2		12.8		12.8	6.7		7.1		7.1	6.5		6.8		6.8
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	12.4		13.0		12.3	12.2		12.8		12.8	6.7		7.1		7.1	6.5		6.8		6.8
LOS by Move:	B		B		B	B		B		B	A		A		A	A		A		A
HCM2kAvgQ:	7		35		5	1		24		24	8		35		35	1		21		21

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1041: Main St / Martin Luther King Wy



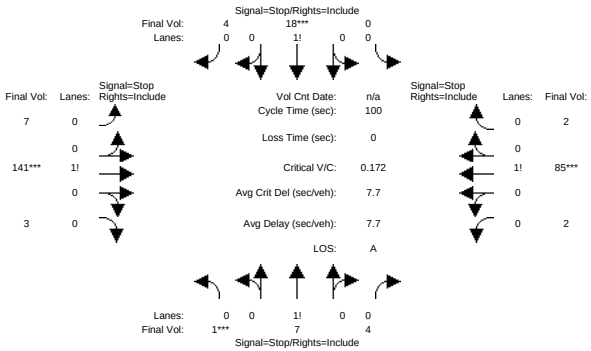
Street Name:	Main Street									Martin Luther King Way							
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	27		150		35	20		154		66	37		174		15	15		115		6
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	27		150		35	20		154		66	37		174		15	15		115		6
Added Vol:	0		0		0	0		2		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	27		150		35	20		156		66	37		174		15	15		115		6
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	27		150		35	20		156		66	37		174		15	15		115		6
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	27		150		35	20		156		66	37		174		15	15		115		6
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	27		150		35	20		156		66	37		174		15	15		115		6
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.59		1.00		0.85	0.66		0.96		0.96	0.68		0.99		0.99	0.60		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.70		0.30	1.00		0.92		0.08	1.00		0.95		0.05
Final Sat.:	1113		1900		1615	1246		1275		539	1283		1728		149	1142		1793		94
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.08		0.02	0.02		0.12		0.12	0.03		0.10		0.10	0.01		0.06		0.06
Crit Moves:								****					****							
Green/Cycle:	0.49		0.49		0.49	0.49		0.49		0.49	0.41		0.41		0.41	0.41		0.41		0.41
Volume/Cap:	0.05		0.16		0.04	0.03		0.25		0.25	0.07		0.25		0.25	0.03		0.16		0.16
Delay/Veh:	7.9		8.4		7.9	7.8		8.9		8.9	10.9		11.9		11.9	10.7		11.4		11.4
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	7.9		8.4		7.9	7.8		8.9		8.9	10.9		11.9		11.9	10.7		11.4		11.4
LOS by Move:	A		A		A	A		A		A	B		B		B	B		B		B
HCM2kAvgQ:	7		39		9	5		62		62	10		55		55	5		37		37

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1     2     4     0     1     4     7   141     3     2    85     2
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    1     2     4     0     1     4     7   141     3     2    85     2
Added Vol:      0     5     0     0    17     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    1     7     4     0    18     4     7   141     3     2    85     2
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     1     7     4     0    18     4     7   141     3     2    85     2
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    1     7     4     0    18     4     7   141     3     2    85     2
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    1     7     4     0    18     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.08  0.59  0.33  0.00  0.82  0.18  0.05  0.93  0.02  0.02  0.96  0.02
Final Sat.:    67   471   269     0   652   145    41   821    17    19   828    19
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01  0.01  0.01  xxxx  0.03  0.03  0.17  0.17  0.17  0.10  0.10  0.10
Crit Moves:  ****                  ****              ****              ****
Delay/Veh:    7.3   7.3   7.3   0.0   7.4   7.4   7.9   7.9   7.9   7.6   7.6   7.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.3   7.3   7.3   0.0   7.4   7.4   7.9   7.9   7.9   7.6   7.6   7.6
LOS by Move:    A     A     A     *     A     A     A     A     A     A     A     A
ApproachDel:        7.3               7.4               7.9               7.6
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.3               7.4               7.9               7.6
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   0.3   0.3   0.3   0.6   0.6   0.6   5.1   5.1   5.1   2.8   2.8   2.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



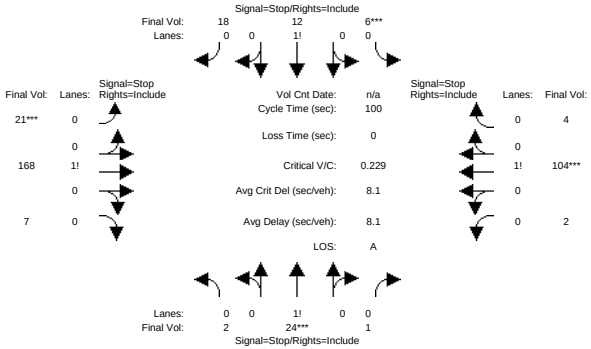
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    1     7     4     0    18     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             240
Minor Approach Volume:           22
Minor Approach Volume Threshold: 600
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2     7     1     6     7    18    21   168     7     2   104     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2     7     1     6     7    18    21   168     7     2   104     4
Added Vol:      0    17     0     0     5     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    2    24     1     6    12    18    21   168     7     2   104     4
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     2    24     1     6    12    18    21   168     7     2   104     4
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    2    24     1     6    12    18    21   168     7     2   104     4
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    2    24     1     6    12    18    21   168     7     2   104     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.07  0.89  0.04  0.17  0.33  0.50  0.11  0.86  0.03  0.02  0.94  0.04
Final Sat.:    55   658    27   131   262   393    92   733    31    15   792    30
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04  0.04  0.04  0.05  0.05  0.05  0.23  0.23  0.23  0.13  0.13  0.13
Crit Moves:        ****        ****              ****                    ****
Delay/Veh:    7.7   7.7   7.7   7.5   7.5   7.5   8.4   8.4   8.4   7.8   7.8   7.8
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.7   7.7   7.7   7.5   7.5   7.5   8.4   8.4   8.4   7.8   7.8   7.8
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        7.7               7.5               8.4               7.8
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.7               7.5               8.4               7.8
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   0.8   0.8   0.8   1.1   1.1   1.1   7.2   7.2   7.2   3.6   3.6   3.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2   24     1     6   12    18    21  168     7     2  104     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             306
Minor Approach Volume:           36
Minor Approach Volume Threshold: 535
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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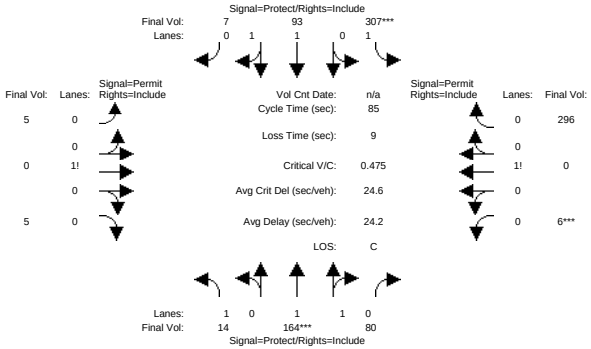
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1043: 16th St / H St



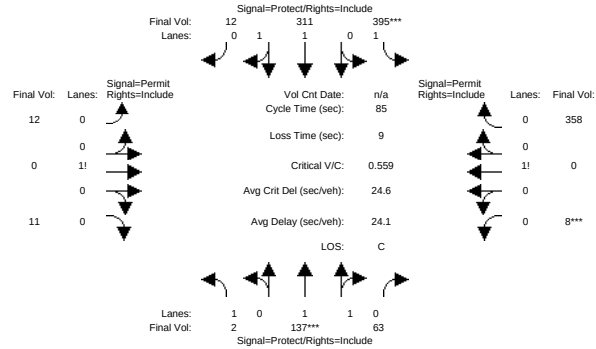
Street Name:	16th Street						H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	14	142	80	293	84	7	5	0	5	6	0	286
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	14	142	80	293	84	7	5	0	5	6	0	286
Added Vol:	0	22	0	14	9	0	0	0	0	0	0	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	14	164	80	307	93	7	5	0	5	6	0	296
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	14	164	80	307	93	7	5	0	5	6	0	296
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	164	80	307	93	7	5	0	5	6	0	296
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	14	164	80	307	93	7	5	0	5	6	0	296
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.94	0.94	0.84	1.00	0.84	0.87	1.00	0.87
Lanes:	1.00	1.34	0.66	1.00	1.86	0.14	0.50	0.00	0.50	0.02	0.00	0.98
Final Sat.:	1805	2308	1126	1805	3324	250	799	0	799	33	0	1612
Capacity Analysis Module:												
Vol/Sat:	0.01	0.07	0.07	0.17	0.03	0.03	0.01	0.00	0.01	0.18	0.00	0.18
Crit Moves:		****		****						****		
Green/Cycle:	0.21	0.15	0.15	0.36	0.30	0.30	0.39	0.00	0.39	0.39	0.00	0.39
Volume/Cap:	0.04	0.48	0.48	0.48	0.09	0.09	0.02	0.00	0.02	0.48	0.00	0.48
Delay/Veh:	26.8	33.8	33.8	21.7	21.6	21.6	16.1	0.0	16.1	20.2	0.0	20.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.8	33.8	33.8	21.7	21.6	21.6	16.1	0.0	16.1	20.2	0.0	20.2
LOS by Move:	C	C	C	C	C	C	B	A	B	C	A	C
HCM2kAvgQ:	8	91	91	162	25	25	4	0	4	156	0	156

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1043: 16th St / H St



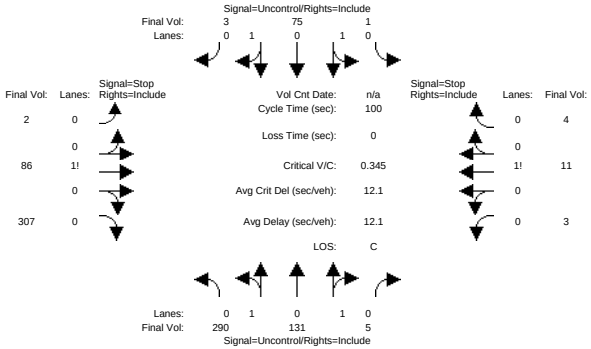
Street Name:	16th Street						H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	2	122	63	378	297	12	12	0	11	8	0	350
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	122	63	378	297	12	12	0	11	8	0	350
Added Vol:	0	15	0	17	14	0	0	0	0	0	0	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	137	63	395	311	12	12	0	11	8	0	358
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	137	63	395	311	12	12	0	11	8	0	358
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	137	63	395	311	12	12	0	11	8	0	358
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	137	63	395	311	12	12	0	11	8	0	358
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.94	0.94	0.79	1.00	0.79	0.86	1.00	0.86
Lanes:	1.00	1.37	0.63	1.00	1.93	0.07	0.52	0.00	0.48	0.02	0.00	0.98
Final Sat.:	1805	2357	1084	1805	3455	133	786	0	720	36	0	1607
Capacity Analysis Module:												
Vol/Sat:	0.00	0.06	0.06	0.22	0.09	0.09	0.02	0.00	0.02	0.22	0.00	0.22
Crit Moves:		****		****						****		
Green/Cycle:	0.21	0.12	0.12	0.38	0.30	0.30	0.39	0.00	0.39	0.39	0.00	0.39
Volume/Cap:	0.01	0.49	0.49	0.57	0.30	0.30	0.04	0.00	0.04	0.57	0.00	0.57
Delay/Veh:	26.8	36.1	36.1	21.7	23.3	23.3	16.0	0.0	16.0	21.4	0.0	21.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.8	36.1	36.1	21.7	23.3	23.3	16.0	0.0	16.0	21.4	0.0	21.4
LOS by Move:	C	D	D	C	C	C	B	A	B	C	A	C
HCM2kAvgQ:	1	81	81	216	89	89	9	0	9	201	0	201

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     280  129     5     1   75     3     2   86   293     3   11     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  280  129     5     1   75     3     2   86   293     3   11     4
Added Vol:     10    2     0     0    0     0     0    0    14     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  290  131     5     1   75     3     2   86   307     3   11     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   290  131     5     1   75     3     2   86   307     3   11     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  290  131     5     1   75     3     2   86   307     3   11     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   78 xxxx xxxxx   136 xxxx xxxxx   730  795    39   796  794    68
Potent Cap.: 1533 xxxx xxxxx  1461 xxxx xxxxx   314  323  1031   281  323   988
Move Cap.:   1533 xxxx xxxxx  1461 xxxx xxxxx   250  250  1031   121  250   988
Volume/Cap:  0.19 xxxx  xxxx  0.00 xxxx  xxxx  0.01 0.34  0.30  0.02 0.04  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   17.4 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.9 xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  607 xxxxx  xxxx  247 xxxxx
SharedQueue:  0.7 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  4.7 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:  7.9 xxxx xxxxx   7.5 xxxx xxxxx xxxxx 21.3 xxxxx xxxxx 20.7 xxxxx
Shared LOS:     A    *     *     A    *     *     *    C     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             21.3            20.7
ApproachLOS:         *                *                C               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  290  131     5     1   75     3     2   86   307     3   11     4
ApproachDel:    xxxxxx           xxxxxx             21.3            20.7
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=395]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=918]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=918]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  290  131     5     1   75     3     2   86   307     3   11     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             505
Minor Approach Volume:           395
Minor Approach Volume Threshold: 520
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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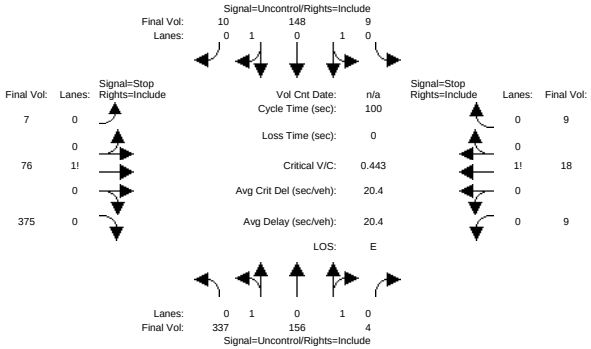
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     329  156     4     9  146    10     7   76   358     9   18     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  329  156     4     9  146    10     7   76   358     9   18     9
Added Vol:      8    0     0     0    2     0     0    0    17     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  337  156     4     9  148    10     7   76   375     9   18     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   337  156     4     9  148    10     7   76   375     9   18     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  337  156     4     9  148    10     7   76   375     9   18     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  158 xxxx xxxxx   160 xxxx xxxxx   932 1005    79   962 1008    80
Potent Cap.: 1434 xxxx xxxxx  1432 xxxx xxxxx   224  243   972   213  242   971
Move Cap.:   1434 xxxx xxxxx  1432 xxxx xxxxx   159  172   972    68  171   971
Volume/Cap:  0.24 xxxx  xxxx  0.01 xxxx  xxxx  0.04 0.44  0.39  0.13 0.11  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   22.9 xxxx xxxxx   0.5 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.3 xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  525 xxxxx  xxxx  145 xxxxx
SharedQueue:  0.9 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  9.6 xxxxx xxxxx  0.9 xxxxx
Shrd ConDel:  8.3 xxxx xxxxx   7.5 xxxx xxxxx xxxxx 42.5 xxxxx xxxxx 37.7 xxxxx
Shared LOS:     A    *     *     A    *     *     *    E     *     *    E     *
ApproachDel:    xxxxxx           xxxxxx             42.5            37.7
ApproachLOS:         *                *                E               E
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  337  156     4     9  148    10     7   76   375     9   18     9
ApproachDel:    xxxxxx           xxxxxx              42.5             37.7
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=458]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1158]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=36]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1158]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

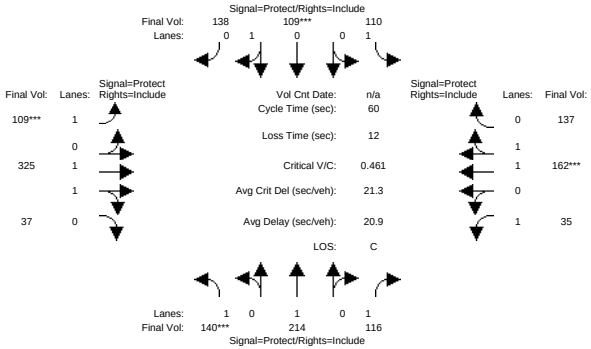
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  337  156     4     9  148    10     7   76   375     9   18     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             664
Minor Approach Volume:           458
Minor Approach Volume Threshold: 426
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1046: Main St / G St



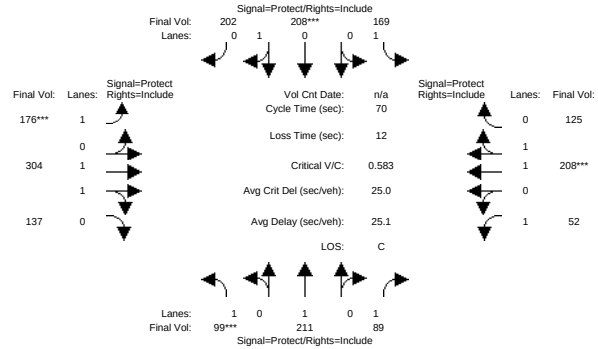
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	214	113	105	109	128	105	323	36	35	158	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	214	113	105	109	128	105	323	36	35	158	129
Added Vol:	6	0	3	5	0	10	4	2	1	0	4	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	214	116	110	109	138	109	325	37	35	162	137
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	214	116	110	109	138	109	325	37	35	162	137
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	214	116	110	109	138	109	325	37	35	162	137
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	214	116	110	109	138	109	325	37	35	162	137
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.92	0.92	0.95	0.94	0.94	0.95	0.88	0.88
Lanes:	1.00	1.00	1.00	1.00	0.44	0.56	1.00	1.80	0.20	1.00	1.08	0.92
Final Sat.:	1805	1900	1615	1805	768	972	1805	3192	363	1805	1821	1540
Capacity Analysis Module:												
Vol/Sat:	0.08	0.11	0.07	0.06	0.14	0.14	0.06	0.10	0.10	0.02	0.09	0.09
Crit Moves:	****				****		****				****	
Green/Cycle:	0.17	0.28	0.28	0.20	0.31	0.31	0.13	0.19	0.19	0.13	0.19	0.19
Volume/Cap:	0.46	0.40	0.26	0.31	0.46	0.46	0.46	0.53	0.53	0.15	0.46	0.46
Delay/Veh:	23.6	18.0	17.1	21.2	17.4	17.4	25.5	22.7	22.7	23.3	22.0	22.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.6	18.0	17.1	21.2	17.4	17.4	25.5	22.7	22.7	23.3	22.0	22.0
LOS by Move:	C	B	B	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	73	89	46	50	104	104	62	99	99	14	64	64

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1046: Main St / G St



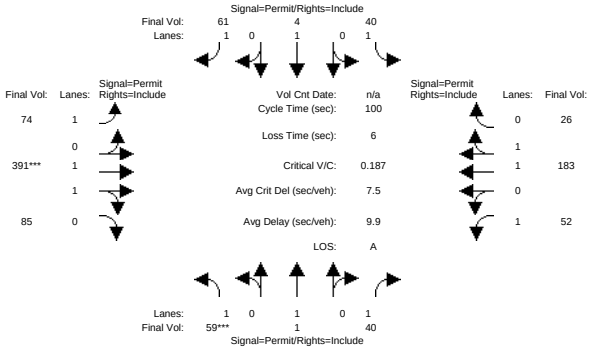
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	98	211	88	161	208	191	172	301	131	50	205	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	211	88	161	208	191	172	301	131	50	205	120
Added Vol:	1	0	1	8	0	11	4	3	6	2	3	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	211	89	169	208	202	176	304	137	52	208	125
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	211	89	169	208	202	176	304	137	52	208	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	211	89	169	208	202	176	304	137	52	208	125
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	211	89	169	208	202	176	304	137	52	208	125
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.91	0.91	0.95	0.90	0.90
Lanes:	1.00	1.00	1.00	1.00	0.51	0.49	1.00	1.38	0.62	1.00	1.25	0.75
Final Sat.:	1805	1900	1615	1805	893	867	1805	2372	1069	1805	2129	1279
Capacity Analysis Module:												
Vol/Sat:	0.05	0.11	0.06	0.09	0.23	0.23	0.10	0.13	0.13	0.03	0.10	0.10
Crit Moves:	****				****		****				****	
Green/Cycle:	0.10	0.29	0.29	0.20	0.40	0.40	0.17	0.20	0.20	0.14	0.17	0.17
Volume/Cap:	0.55	0.38	0.19	0.46	0.59	0.59	0.59	0.66	0.66	0.21	0.59	0.59
Delay/Veh:	33.5	20.2	18.8	25.3	17.9	17.9	30.0	28.4	28.4	27.3	28.6	28.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.5	20.2	18.8	25.3	17.9	17.9	30.0	28.4	28.4	27.3	28.6	28.6
LOS by Move:	C	C	B	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	73	97	38	93	191	191	112	147	147	24	89	89

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #1047: 18th St / G St



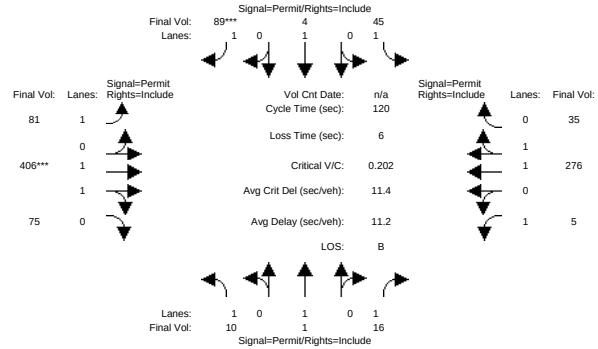
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	59	1	40	40	4	60	70	385	85	52	172	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	1	40	40	4	60	70	385	85	52	172	26
Added Vol:	0	0	0	0	0	1	4	6	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	59	1	40	40	4	61	74	391	85	52	183	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	1	40	40	4	61	74	391	85	52	183	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	1	40	40	4	61	74	391	85	52	183	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	59	1	40	40	4	61	74	391	85	52	183	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.61	0.92	0.92	0.47	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.64	0.36	1.00	1.75	0.25
Final Sat.:	1455	1900	1615	1459	1900	1615	1165	2885	627	885	3101	441
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.02	0.03	0.00	0.04	0.06	0.14	0.14	0.06	0.06	0.06
Crit Moves:	****							****				
Green/Cycle:	0.22	0.22	0.22	0.22	0.22	0.22	0.72	0.72	0.72	0.72	0.72	0.72
Volume/Cap:	0.19	0.00	0.11	0.13	0.01	0.17	0.09	0.19	0.19	0.08	0.08	0.08
Delay/Veh:	32.3	30.7	31.6	31.7	30.8	32.1	4.1	4.5	4.5	4.1	4.1	4.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	30.7	31.6	31.7	30.8	32.1	4.1	4.5	4.5	4.1	4.1	4.1
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	39	1	26	26	2	40	16	60	60	13	25	25

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #1047: 18th St / G St



Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	1	16	45	4	85	80	395	75	5	270	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1	16	45	4	85	80	395	75	5	270	35
Added Vol:	0	0	0	0	0	4	1	11	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	1	16	45	4	89	81	406	75	5	276	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	1	16	45	4	89	81	406	75	5	276	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1	16	45	4	89	81	406	75	5	276	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1	16	45	4	89	81	406	75	5	276	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.55	0.93	0.93	0.45	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.69	0.31	1.00	1.77	0.23
Final Sat.:	1455	1900	1615	1459	1900	1615	1049	2977	550	863	3149	399
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.03	0.00	0.06	0.08	0.14	0.14	0.01	0.09	0.09
Crit Moves:						****		****				
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.68	0.68	0.68	0.68	0.68	0.68
Volume/Cap:	0.03	0.00	0.04	0.11	0.01	0.20	0.11	0.20	0.20	0.01	0.13	0.13
Delay/Veh:	31.9	31.7	32.0	32.8	31.7	33.8	6.9	7.3	7.3	6.3	6.9	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.9	31.7	32.0	32.8	31.7	33.8	6.9	7.3	7.3	6.3	6.9	6.9
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	7	1	11	31	3	63	25	83	83	2	52	52

Note: Queue reported is the distance per lane in feet.

MERCED STATION ANALYSIS

INTERSECTION

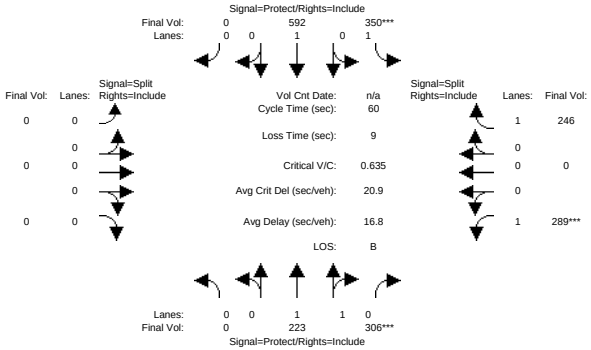
EXISTING WITH PROJECT_OPTION-B MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1001: 16th St / SR-59

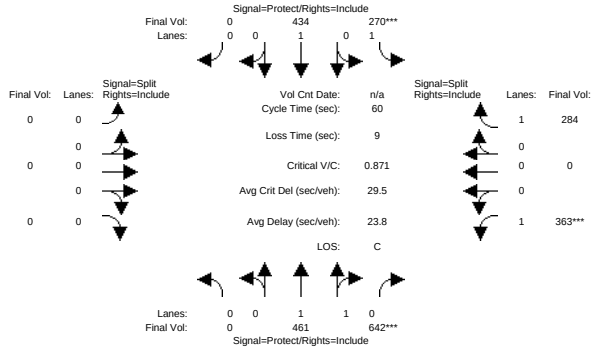



```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10   10     7   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  194  298   350  592    0     0    0    0   272    0  246
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0  194  298   350  592    0     0    0    0   272    0  246
Added Vol:      0   29    8     0    0    0     0    0    0    17    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  223  306   350  592    0     0    0    0   289    0  246
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0  223  306   350  592    0     0    0    0   289    0  246
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  223  306   350  592    0     0    0    0   289    0  246
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0  223  306   350  592    0     0    0    0   289    0  246
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.87 0.87  0.95 1.00 1.00  1.00 1.00 1.00  0.95 1.00 0.85
Lanes:       0.00 1.00 1.00  1.00 1.00 0.00  0.00 0.00 0.00  1.00 0.00 1.00
Final Sat.:     0 1648 1648  1805 1900    0     0    0    0  1805    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.14 0.19  0.19 0.31 0.00  0.00 0.00 0.00  0.16 0.00 0.15
Crit Moves:                  ****  ****                       ****
Green/Cycle: 0.00 0.29 0.29  0.31 0.60 0.00  0.00 0.00 0.00  0.25 0.00 0.25
Volume/Cap:  0.00 0.46 0.63  0.63 0.52 0.00  0.00 0.00 0.00  0.63 0.00 0.60
Delay/Veh:    0.0 17.7 20.1  20.4  7.5  0.0   0.0  0.0  0.0  22.9  0.0 22.4
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 17.7 20.1  20.4  7.5  0.0   0.0  0.0  0.0  22.9  0.0 22.4
LOS by Move:    A    B    C     C    A    A     A    A    A     C    A    C
HCM2kAvgQ:      0  101  157   166  171    0     0    0    0   148    0  126
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1001: 16th St / SR-59

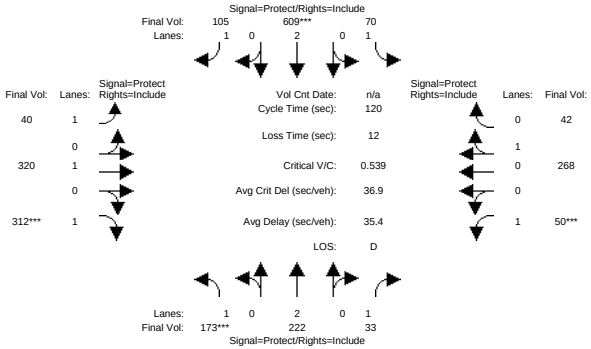



```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10   10     7   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  427  625   270  434    0     0    0    0   355    0  284
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0  427  625   270  434    0     0    0    0   355    0  284
Added Vol:      0   34   17     0    0    0     0    0    0     8    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  461  642   270  434    0     0    0    0   363    0  284
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0  461  642   270  434    0     0    0    0   363    0  284
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  461  642   270  434    0     0    0    0   363    0  284
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0  461  642   270  434    0     0    0    0   363    0  284
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.87 0.87  0.95 1.00 1.00  1.00 1.00 1.00  0.95 1.00 0.85
Lanes:       0.00 1.00 1.00  1.00 1.00 0.00  0.00 0.00 0.00  1.00 0.00 1.00
Final Sat.:     0 1648 1648  1805 1900    0     0    0    0  1805    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.28 0.39  0.15 0.23 0.00  0.00 0.00 0.00  0.20 0.00 0.18
Crit Moves:                  ****  ****                       ****
Green/Cycle: 0.00 0.45 0.45  0.17 0.62 0.00  0.00 0.00 0.00  0.23 0.00 0.23
Volume/Cap:  0.00 0.63 0.87  0.87 0.37 0.00  0.00 0.00 0.00  0.87 0.00 0.76
Delay/Veh:    0.0 13.4 21.8  46.6  5.8  0.0   0.0  0.0  0.0  39.9  0.0 30.4
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 13.4 21.8  46.6  5.8  0.0   0.0  0.0  0.0  39.9  0.0 30.4
LOS by Move:    A    B    C     D    A    A     A    A    A     D    A    C
HCM2kAvgQ:      0  195  376   205  104    0     0    0    0   250    0  175
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

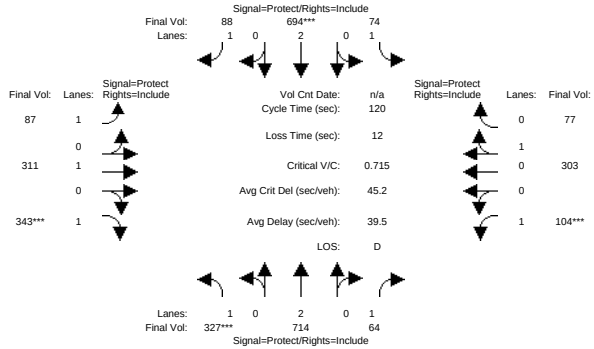



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     173  222    33    70  609   105    40  312   312    50  251    42
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  173  222    33    70  609   105    40  312   312    50  251    42
Added Vol:      0    0     0     0    0     0     0    8     0     0   17     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  173  222    33    70  609   105    40  320   312    50  268    42
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   173  222    33    70  609   105    40  320   312    50  268    42
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  173  222    33    70  609   105    40  320   312    50  268    42
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  173  222    33    70  609   105    40  320   312    50  268    42
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.98  0.98
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.86  0.14
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1610   252
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.06  0.02  0.04 0.17  0.07  0.02 0.17  0.19  0.03 0.17  0.17
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.18 0.29  0.29  0.20 0.31  0.31  0.11 0.36  0.36  0.06 0.31  0.31
Volume/Cap:  0.54 0.21  0.07  0.19 0.54  0.21  0.21 0.47  0.54  0.47 0.54  0.54
Delay/Veh:   47.0 32.7  31.3  40.2 34.9  30.7  49.4 30.5  32.0  58.1 35.7  35.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  47.0 32.7  31.3  40.2 34.9  30.7  49.4 30.5  32.0  58.1 35.7  35.7
LOS by Move:    D    C     C     D    C     C     D    C     C     E    D     D
HCM2kAvgQ:    143   78    21    54  250    71    37  229   237    61  244   244
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

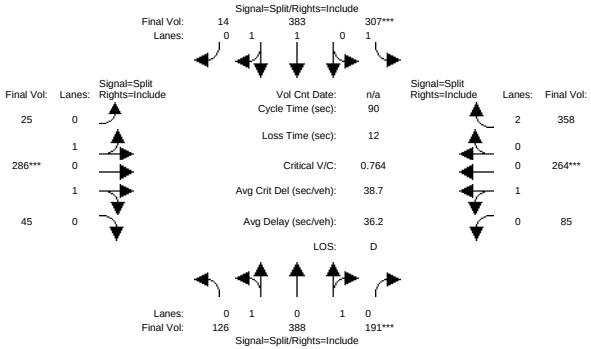



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     327  714    64    74  694    88    87  294   343   104  295    77
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  327  714    64    74  694    88    87  294   343   104  295    77
Added Vol:      0    0     0     0    0     0     0   17     0     0    8     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  327  714    64    74  694    88    87  311   343   104  303    77
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   327  714    64    74  694    88    87  311   343   104  303    77
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  327  714    64    74  694    88    87  311   343   104  303    77
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  327  714    64    74  694    88    87  311   343   104  303    77
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.97  0.97
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.80  0.20
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1470   373
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.20  0.04  0.04 0.19  0.05  0.05 0.16  0.21  0.06 0.21  0.21
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.25 0.40  0.40  0.12 0.27  0.27  0.08 0.30  0.30  0.08 0.29  0.29
Volume/Cap:  0.71 0.49  0.10  0.34 0.71  0.20  0.58 0.55  0.71  0.71 0.70  0.70
Delay/Veh:   46.2 26.9  22.3  49.5 42.3  34.1  58.5 36.6  42.7  69.3 41.7  41.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  46.2 26.9  22.3  49.5 42.3  34.1  58.5 36.6  42.7  69.3 41.7  41.7
LOS by Move:    D    C     C     D    D     C     E    D     D     E    D     D
HCM2kAvgQ:    271  245    34    69  331    63   100  247   311   131  334   334
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

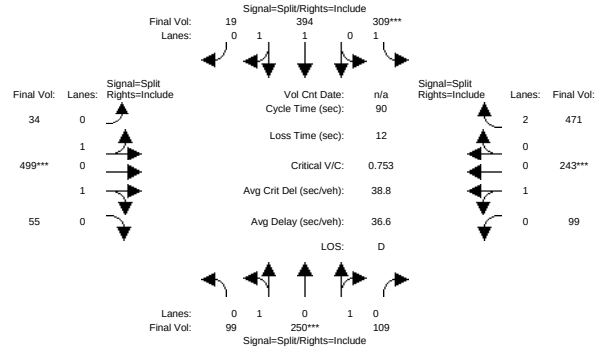



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  144   146  304  367    12   24  274    45   85  260   348
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   71  144   146  304  367    12   24  274    45   85  260   348
Added Vol:     55  244    45    3   16     2    1   12     0    0    4    10
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  126  388   191  307  383    14   25  286    45   85  264   358
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  126  388   191  307  383    14   25  286    45   85  264   358
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol: 126  388   191  307  383    14   25  286    45   85  264   358
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume: 126  388   191  307  383    14   25  286    45   85  264   358
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment: 0.90 0.90  0.90 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:      0.36 1.10  0.54 1.00 1.93  0.07 0.14 1.61  0.25 0.24 0.76  2.00
Final Sat.:  613 1888   929 1805 3465   127  248 2837   446  457 1420  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.21 0.21  0.21 0.17 0.11  0.11 0.10 0.10  0.10 0.19 0.19  0.13
Crit Moves:             ****  ****               ****             ****
Green/Cycle: 0.27 0.27  0.27 0.22 0.22  0.22 0.13 0.13  0.13 0.24 0.24  0.24
Volume/Cap:  0.76 0.76  0.76 0.76 0.50  0.50 0.76 0.76  0.76 0.76 0.76  0.52
Delay/Veh:   34.1 34.1  34.1 41.2 31.1  31.1 45.1 45.1  45.1 39.2 39.2  30.2
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  34.1 34.1  34.1 41.2 31.1  31.1 45.1 45.1  45.1 39.2 39.2  30.2
LOS by Move:    C    C     C    D    C     C    D    D     D    D    D     C
HCM2kAvgQ:    281  281   281  246  138   138  174  174   174  270  270   136
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

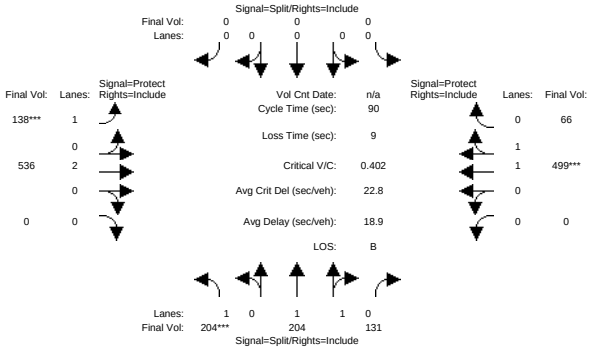



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      65  108    98  307  386    18   32  450    55   99  242   451
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   65  108    98  307  386    18   32  450    55   99  242   451
Added Vol:     34  142    11    2    8     1    2   49     0    0    1    20
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   99  250   109  309  394    19   34  499    55   99  243   471
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   99  250   109  309  394    19   34  499    55   99  243   471
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  99  250   109  309  394    19   34  499    55   99  243   471
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  99  250   109  309  394    19   34  499    55   99  243   471
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment: 0.91 0.91  0.91 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:      0.43 1.09  0.48 1.00 1.91  0.09 0.11 1.70  0.19 0.29 0.71  2.00
Final Sat.:  744 1879   819 1805 3420   165  205 3012   332  542 1331  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.13 0.13  0.13 0.17 0.12  0.12 0.17 0.17  0.17 0.18 0.18  0.17
Crit Moves:         ****       ****               ****             ****
Green/Cycle: 0.18 0.18  0.18 0.23 0.23  0.23 0.22 0.22  0.22 0.24 0.24  0.24
Volume/Cap:  0.75 0.75  0.75 0.75 0.51  0.51 0.75 0.75  0.75 0.75 0.75  0.68
Delay/Veh:   40.5 40.5  40.5 40.1 30.9  30.9 37.0 37.0  37.0 38.6 38.6  33.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  40.5 40.5  40.5 40.1 30.9  30.9 37.0 37.0  37.0 38.6 38.6  33.8
LOS by Move:    D    D     D    D    C     C    D    D     D    D    D     C
HCM2kAvgQ:    204  204   204  243  143   143  244  244   244  262  262   200
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

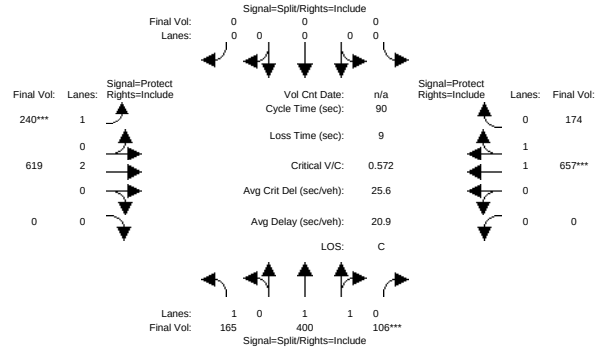



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     202   77   131     0    0     0   127  476     0     0  486    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  202   77   131     0    0     0   127  476     0     0  486    46
Added Vol:      2  127     0     0    0     0    11   60     0     0   13    20
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  204  204   131     0    0     0   138  536     0     0  499    66
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   204  204   131     0    0     0   138  536     0     0  499    66
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  204  204   131     0    0     0   138  536     0     0  499    66
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  204  204   131     0    0     0   138  536     0     0  499    66
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.89  0.89  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.93  0.93
Lanes:       1.00 1.22  0.78  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.77  0.23
Final Sat.:  1615 2069  1328     0    0     0  1805 3610     0     0 3131   414
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.10  0.10  0.00 0.00  0.00  0.08 0.15  0.00  0.00 0.16  0.16
Crit Moves:  ****                             ****                    ****
Green/Cycle: 0.31 0.31  0.31  0.00 0.00  0.00  0.19 0.59  0.00  0.00 0.40  0.40
Volume/Cap:  0.40 0.31  0.31  0.00 0.00  0.00  0.40 0.25  0.00  0.00 0.40  0.40
Delay/Veh:   24.8 23.7  23.7   0.0  0.0   0.0  32.7  9.1   0.0   0.0 19.7  19.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.8 23.7  23.7   0.0  0.0   0.0  32.7  9.1   0.0   0.0 19.7  19.7
LOS by Move:    C    C     C     A    A     A     C    A     A     A    B     B
HCM2kAvgQ:    117   95    95     0    0     0    92   94     0     0  143   143
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

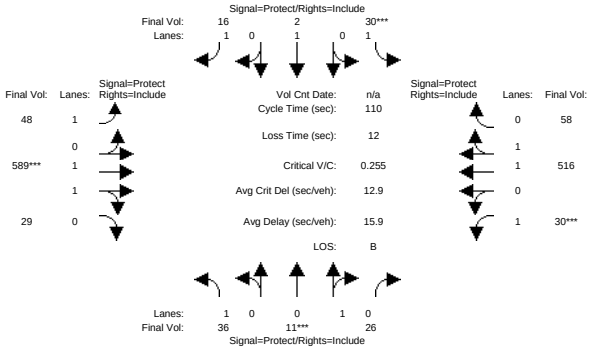



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156  173   106     0    0     0   195  579     0     0  645   136
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  156  173   106     0    0     0   195  579     0     0  645   136
Added Vol:      9  227     0     0    0     0    45   40     0     0   12    38
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  165  400   106     0    0     0   240  619     0     0  657   174
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   165  400   106     0    0     0   240  619     0     0  657   174
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  165  400   106     0    0     0   240  619     0     0  657   174
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  165  400   106     0    0     0   240  619     0     0  657   174
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.92  0.92  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.92  0.92
Lanes:       1.00 1.58  0.42  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.58  0.42
Final Sat.:  1615 2765   733     0    0     0  1805 3610     0     0 2766   732
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.14  0.14  0.00 0.00  0.00  0.13 0.17  0.00  0.00 0.24  0.24
Crit Moves:             ****                    ****                    ****
Green/Cycle: 0.25 0.25  0.25  0.00 0.00  0.00  0.23 0.65  0.00  0.00 0.42  0.42
Volume/Cap:  0.40 0.57  0.57  0.00 0.00  0.00  0.57 0.26  0.00  0.00 0.57  0.57
Delay/Veh:   28.6 30.3  30.3   0.0  0.0   0.0  32.5  6.8   0.0   0.0 20.8  20.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  28.6 30.3  30.3   0.0  0.0   0.0  32.5  6.8   0.0   0.0 20.8  20.8
LOS by Move:    C    C     C     A    A     A     C    A     A     A    C     C
HCM2kAvgQ:    102  177   177     0    0     0   164   96     0     0  227   227
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1005: 15th St / V St



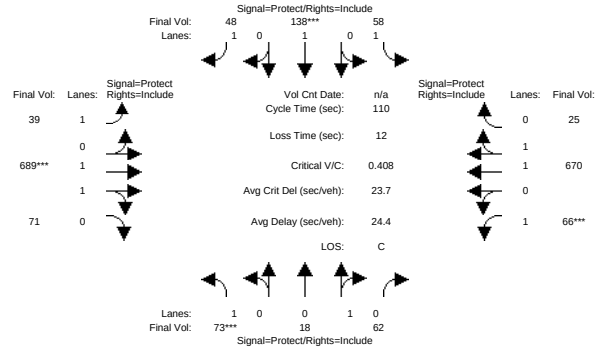
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	36	11	26	30	2	16	48	529	29	30	484	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	11	26	30	2	16	48	529	29	30	484	58
Added Vol:	0	0	0	0	0	0	0	60	0	0	32	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	11	26	30	2	16	48	589	29	30	516	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	11	26	30	2	16	48	589	29	30	516	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	11	26	30	2	16	48	589	29	30	516	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	11	26	30	2	16	48	589	29	30	516	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.91	0.09	1.00	1.80	0.20
Final Sat.:	1805	506	1195	1805	1900	1615	1805	3417	168	1805	3197	359
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.02	0.00	0.01	0.03	0.17	0.17	0.02	0.16	0.16
Crit Moves:		****		****				****		****		
Green/Cycle:	0.06	0.09	0.09	0.06	0.09	0.09	0.21	0.67	0.67	0.06	0.53	0.53
Volume/Cap:	0.31	0.24	0.24	0.26	0.01	0.11	0.13	0.26	0.26	0.26	0.31	0.31
Delay/Veh:	50.7	47.3	47.3	50.1	45.5	46.2	35.6	7.3	7.3	50.1	14.7	14.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.7	47.3	47.3	50.1	45.5	46.2	35.6	7.3	7.3	50.1	14.7	14.7
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	37	34	34	30	2	14	31	106	106	23	136	136

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1005: 15th St / V St



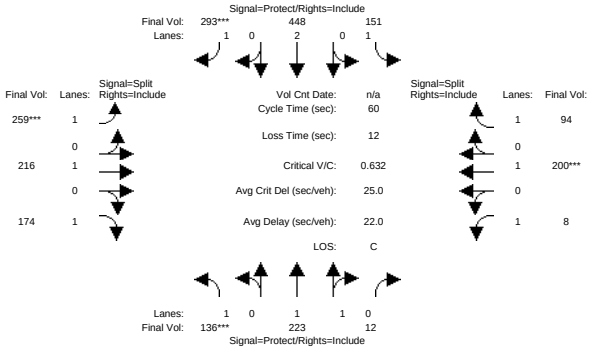
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	73	18	62	58	138	48	39	649	71	66	620	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	18	62	58	138	48	39	649	71	66	620	25
Added Vol:	0	0	0	0	0	0	0	40	0	0	50	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	18	62	58	138	48	39	689	71	66	670	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	18	62	58	138	48	39	689	71	66	670	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	18	62	58	138	48	39	689	71	66	670	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	18	62	58	138	48	39	689	71	66	670	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	1.00	0.23	0.77	1.00	1.00	1.00	1.00	1.81	0.19	1.00	1.93	0.07
Final Sat.:	1805	378	1302	1805	1900	1615	1805	3227	333	1805	3463	129
Capacity Analysis Module:												
Vol/Sat:	0.04	0.05	0.05	0.03	0.07	0.03	0.02	0.21	0.21	0.04	0.19	0.19
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.16	0.16	0.11	0.18	0.18	0.15	0.52	0.52	0.09	0.46	0.46
Volume/Cap:	0.41	0.29	0.29	0.28	0.41	0.17	0.14	0.41	0.41	0.41	0.42	0.42
Delay/Veh:	48.0	41.0	41.0	45.3	40.9	38.6	40.7	16.0	16.0	49.0	19.9	19.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.0	41.0	41.0	45.3	40.9	38.6	40.7	16.0	16.0	49.0	19.9	19.9
LOS by Move:	D	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	69	64	64	50	110	36	27	198	198	50	195	195

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1006: 16th St / V St

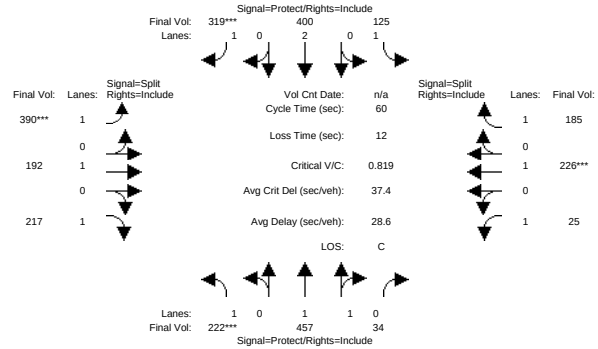



```
Street Name:            16th Street                     V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     10  10  10     10  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     111 187   9   150 434 291   259 194 137     7 194  94
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  111 187   9   150 434 291   259 194 137     7 194  94
Added Vol:     25  36   3     1  14   2     0  22  37     1   6   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:  136 223  12   151 448 293   259 216 174     8 200  94
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   136 223  12   151 448 293   259 216 174     8 200  94
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  136 223  12   151 448 293   259 216 174     8 200  94
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  136 223  12   151 448 293   259 216 174     8 200  94
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.94 0.94 0.95 0.95 0.85 0.95 1.00 0.85 0.95 1.00 0.85
Lanes:       1.00 1.90 0.10 1.00 2.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Sat.:  1805 3398  183 1805 3610 1615 1805 1900 1615 1805 1900 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.07 0.07 0.08 0.12 0.18 0.14 0.11 0.11 0.00 0.11 0.06
Crit Moves:  ****                     ****  ****                ****
Green/Cycle: 0.12 0.24 0.24 0.17 0.29 0.29 0.23 0.23 0.23 0.17 0.17 0.17
Volume/Cap:  0.63 0.27 0.27 0.50 0.43 0.63 0.63 0.50 0.47 0.03 0.63 0.35
Delay/Veh:   31.1 18.8 18.8 24.0 17.7 21.5 24.1 21.1 21.1 21.0 27.4 22.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  31.1 18.8 18.8 24.0 17.7 21.5 24.1 21.1 21.1 21.0 27.4 22.9
LOS by Move:    C    B    B    C    B    C    C    C    C    C    C    C
HCM2kAvgQ:     63   45   45   81   99  146  110   86   69    3  116   48
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1006: 16th St / V St

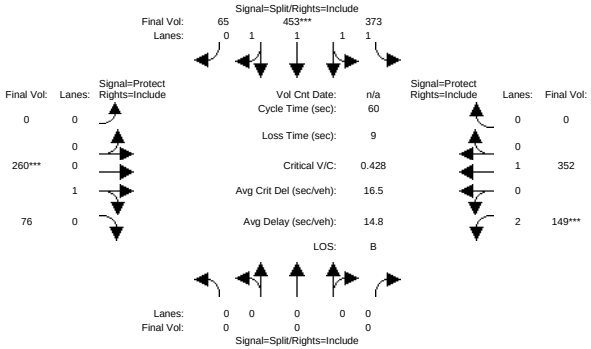



```
Street Name:            16th Street                     V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     10  10  10     10  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     194 409  33   125 392 319   388 186 184    22 204 184
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  194 409  33   125 392 319   388 186 184    22 204 184
Added Vol:     28  48   1     0   8   0     2   6  33     3  22   1
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:  222 457  34   125 400 319   390 192 217    25 226 185
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   222 457  34   125 400 319   390 192 217    25 226 185
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  222 457  34   125 400 319   390 192 217    25 226 185
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  222 457  34   125 400 319   390 192 217    25 226 185
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.94 0.94 0.95 0.95 0.85 0.95 1.00 0.85 0.95 1.00 0.85
Lanes:       1.00 1.86 0.14 1.00 2.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Sat.:  1805 3326  247 1805 3610 1615 1805 1900 1615 1805 1900 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.14 0.14 0.07 0.11 0.20 0.22 0.10 0.13 0.01 0.12 0.11
Crit Moves:  ****                     ****  ****                ****
Green/Cycle: 0.15 0.22 0.22 0.16 0.23 0.23 0.26 0.26 0.26 0.17 0.17 0.17
Volume/Cap:  0.85 0.62 0.62 0.44 0.48 0.85 0.85 0.40 0.53 0.08 0.71 0.69
Delay/Veh:   46.8 22.5 22.5 24.1 20.3 38.2 34.9 19.1 20.5 21.2 31.1 30.8
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  46.8 22.5 22.5 24.1 20.3 38.2 34.9 19.1 20.5 21.2 31.1 30.8
LOS by Move:    D    C    C    C    C    D    C    B    C    C    C    C
HCM2kAvgQ:    115  108  108   66   98  219  191   72   86   11  142  119
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1007: 13th St / R St



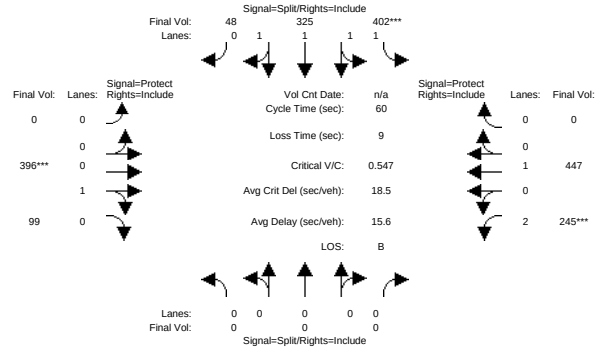
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	337	229	65	0	260	76	147	352	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	337	229	65	0	260	76	147	352	0
Added Vol:	0	0	0	36	224	0	0	0	0	2	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	373	453	65	0	260	76	149	352	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	373	453	65	0	260	76	149	352	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	373	453	65	0	260	76	149	352	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	373	453	65	0	260	76	149	352	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.84	0.84	0.84	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	1.67	2.04	0.29	0.00	0.77	0.23	2.00	1.00	0.00
Final Sat.:	0	0	0	2683	3258	468	0	1425	416	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.14	0.14	0.14	0.00	0.18	0.18	0.04	0.19	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.32	0.32	0.32	0.00	0.42	0.42	0.12	0.53	0.00
Volume/Cap:	0.00	0.00	0.00	0.44	0.44	0.44	0.00	0.44	0.44	0.36	0.35	0.00
Delay/Veh:	0.0	0.0	0.0	16.4	16.4	16.4	0.0	12.9	12.9	25.0	8.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.4	16.4	16.4	0.0	12.9	12.9	25.0	8.2	0.0
LOS by Move:	A	A	A	B	B	B	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	100	100	100	0	119	119	32	91	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1007: 13th St / R St



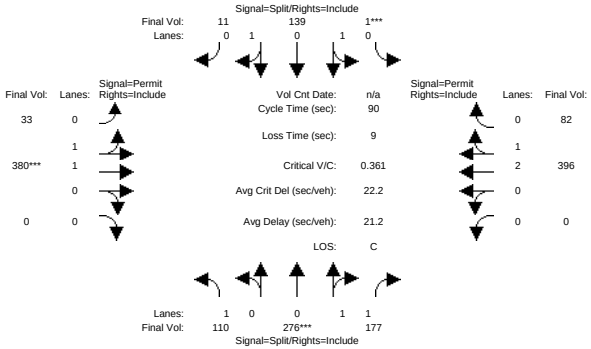
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	371	206	48	0	396	99	244	447	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	371	206	48	0	396	99	244	447	0
Added Vol:	0	0	0	31	119	0	0	0	0	1	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	402	325	48	0	396	99	245	447	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	402	325	48	0	396	99	245	447	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	402	325	48	0	396	99	245	447	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	402	325	48	0	396	99	245	447	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.83	0.83	0.83	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.74	0.26	0.00	0.80	0.20	2.00	1.00	0.00
Final Sat.:	0	0	0	3160	2753	407	0	1479	370	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.12	0.12	0.00	0.27	0.27	0.07	0.24	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.23	0.23	0.23	0.00	0.49	0.49	0.13	0.62	0.00
Volume/Cap:	0.00	0.00	0.00	0.55	0.51	0.51	0.00	0.55	0.55	0.55	0.38	0.00
Delay/Veh:	0.0	0.0	0.0	20.7	20.3	20.3	0.0	11.4	11.4	26.0	6.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	20.7	20.3	20.3	0.0	11.4	11.4	26.0	6.0	0.0
LOS by Move:	A	A	A	C	C	C	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	110	99	99	0	173	173	56	102	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

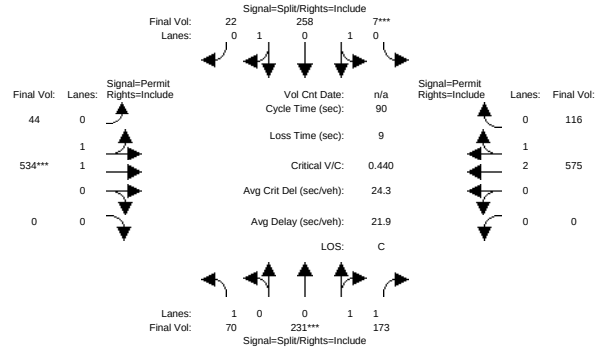



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     110  276   176    1   36    11   33  344     0    0  394    68
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  110  276   176    1   36    11   33  344     0    0  394    68
Added Vol:      0    0     1    0  103     0    0   36     0    0    2    14
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  110  276   177    1  139    11   33  380     0    0  396    82
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   110  276   177    1  139    11   33  380     0    0  396    82
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  110  276   177    1  139    11   33  380     0    0  396    82
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  110  276   177    1  139    11   33  380     0    0  396    82
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.85 0.85  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.01 1.84  0.15 0.16 1.84  0.00 0.00 2.49  0.51
Final Sat.:  1805 1788  1788   24 3287   260  258 2969     0    0 4185   867
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.15  0.10 0.04 0.04  0.04 0.13 0.13  0.00 0.00 0.09  0.09
Crit Moves:        ****        ****            ****
Green/Cycle: 0.43 0.43  0.43 0.12 0.12  0.12 0.35 0.35  0.00 0.00 0.35  0.35
Volume/Cap:  0.14 0.36  0.23 0.36 0.36  0.36 0.36 0.36  0.00 0.00 0.27  0.27
Delay/Veh:   15.8 17.6  16.4 37.1 37.1  37.1 21.7 21.7   0.0  0.0 20.8  20.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  15.8 17.6  16.4 37.1 37.1  37.1 21.7 21.7   0.0  0.0 20.8  20.8
LOS by Move:    B    B     B    D    D     D    C    C     A    A    C     C
HCM2kAvgQ:     46  131    78   59   59    59  107  107     0    0   83    83
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

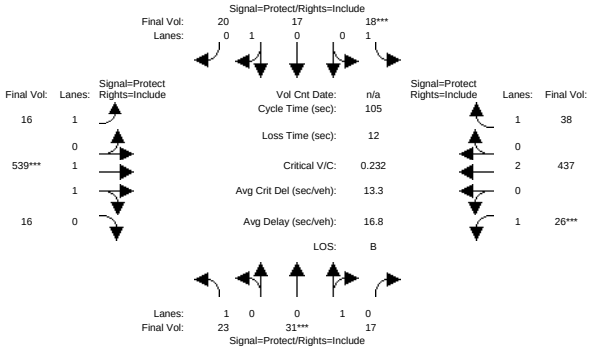



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      70  231   173    7   86    22   44  503     0    0  574    99
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   70  231   173    7   86    22   44  503     0    0  574    99
Added Vol:      0    0     0    0  172     0    0   31     0    0    1    17
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   70  231   173    7  258    22   44  534     0    0  575   116
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   70  231   173    7  258    22   44  534     0    0  575   116
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   70  231   173    7  258    22   44  534     0    0  575   116
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   70  231   173    7  258    22   44  534     0    0  575   116
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.82 0.82  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.05 1.80  0.15 0.15 1.85  0.00 0.00 2.50  0.50
Final Sat.:  1805 1778  1778   87 3203   273  237 2878     0    0 4208   849
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.13  0.10 0.08 0.08  0.08 0.19 0.19  0.00 0.00 0.14  0.14
Crit Moves:        ****        ****            ****
Green/Cycle: 0.30 0.30  0.30 0.18 0.18  0.18 0.42 0.42  0.00 0.00 0.42  0.42
Volume/Cap:  0.13 0.44  0.33 0.44 0.44  0.44 0.44 0.44  0.00 0.00 0.32  0.32
Delay/Veh:   23.4 26.0  24.9 33.1 33.1  33.1 18.7 18.7   0.0  0.0 17.5  17.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  23.4 26.0  24.9 33.1 33.1  33.1 18.7 18.7   0.0  0.0 17.5  17.5
LOS by Move:    C    C     C    C    C     C    B    B     A    A    B     B
HCM2kAvgQ:     36  136    97  103  103   103  144  144     0    0  112   112
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1009: 15th St / R St



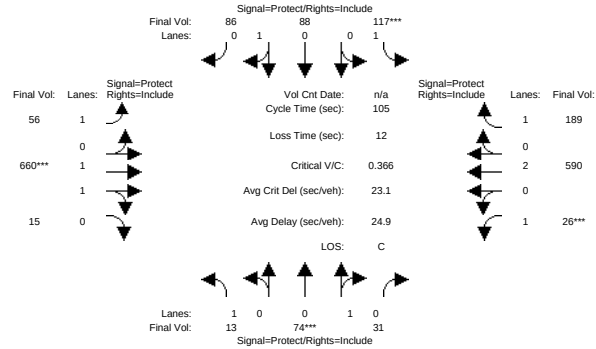
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	23	31	16	18	17	20	16	502	16	23	421	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	31	16	18	17	20	16	502	16	23	421	38
Added Vol:	0	0	1	0	0	0	0	37	0	3	16	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	23	31	17	18	17	20	16	539	16	26	437	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	31	17	18	17	20	16	539	16	26	437	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	31	17	18	17	20	16	539	16	26	437	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	31	17	18	17	20	16	539	16	26	437	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.65	0.35	1.00	0.46	0.54	1.00	1.94	0.06	1.00	2.00	1.00
Final Sat.:	1805	1162	637	1805	802	944	1805	3492	104	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.01	0.02	0.02	0.01	0.15	0.15	0.01	0.12	0.02
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.11	0.11	0.07	0.10	0.10	0.25	0.64	0.64	0.07	0.46	0.46
Volume/Cap:	0.17	0.24	0.24	0.15	0.20	0.20	0.04	0.24	0.24	0.22	0.27	0.05
Delay/Veh:	46.3	43.3	43.3	46.8	43.6	43.6	29.7	8.0	8.0	47.3	17.7	15.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.3	43.3	43.3	46.8	43.6	43.6	29.7	8.0	8.0	47.3	17.7	15.9
LOS by Move:	D	D	D	D	D	D	C	A	A	D	B	B
HCM2kAvgQ:	21	40	40	17	31	31	9	97	97	19	109	16

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1009: 15th St / R St



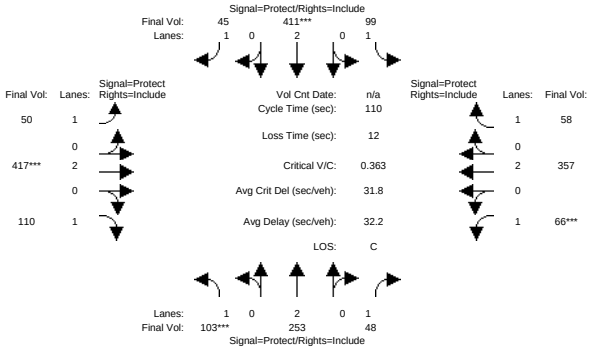
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	13	74	28	117	88	86	56	629	15	25	572	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	74	28	117	88	86	56	629	15	25	572	189
Added Vol:	0	0	3	0	0	0	0	31	0	1	18	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	74	31	117	88	86	56	660	15	26	590	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	74	31	117	88	86	56	660	15	26	590	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	74	31	117	88	86	56	660	15	26	590	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	74	31	117	88	86	56	660	15	26	590	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.70	0.30	1.00	0.51	0.49	1.00	1.96	0.04	1.00	2.00	1.00
Final Sat.:	1805	1280	536	1805	890	870	1805	3519	80	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.06	0.06	0.10	0.10	0.03	0.19	0.19	0.01	0.16	0.12
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.15	0.15	0.17	0.19	0.19	0.16	0.50	0.50	0.07	0.40	0.40
Volume/Cap:	0.06	0.38	0.38	0.38	0.51	0.51	0.19	0.38	0.38	0.22	0.41	0.29
Delay/Veh:	40.1	40.9	40.9	39.3	39.2	39.2	38.3	16.6	16.6	47.3	22.9	21.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.1	40.9	40.9	39.3	39.2	39.2	38.3	16.6	16.6	47.3	22.9	21.7
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	C
HCM2kAvgQ:	10	84	84	90	139	139	37	171	171	19	172	99

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1010: 16th St / R St



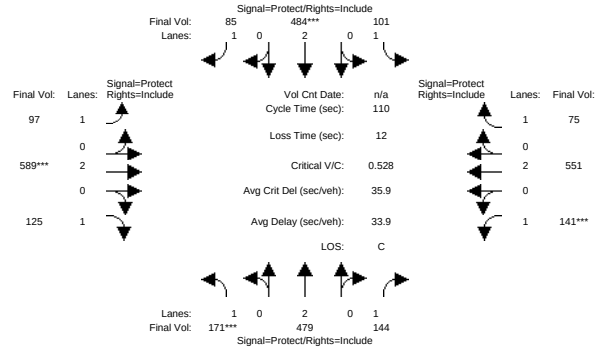
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	89	191	44	99	360	45	49	416	74	61	353	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	191	44	99	360	45	49	416	74	61	353	57
Added Vol:	14	62	4	0	51	0	1	1	36	5	4	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	253	48	99	411	45	50	417	110	66	357	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	103	253	48	99	411	45	50	417	110	66	357	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	253	48	99	411	45	50	417	110	66	357	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	253	48	99	411	45	50	417	110	66	357	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.03	0.05	0.11	0.03	0.03	0.12	0.07	0.04	0.10	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.28	0.28	0.19	0.31	0.31	0.16	0.32	0.32	0.10	0.26	0.26
Volume/Cap:	0.36	0.25	0.11	0.28	0.36	0.09	0.17	0.36	0.21	0.36	0.39	0.14
Delay/Veh:	42.2	31.0	29.7	38.2	29.4	26.7	39.8	29.1	27.6	47.4	34.1	31.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.2	31.0	29.7	38.2	29.4	26.7	39.8	29.1	27.6	47.4	34.1	31.8
LOS by Move:	D	C	C	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	84	87	30	68	135	25	35	137	65	51	127	36

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1010: 16th St / R St



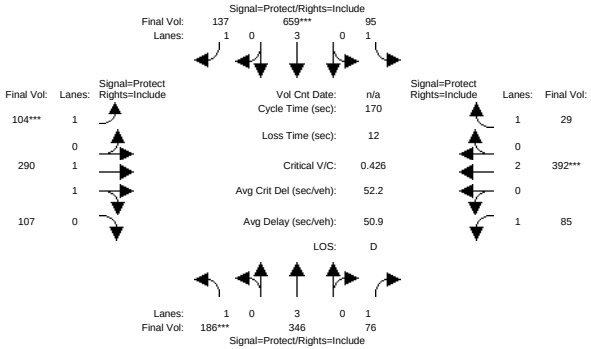
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	154	403	138	100	443	84	97	586	94	137	550	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	154	403	138	100	443	84	97	586	94	137	550	75
Added Vol:	17	76	6	1	41	1	0	3	31	4	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	171	479	144	101	484	85	97	589	125	141	551	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	171	479	144	101	484	85	97	589	125	141	551	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	171	479	144	101	484	85	97	589	125	141	551	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	171	479	144	101	484	85	97	589	125	141	551	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.09	0.06	0.13	0.05	0.05	0.16	0.08	0.08	0.15	0.05
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.29	0.29	0.14	0.25	0.25	0.13	0.31	0.31	0.15	0.32	0.32
Volume/Cap:	0.53	0.45	0.30	0.40	0.53	0.21	0.40	0.53	0.25	0.53	0.47	0.14
Delay/Veh:	42.5	32.0	30.5	44.1	35.9	32.6	44.6	31.8	28.7	45.3	30.1	26.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	32.0	30.5	44.1	35.9	32.6	44.6	31.8	28.7	45.3	30.1	26.6
LOS by Move:	D	C	C	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	145	177	96	75	180	54	73	210	75	109	190	43

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1011: Olive Ave / R St

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Street Name:           Olive Avenue                          R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     186  346    76    95  659   137   104  285   107    85  381    29
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  186  346    76    95  659   137   104  285   107    85  381    29
Added Vol:      0    0     0     0    0     0     0    5     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  186  346    76    95  659   137   104  290   107    85  392    29
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   186  346    76    95  659   137   104  290   107    85  392    29
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  186  346    76    95  659   137   104  290   107    85  392    29
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  186  346    76    95  659   137   104  290   107    85  392    29
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  0.85  0.95 0.91  0.85  0.95 0.91  0.91  0.95 0.95  0.85
Lanes:       1.00 3.00  1.00  1.00 3.00  1.00  1.00 1.46  0.54  1.00 2.00  1.00
Final Sat.:  1805 5187  1615  1805 5187  1615  1805 2532   934  1805 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.07  0.05  0.05 0.13  0.08  0.06 0.11  0.11  0.05 0.11  0.02
Crit Moves:  ****                ****        ****                    ****
Green/Cycle: 0.24 0.30  0.30  0.24 0.30  0.30  0.14 0.28  0.28  0.11 0.25  0.25
Volume/Cap:  0.43 0.22  0.16  0.22 0.43  0.28  0.43 0.41  0.41  0.41 0.43  0.07
Delay/Veh:   55.2 44.5  43.7  52.4 48.2  46.1  68.7 50.6  50.6  71.5 53.3  48.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  55.2 44.5  43.7  52.4 48.2  46.1  68.7 50.6  50.6  71.5 53.3  48.2
LOS by Move:    E    D     D     D    D     D     E    D     D     E    D     D
HCM2kAvgQ:    196  117    68    94  240   129   131  219   219   110  222    28
Note: Queue reported is the distance per lane in feet.
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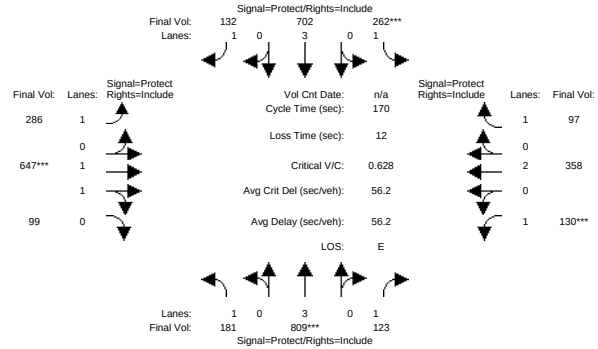
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1011: Olive Ave / R St

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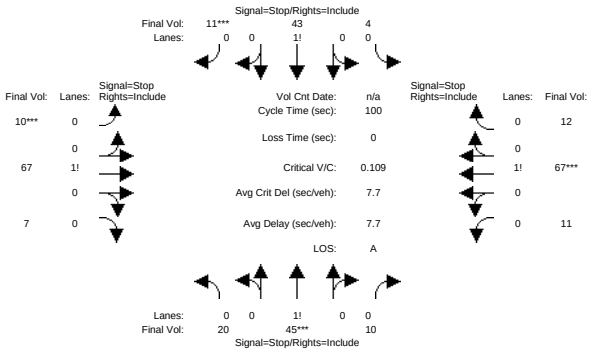
Street Name:           Olive Avenue                          R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     181  809   123   262  702   132   286  636    99   130  353    97
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  181  809   123   262  702   132   286  636    99   130  353    97
Added Vol:      0    0     0     0    0     0     0   11     0     0    5     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  181  809   123   262  702   132   286  647    99   130  358    97
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   181  809   123   262  702   132   286  647    99   130  358    97
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  181  809   123   262  702   132   286  647    99   130  358    97
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  181  809   123   262  702   132   286  647    99   130  358    97
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  0.85  0.95 0.91  0.85  0.95 0.93  0.93  0.95 0.95  0.85
Lanes:       1.00 3.00  1.00  1.00 3.00  1.00  1.00 1.73  0.27  1.00 2.00  1.00
Final Sat.:  1805 5187  1615  1805 5187  1615  1805 3068   469  1805 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.16  0.08  0.15 0.14  0.08  0.16 0.21  0.21  0.07 0.10  0.06
Crit Moves:       ****        ****                    ****        ****
Green/Cycle: 0.20 0.25  0.25  0.23 0.28  0.28  0.28 0.34  0.34  0.11 0.17  0.17
Volume/Cap:  0.49 0.63  0.31  0.63 0.49  0.30  0.57 0.63  0.63  0.63 0.57  0.35
Delay/Veh:   60.9 57.9  52.4  61.8 51.9  49.0  54.4 48.6  48.6  77.8 65.8  62.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  60.9 57.9  52.4  61.8 51.9  49.0  54.4 48.6  48.6  77.8 65.8  62.6
LOS by Move:    E    E     D     E    D     D     D    D     D     E    E     E
HCM2kAvgQ:    199  331   123   294  265   127   322  430   430   183  235   114
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1012: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8    44    10     4    40    11    10    67     7    11    67    12
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    8    44    10     4    40    11    10    67     7    11    67    12
Added Vol:     12     1     0     0     3     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   20    45    10     4    43    11    10    67     7    11    67    12
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    20    45    10     4    43    11    10    67     7    11    67    12
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   20    45    10     4    43    11    10    67     7    11    67    12
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   20    45    10     4    43    11    10    67     7    11    67    12
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.27  0.60  0.13  0.07  0.74  0.19  0.12  0.80  0.08  0.12  0.75  0.13
Final Sat.:   215   483   107    56   604   155    98   655    68   101   617   110
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09  0.09  0.09  0.07  0.07  0.07  0.10  0.10  0.10  0.11  0.11  0.11
Crit Moves:        ****                      ****  ****                    ****
Delay/Veh:    7.7   7.7   7.7   7.6   7.6   7.6   7.7   7.7   7.7   7.7   7.7   7.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.7   7.7   7.7   7.6   7.6   7.6   7.7   7.7   7.7   7.7   7.7   7.7
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        7.7               7.6               7.7               7.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.7               7.6               7.7               7.7
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   2.4   2.4   2.4   1.8   1.8   1.8   2.7   2.7   2.7   2.9   2.9   2.9
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
```



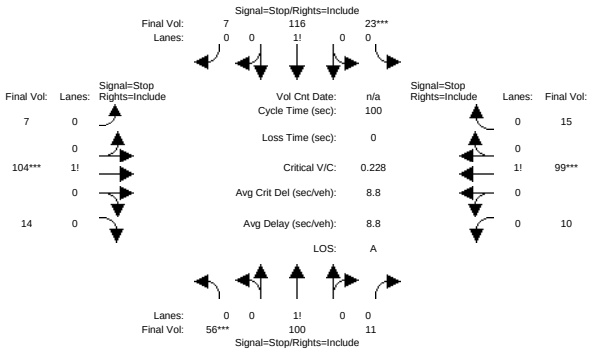
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   20   45    10     4   43    11    10   67     7    11   67    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             174
Minor Approach Volume:           75
Minor Approach Volume Threshold: 686
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1012: 15th St / O St



Street Name:	15th Street									O Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0	0	0			0	0	0			0	0	0			0	0	0		
Volume Module:																				
Base Vol:	9		97		11	23		115		7	7		104		14	10		99		15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9		97		11	23		115		7	7		104		14	10		99		15
Added Vol:	47		3		0	0		1		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	56		100		11	23		116		7	7		104		14	10		99		15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56		100		11	23		116		7	7		104		14	10		99		15
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	56		100		11	23		116		7	7		104		14	10		99		15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56		100		11	23		116		7	7		104		14	10		99		15
Saturation Flow Module:																				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.33	0.60	0.07	0.16	0.79	0.05	0.06	0.83	0.11	0.08	0.80	0.12								
Final Sat.:	246		439		48	115		581		35	40		597		80	58		573		87
Capacity Analysis Module:																				
Vol/Sat:	0.23	0.23	0.23	0.20	0.20	0.20	0.17	0.17	0.17	0.17	0.17	0.17								
Crit Moves:	****			****				****				****								
Delay/Veh:	9.0		9.0		9.0	8.8		8.8		8.8	8.6		8.6		8.6	8.6		8.6		8.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
AdjDel/Veh:	9.0		9.0		9.0	8.8		8.8		8.8	8.6		8.6		8.6	8.6		8.6		8.6
LOS by Move:	A		A		A	A		A		A	A		A		A	A		A		A
ApproachDel:	9.0					8.8					8.6					8.6				
Delay Adj:	1.00					1.00					1.00					1.00				
ApprAdjDel:	9.0					8.8					8.6					8.6				
LOS by Appr:	A					A					A					A				
AllWayAvgQ:	6.6		6.6		6.6	5.6		5.6		5.6	4.6		4.6		4.6	4.6		4.6		4.6

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1012 15th St / O St

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0
Initial Vol:	56		100	11	23		116	7	7		104	14	10		99	15

Major Street Volume: 313
Minor Approach Volume: 125
Minor Approach Volume Threshold: 529

SIGNAL WARRANT DISCLAIMER

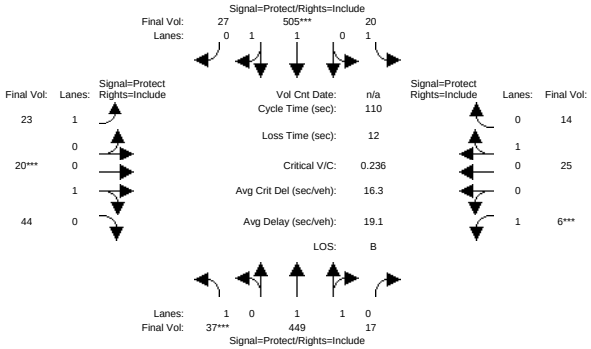
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1013: 16th St / O St



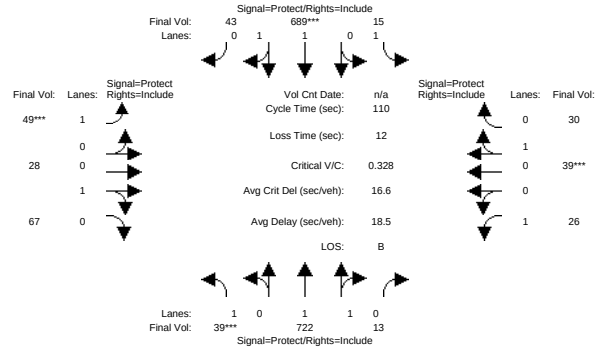
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	37	369	17	20	413	27	23	20	44	6	25	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	369	17	20	413	27	23	20	44	6	25	14
Added Vol:	0	80	0	0	92	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	37	449	17	20	505	27	23	20	44	6	25	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	449	17	20	505	27	23	20	44	6	25	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	449	17	20	505	27	23	20	44	6	25	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	449	17	20	505	27	23	20	44	6	25	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.93	0.07	1.00	1.90	0.10	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3461	131	1805	3399	182	1805	533	1172	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.01	0.15	0.15	0.01	0.04	0.04	0.00	0.02	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.08	0.45	0.45	0.22	0.59	0.59	0.09	0.15	0.15	0.06	0.13	0.13
Volume/Cap:	0.25	0.29	0.29	0.05	0.25	0.25	0.14	0.25	0.25	0.05	0.17	0.17
Delay/Veh:	48.2	18.9	18.9	33.6	10.7	10.7	46.7	41.8	41.8	48.6	43.3	43.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.2	18.9	18.9	33.6	10.7	10.7	46.7	41.8	41.8	48.6	43.3	43.3
LOS by Move:	D	B	B	C	B	B	D	D	D	D	D	D
HCM2kAvgQ:	35	127	127	13	110	110	20	51	51	6	32	32

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1013: 16th St / O St



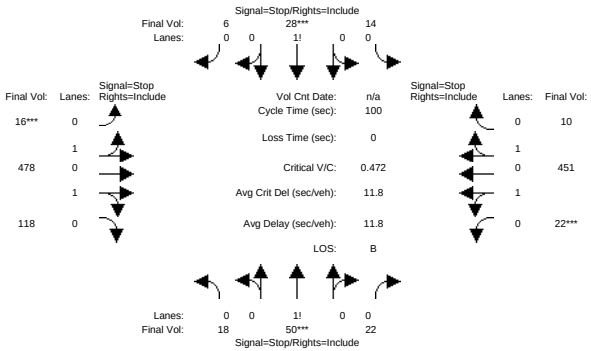
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	39	623	13	15	613	43	49	28	67	26	39	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	623	13	15	613	43	49	28	67	26	39	30
Added Vol:	0	99	0	0	76	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	722	13	15	689	43	49	28	67	26	39	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	722	13	15	689	43	49	28	67	26	39	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	722	13	15	689	43	49	28	67	26	39	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	722	13	15	689	43	49	28	67	26	39	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.88	0.12	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3536	64	1805	3367	210	1805	501	1198	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.02	0.20	0.20	0.01	0.20	0.20	0.03	0.06	0.06	0.01	0.04	0.04
Crit Moves:	****				****		****				****	
Green/Cycle:	0.07	0.53	0.53	0.16	0.62	0.62	0.08	0.12	0.12	0.08	0.12	0.12
Volume/Cap:	0.33	0.39	0.39	0.05	0.33	0.33	0.33	0.47	0.47	0.17	0.33	0.33
Delay/Veh:	50.7	15.7	15.7	38.8	9.9	9.9	48.9	47.0	47.0	47.5	45.4	45.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.7	15.7	15.7	38.8	9.9	9.9	48.9	47.0	47.0	47.5	45.4	45.4
LOS by Move:	D	B	B	D	A	A	D	D	D	D	D	D
HCM2kAvgQ:	40	192	192	11	151	151	47	89	89	24	60	60

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1014: 15th St / M St




```
Street Name:            15th Street                          M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    38    18    14    25     6    16   337     6     7   343    10
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2    38    18    14    25     6    16   337     6     7   343    10
Added Vol:     16    12     4     0     3     0     0   141   112    15   108     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   18    50    22    14    28     6    16   478   118    22   451    10
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    18    50    22    14    28     6    16   478   118    22   451    10
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   18    50    22    14    28     6    16   478   118    22   451    10
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   18    50    22    14    28     6    16   478   118    22   451    10
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.20  0.56  0.24  0.29  0.58  0.13  0.05  1.56  0.39  0.09  1.87  0.04
Final Sat.:   111   308   135   155   309    66    34  1035   264    57  1180    26
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16  0.16  0.16  0.09  0.09  0.09  0.47  0.46  0.45  0.38  0.38  0.38
Crit Moves:        ****              ****        ****              ****
Delay/Veh:   10.1  10.1  10.1   9.8   9.8   9.8  12.8  12.5  11.9  11.7  11.6  11.5
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.1  10.1  10.1   9.8   9.8   9.8  12.8  12.5  11.9  11.7  11.6  11.5
LOS by Move:    B     B     B     A     A     A     B     B     B     B     B     B
ApproachDel:      10.1              9.8             12.4             11.6
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       10.1              9.8             12.4             11.6
LOS by Appr:         B                A                B                B
AllWayAvgQ:   4.1   4.1   4.1   2.1   2.1   2.1  21.0  19.0  19.0  14.6  14.3  14.3
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
```



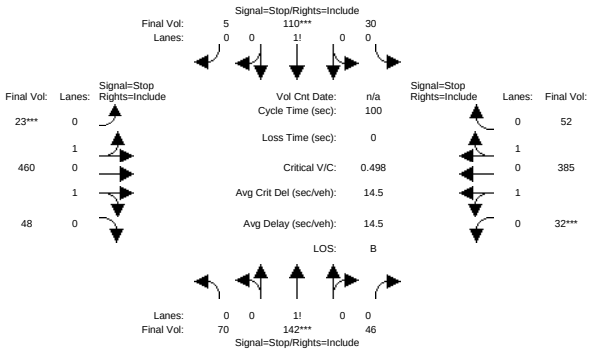
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   18   50    22    14   28     6    16  478   118    22  451    10
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1095
Minor Approach Volume:           90
Minor Approach Volume Threshold: 254
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1014: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    92    32    30   109     5    23   346    20    28   250    52
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    5    92    32    30   109     5    23   346    20    28   250    52
Added Vol:     65    50    14     0     1     0     0   114    28     4   135     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   70   142    46    30   110     5    23   460    48    32   385    52
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    70   142    46    30   110     5    23   460    48    32   385    52
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   70   142    46    30   110     5    23   460    48    32   385    52
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   70   142    46    30   110     5    23   460    48    32   385    52
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.27  0.55  0.18  0.21  0.76  0.03  0.09  1.73  0.18  0.14  1.64  0.22
Final Sat.:   142   288    93    99   362    16    46   935    99    71   872   120
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.49  0.49  0.49  0.30  0.30  0.30  0.50  0.49  0.49  0.45  0.44  0.43
Crit Moves:        ****              ****        ****              ****
Delay/Veh:   15.1  15.1  15.1  12.6  12.6  12.6  15.3  15.0  14.7  14.4  14.1  13.8
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  15.1  15.1  15.1  12.6  12.6  12.6  15.3  15.0  14.7  14.4  14.1  13.8
LOS by Move:    C     C     C     B     B     B     C     C     B     B     B     B
ApproachDel:       15.1              12.6              15.0              14.1
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        15.1              12.6              15.0              14.1
LOS by Appr:          C                 B                 C                 B
AllWayAvgQ:  20.4  20.4  20.4   8.8   8.8   8.8  22.3  21.3  21.3  18.3  17.3  17.3
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
```



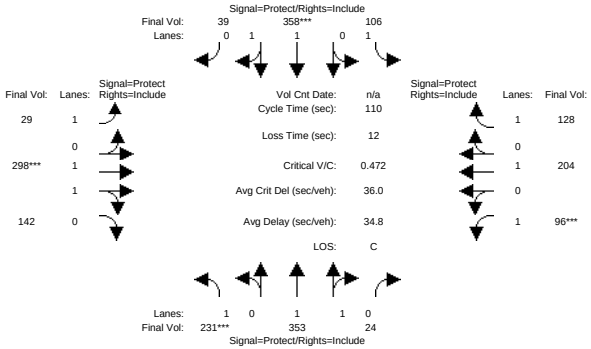
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   70  142    46    30  110     5    23  460    48    32  385    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1000
Minor Approach Volume:           258
Minor Approach Volume Threshold: 285
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1015: 16th St / M St

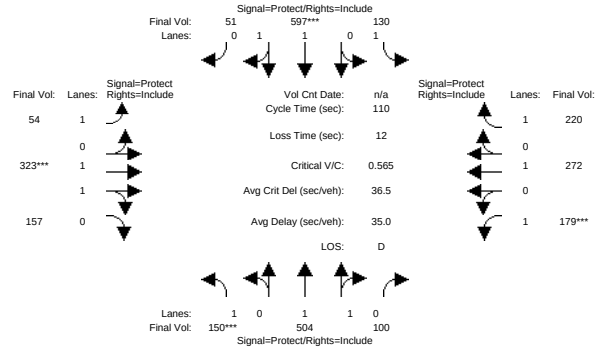



```
Street Name:            16th Street                     M Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     124 278  20   105 274  32    25 282  18    91 195 126
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  124 278  20   105 274  32    25 282  18    91 195 126
Added Vol:    107  75   4     1  84   7     4  16 124     5   9   2
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:  231 353  24   106 358  39    29 298 142    96 204 128
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   231 353  24   106 358  39    29 298 142    96 204 128
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  231 353  24   106 358  39    29 298 142    96 204 128
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  231 353  24   106 358  39    29 298 142    96 204 128
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.94 0.94 0.95 0.94 0.94 0.95 0.90 0.90 0.95 1.00 0.85
Lanes:       1.00 1.87 0.13 1.00 1.80 0.20 1.00 1.35 0.65 1.00 1.00 1.00
Final Sat.:  1805 3346  228 1805 3207  349 1805 2328 1109 1805 1900 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.11 0.11 0.06 0.11 0.11 0.02 0.13 0.13 0.05 0.11 0.08
Crit Moves:  ****                ****             ****        ****
Green/Cycle: 0.27 0.32 0.32 0.19 0.24 0.24 0.14 0.27 0.27 0.11 0.24 0.24
Volume/Cap:  0.47 0.33 0.33 0.31 0.47 0.47 0.11 0.47 0.47 0.47 0.45 0.33
Delay/Veh:   34.2 28.9 28.9 38.8 36.5 36.5 41.3 33.9 33.9 47.5 36.2 34.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  34.2 28.9 28.9 38.8 36.5 36.5 41.3 33.9 33.9 47.5 36.2 34.9
LOS by Move:    C    C    C    D    D    D    D    C    C    D    D    C
HCM2kAvgQ:    157  122  122   81  159  159   22  170  170   75  142   86
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1015: 16th St / M St

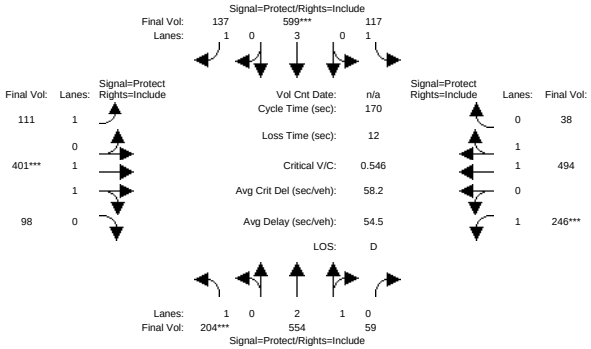



```
Street Name:            16th Street                     M Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      30 415  95   129 526  47    45 314  47   175 256 218
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   30 415  95   129 526  47    45 314  47   175 256 218
Added Vol:    120  89   5     1  71   4     9   9 110     4  16   2
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:  150 504 100   130 597  51    54 323 157   179 272 220
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   150 504 100   130 597  51    54 323 157   179 272 220
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  150 504 100   130 597  51    54 323 157   179 272 220
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  150 504 100   130 597  51    54 323 157   179 272 220
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.93 0.93 0.95 0.94 0.94 0.95 0.90 0.90 0.95 1.00 0.85
Lanes:       1.00 1.67 0.33 1.00 1.84 0.16 1.00 1.35 0.65 1.00 1.00 1.00
Final Sat.:  1805 2937  583 1805 3286  281 1805 2310 1123 1805 1900 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.17 0.17 0.07 0.18 0.18 0.03 0.14 0.14 0.10 0.14 0.14
Crit Moves:  ****                ****             ****        ****
Green/Cycle: 0.15 0.33 0.33 0.14 0.32 0.32 0.13 0.25 0.25 0.18 0.29 0.29
Volume/Cap:  0.57 0.52 0.52 0.52 0.57 0.57 0.23 0.57 0.57 0.57 0.49 0.47
Delay/Veh:   46.5 30.2 30.2 45.9 31.6 31.6 43.4 37.1 37.1 43.9 32.8 32.6
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  46.5 30.2 30.2 45.9 31.6 31.6 43.4 37.1 37.1 43.9 32.8 32.6
LOS by Move:    D    C    C    D    D    C    D    D    D    D    C    C
HCM2kAvgQ:    113  206  206  118  247  247   44  200  200  137  184  148
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1016: Olive Ave / M St



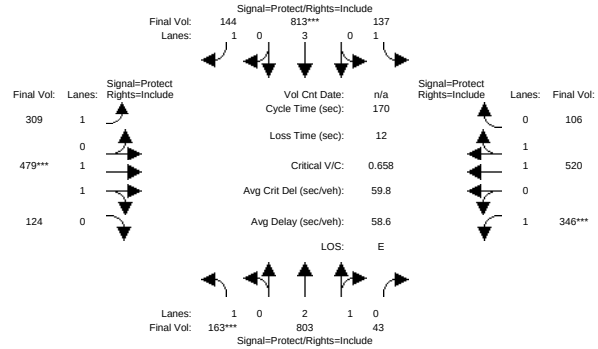
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	204		554	59	117		599	137	111		396	98	246		483	38
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	204		554	59	117		599	137	111		396	98	246		483	38
Added Vol:	0		0	0	0		0	0	0		5	0	0		11	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	204		554	59	117		599	137	111		401	98	246		494	38
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	204		554	59	117		599	137	111		401	98	246		494	38
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	204		554	59	117		599	137	111		401	98	246		494	38
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	204		554	59	117		599	137	111		401	98	246		494	38
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.91	0.85	0.95		0.92	0.92	0.95		0.94	0.94
Lanes:	1.00		2.71	0.29	1.00		3.00	1.00	1.00		1.61	0.39	1.00		1.86	0.14
Final Sat.:	1805		4622	492	1805		5187	1615	1805		2817	688	1805		3315	255
Capacity Analysis Module:																
Vol/Sat:	0.11		0.12	0.12	0.06		0.12	0.08	0.06		0.14	0.14	0.14		0.15	0.15
Crit Moves:	****						****				****		****			
Green/Cycle:	0.21		0.27	0.27	0.15		0.21	0.21	0.15		0.26	0.26	0.25		0.36	0.36
Volume/Cap:	0.55		0.44	0.44	0.44		0.55	0.40	0.41		0.55	0.55	0.55		0.41	0.41
Delay/Veh:	61.9		51.4	51.4	67.3		60.3	58.5	66.6		54.8	54.8	56.8		40.9	40.9
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	61.9		51.4	51.4	67.3		60.3	58.5	66.6		54.8	54.8	56.8		40.9	40.9
LOS by Move:	E		D	D	E		E	E	E		D	D	E		D	D
HCM2kAvgQ:	228		230	230	134		246	147	136		296	296	281		265	265

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1016: Olive Ave / M St



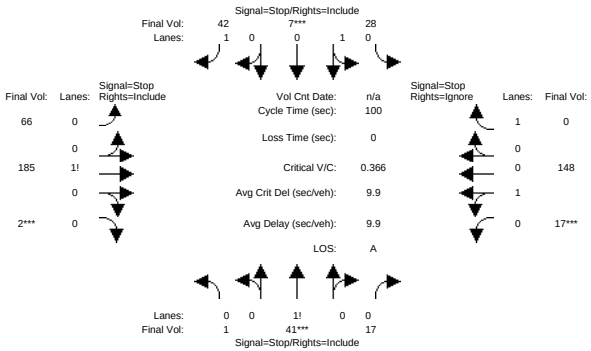
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	163		803	43	137		813	144	309		468	124	346		515	106
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	163		803	43	137		813	144	309		468	124	346		515	106
Added Vol:	0		0	0	0		0	0	0		11	0	0		5	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	163		803	43	137		813	144	309		479	124	346		520	106
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	163		803	43	137		813	144	309		479	124	346		520	106
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	163		803	43	137		813	144	309		479	124	346		520	106
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	163		803	43	137		813	144	309		479	124	346		520	106
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.91	0.85	0.95		0.92	0.92	0.95		0.93	0.93
Lanes:	1.00		2.85	0.15	1.00		3.00	1.00	1.00		1.59	0.41	1.00		1.66	0.34
Final Sat.:	1805		4884	262	1805		5187	1615	1805		2779	719	1805		2924	596
Capacity Analysis Module:																
Vol/Sat:	0.09		0.16	0.16	0.08		0.16	0.09	0.17		0.17	0.17	0.19		0.18	0.18
Crit Moves:	****						****				****		****			
Green/Cycle:	0.14		0.26	0.26	0.12		0.24	0.24	0.27		0.26	0.26	0.29		0.28	0.28
Volume/Cap:	0.66		0.64	0.64	0.64		0.66	0.37	0.63		0.66	0.66	0.66		0.63	0.63
Delay/Veh:	75.9		57.2	57.2	77.8		59.8	54.7	57.1		57.7	57.7	55.8		54.6	54.6
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	75.9		57.2	57.2	77.8		59.8	54.7	57.1		57.7	57.7	55.8		54.6	54.6
LOS by Move:	E		E	E	E		E	D	E		E	E	E		D	D
HCM2kAvgQ:	197		346	346	169		342	149	360		378	378	403		380	380

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   41    17    15    7    40    56  185     2    17  148    52
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   41    17    15    7    40    56  185     2    17  148    52
Added Vol:      0    0     0    13    0     2    10    0     0     0    0    52
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   41    17    28    7    42    66  185     2    17  148   104
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     1   41    17    28    7    42    66  185     2    17  148     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1   41    17    28    7    42    66  185     2    17  148     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    1   41    17    28    7    42    66  185     2    17  148     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.69  0.29  0.80 0.20  1.00  0.26 0.73  0.01  0.10 0.90  1.00
Final Sat.:    10  425   176   451  113   681   180  505     5    70  612   795
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.10  0.06 0.06  0.06  0.37 0.37  0.37  0.24 0.24  0.00
Crit Moves:        ****              ****                    ****  ****
Delay/Veh:    9.0  9.0   9.0   9.1  9.1   7.9  11.0 11.0  11.0   9.4  9.4   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.0  9.0   9.0   9.1  9.1   7.9  11.0 11.0  11.0   9.4  9.4   0.0
LOS by Move:    A    A     A     A    A     A     B    B     B     A    A     *
ApproachDel:       9.0              8.4             11.0              9.4
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        9.0              8.4             11.0              9.4
LOS by Appr:         A                A                B                A
AllWayAvgQ:   2.3  2.3   2.3   1.5  1.5   1.4  13.6 13.6  13.6   7.5  7.5   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



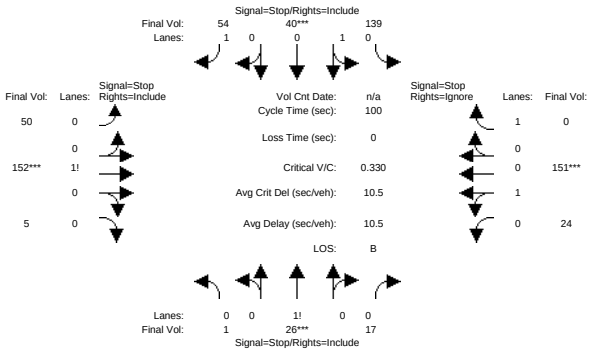
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   41    17    28    7    42    66  185     2    17  148   104
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             522
Minor Approach Volume:           77
Minor Approach Volume Threshold: 654
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue              Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   26    17    87   40    44    48  152     5    24  151    45
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   26    17    87   40    44    48  152     5    24  151    45
Added Vol:      0    0     0    52    0    10     2    0     0     0    0    13
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   26    17   139   40    54    50  152     5    24  151    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     1   26    17   139   40    54    50  152     5    24  151     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1   26    17   139   40    54    50  152     5    24  151     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    1   26    17   139   40    54    50  152     5    24  151     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.78 0.22  1.00  0.24 0.74  0.02  0.14 0.86  1.00
Final Sat.:    13  348   228   449  129   700   152  461    15    85  536   714
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.07  0.31 0.31  0.08  0.33 0.33  0.33  0.28 0.28  0.00
Crit Moves:        ****             ****             ****             ****
Delay/Veh:    9.1  9.1   9.1  11.2 11.2   8.0  11.1 11.1  11.1  10.3 10.3   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.1  9.1   9.1  11.2 11.2   8.0  11.1 11.1  11.1  10.3 10.3   0.0
LOS by Move:    A    A     A     B    B     A     B    B     B     B    B     *
ApproachDel:       9.1             10.4             11.1             10.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        9.1             10.4             11.1             10.3
LOS by Appr:         A                B                B                B
AllWayAvgQ:   1.7  1.7   1.7  10.0 10.0   1.9  11.2 11.2  11.2   8.9  8.9   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   26    17   139   40    54    50  152     5    24  151    58
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             440
Minor Approach Volume:           233
Minor Approach Volume Threshold: 727
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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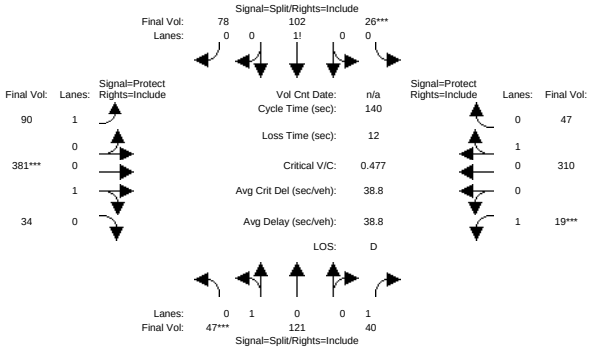
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1018: Childs Ave / Martin Luther King Wy



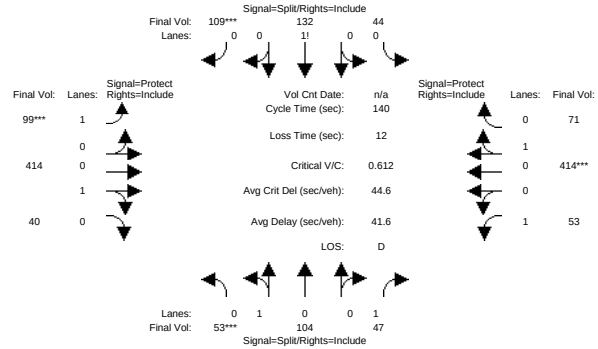
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	45	117	40	26	101	77	86	354	27	19	294	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	117	40	26	101	77	86	354	27	19	294	45
Added Vol:	2	4	0	0	1	1	4	27	7	0	16	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	121	40	26	102	78	90	381	34	19	310	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	121	40	26	102	78	90	381	34	19	310	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	121	40	26	102	78	90	381	34	19	310	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	121	40	26	102	78	90	381	34	19	310	47
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.13	0.49	0.38	1.00	0.92	0.08	1.00	0.87	0.13
Final Sat.:	524	1349	1615	226	887	679	1805	1723	154	1805	1617	245
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.02	0.11	0.11	0.11	0.05	0.22	0.22	0.01	0.19	0.19
Crit Moves:	****			****				****		****		
Green/Cycle:	0.18	0.18	0.18	0.23	0.23	0.23	0.10	0.45	0.45	0.05	0.40	0.40
Volume/Cap:	0.49	0.49	0.14	0.49	0.49	0.49	0.48	0.49	0.49	0.21	0.48	0.48
Delay/Veh:	52.6	52.6	48.2	47.4	47.4	47.4	61.2	27.8	27.8	65.0	32.1	32.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.6	52.6	48.2	47.4	47.4	47.4	61.2	27.8	27.8	65.0	32.1	32.1
LOS by Move:	D	D	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	170	170	37	197	197	197	104	309	309	19	276	276

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1018: Childs Ave / Martin Luther King Wy



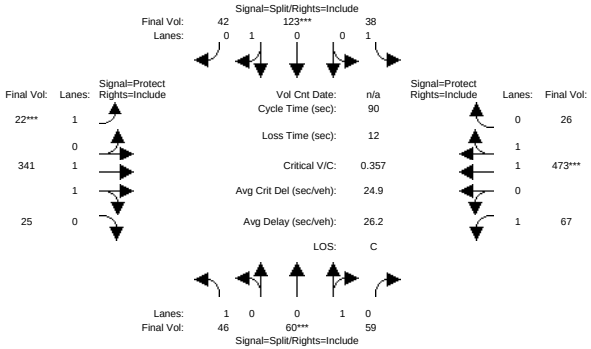
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	46	103	47	42	128	105	98	398	38	53	387	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	103	47	42	128	105	98	398	38	53	387	71
Added Vol:	7	1	0	2	4	4	1	16	2	0	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	104	47	44	132	109	99	414	40	53	414	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	104	47	44	132	109	99	414	40	53	414	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	104	47	44	132	109	99	414	40	53	414	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	104	47	44	132	109	99	414	40	53	414	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.34	0.66	1.00	0.15	0.47	0.38	1.00	0.91	0.09	1.00	0.85	0.15
Final Sat.:	630	1237	1615	276	828	683	1805	1710	165	1805	1586	272
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.03	0.16	0.16	0.16	0.05	0.24	0.24	0.03	0.26	0.26
Crit Moves:	****					****	****				****	
Green/Cycle:	0.14	0.14	0.14	0.26	0.26	0.26	0.09	0.43	0.43	0.09	0.43	0.43
Volume/Cap:	0.61	0.61	0.21	0.61	0.61	0.61	0.61	0.57	0.57	0.33	0.61	0.61
Delay/Veh:	61.2	61.2	54.1	47.9	47.9	47.9	68.1	31.2	31.2	61.2	32.6	32.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.2	61.2	54.1	47.9	47.9	47.9	68.1	31.2	31.2	61.2	32.6	32.6
LOS by Move:	E	E	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	179	179	47	281	281	281	126	365	365	51	391	391

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1019: 13th St / Martin Luther King Wy



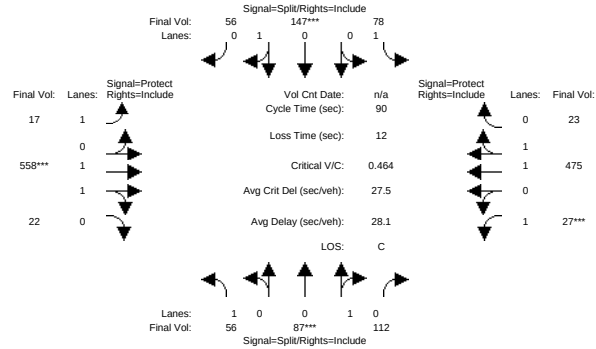
Street Name:	13th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	46		60		59	37		119		32	13		325		25	67		410		26
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	46		60		59	37		119		32	13		325		25	67		410		26
Added Vol:	0		0		0	1		4		10	9		16		0	0		63		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	46		60		59	38		123		42	22		341		25	67		473		26
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	46		60		59	38		123		42	22		341		25	67		473		26
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	46		60		59	38		123		42	22		341		25	67		473		26
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	46		60		59	38		123		42	22		341		25	67		473		26
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.93		0.93	0.95		0.96		0.96	0.95		0.94		0.94	0.95		0.94		0.94
Lanes:	1.00		0.50		0.50	1.00		0.75		0.25	1.00		1.86		0.14	1.00		1.90		0.10
Final Sat.:	1805		887		872	1805		1363		465	1805		3330		244	1805		3395		187
Capacity Analysis Module:																				
Vol/Sat:	0.03		0.07		0.07	0.02		0.09		0.09	0.01		0.10		0.10	0.04		0.14		0.14
Crit Moves:			****					****			****							****		
Green/Cycle:	0.18		0.18		0.18	0.24		0.24		0.24	0.08		0.26		0.26	0.18		0.37		0.37
Volume/Cap:	0.14		0.38		0.38	0.09		0.38		0.38	0.16		0.39		0.39	0.20		0.38		0.38
Delay/Veh:	31.3		33.2		33.2	26.7		29.1		29.1	39.3		27.5		27.5	31.4		20.9		20.9
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	31.3		33.2		33.2	26.7		29.1		29.1	39.3		27.5		27.5	31.4		20.9		20.9
LOS by Move:	C		C		C	C		C		C	D		C		C	C		C		C
HCM2kAvgQ:	25		69		69	21		101		101	14		105		105	38		128		128

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1019: 13th St / Martin Luther King Wy



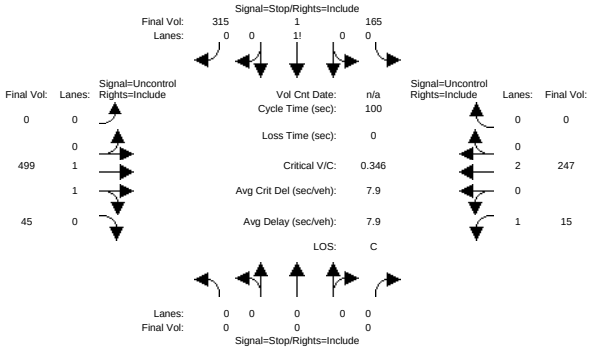
Street Name:	13th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	56		87		112	75		145		47	7		495		22	27		459		23
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	56		87		112	75		145		47	7		495		22	27		459		23
Added Vol:	0		0		0	3		2		9	10		63		0	0		16		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	56		87		112	78		147		56	17		558		22	27		475		23
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	56		87		112	78		147		56	17		558		22	27		475		23
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	56		87		112	78		147		56	17		558		22	27		475		23
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	56		87		112	78		147		56	17		558		22	27		475		23
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.92		0.92	0.95		0.96		0.96	0.95		0.94		0.94	0.95		0.94		0.94
Lanes:	1.00		0.44		0.56	1.00		0.72		0.28	1.00		1.92		0.08	1.00		1.91		0.09
Final Sat.:	1805		761		980	1805		1319		503	1805		3452		136	1805		3419		166
Capacity Analysis Module:																				
Vol/Sat:	0.03		0.11		0.11	0.04		0.11		0.11	0.01		0.16		0.16	0.01		0.14		0.14
Crit Moves:			****					****					****			****				
Green/Cycle:	0.23		0.23		0.23	0.23		0.23		0.23	0.15		0.33		0.33	0.08		0.26		0.26
Volume/Cap:	0.13		0.49		0.49	0.19		0.49		0.49	0.06		0.49		0.49	0.19		0.53		0.53
Delay/Veh:	27.5		30.8		30.8	28.3		31.2		31.2	33.2		24.5		24.5	39.5		29.1		29.1
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	27.5		30.8		30.8	28.3		31.2		31.2	33.2		24.5		24.5	39.5		29.1		29.1
LOS by Move:	C		C		C	C		C		C	C		C		C	D		C		C
HCM2kAvgQ:	29		114		114	45		134		134	10		163		163	17		153		153

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   165    1   254     0  484    44    15  245     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   165    1   254     0  484    44    15  245     0
Added Vol:      0    0     0     0    0    61     0   15     1     0    2     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   165    1   315     0  499    45    15  247     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   165    1   315     0  499    45    15  247     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   165    1   315     0  499    45    15  247     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   527  821   124  xxxx xxxx xxxxx   544 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   486  312   911  xxxx xxxx xxxxx  1035 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   481  307   911  xxxx xxxx xxxxx  1035 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.34 0.00  0.35  xxxx xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  695 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  5.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 21.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             21.0           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   165    1   315     0  499    45    15  247     0
ApproachDel:    xxxxxx              21.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=481]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1287]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

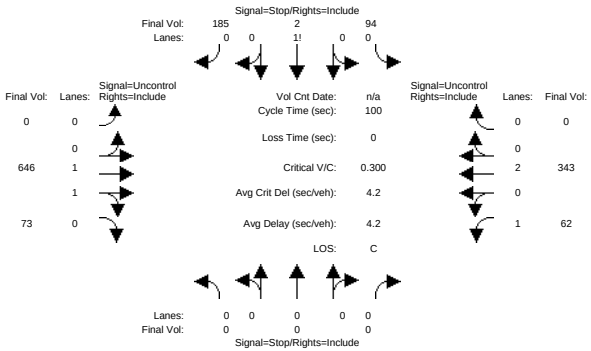
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   165    1   315     0  499    45    15  247     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             806
Minor Approach Volume:           481
Minor Approach Volume Threshold: 359
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    94    2   170     0  585    68    62  343     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    94    2   170     0  585    68    62  343     0
Added Vol:      0    0     0     0    0    15     0   61     5     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    94    2   185     0  646    73    62  343     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    94    2   185     0  646    73    62  343     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    94    2   185     0  646    73    62  343     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   790 1186   172  xxxx xxxx xxxxx   719 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   331  190   849  xxxx xxxx xxxxx   892 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   314  177   849  xxxx xxxx xxxxx   892 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.30 0.01  0.22  xxxx xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  531 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 19.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             19.1           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0    94    2   185     0  646    73    62  343     0
ApproachDel:    xxxxxx              19.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=281]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1405]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

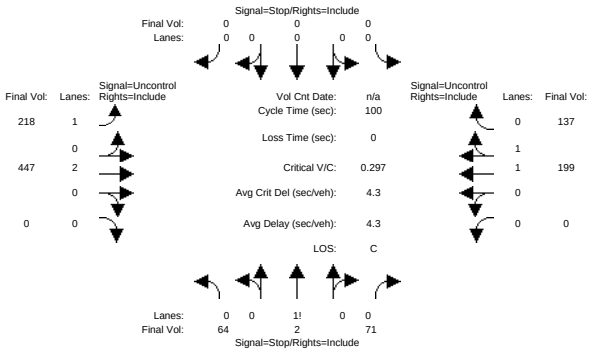
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0    94    2   185     0  646    73    62  343     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1124
Minor Approach Volume:           281
Minor Approach Volume Threshold: 245
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62    2    71     0    0     0   203  447     0     0  199   137
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62    2    71     0    0     0   203  447     0     0  199   137
Added Vol:      2    0     0     0    0     0    15    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   64    2    71     0    0     0   218  447     0     0  199   137
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    64    2    71     0    0     0   218  447     0     0  199   137
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   64    2    71     0    0     0   218  447     0     0  199   137
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  983 1219   224  xxxx xxxx xxxxx   336 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  250  182   786  xxxx xxxx xxxxx  1235 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    216  150   786  xxxx xxxx xxxxx  1235 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.30 0.01  0.09  xxxx xxxx  xxxx  0.18 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  16.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  342 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 22.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      22.4           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   64    2    71     0    0     0   218  447     0     0  199   137
ApproachDel:      22.4           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=137]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1138]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

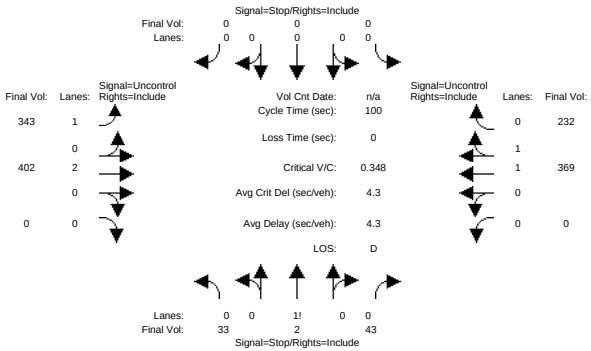
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   64    2    71     0    0     0   218  447     0     0  199   137
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1001
Minor Approach Volume:           137
Minor Approach Volume Threshold: 284
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    2    43     0    0     0   282  402     0     0  369   232
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   33    2    43     0    0     0   282  402     0     0  369   232
Added Vol:      0    0     0     0    0     0    61    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   33    2    43     0    0     0   343  402     0     0  369   232
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    33    2    43     0    0     0   343  402     0     0  369   232
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   33    2    43     0    0     0   343  402     0     0  369   232
------------||---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------||---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1273 1689   201  xxxx xxxx xxxxx   601 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  162   94   813  xxxx xxxx xxxxx   986 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    118   62   813  xxxx xxxx xxxxx   986 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.28 0.03  0.05  xxxx xxxx  xxxx  0.35 xxxx  xxxx  xxxx xxxx  xxxx
------------||---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  39.2 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  214 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 31.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    *     *     *    *     *     *    *     *
ApproachDel:      31.2           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         D                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   343  402     0     0  369   232
ApproachDel:      31.2           xxxxxx            xxxxxx            xxxxxx
------------||---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=78]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1424]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

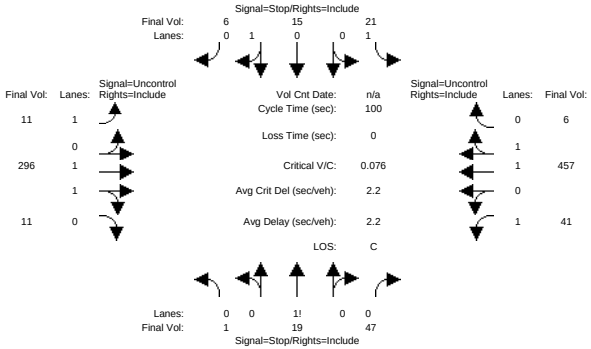
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   343  402     0     0  369   232
------------||---------------||---------------||---------------||---------------|
Major Street Volume:             1346
Minor Approach Volume:           78
Minor Approach Volume Threshold: 182
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   15    47    21   15     6    11  296    11    41  457     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   15    47    21   15     6    11  296    11    41  457     6
Added Vol:      0    4     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   19    47    21   15     6    11  296    11    41  457     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1   19    47    21   15     6    11  296    11    41  457     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1   19    47    21   15     6    11  296    11    41  457     6
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  642  869   154   722  871   232   463 xxxx xxxxx   307 xxxx xxxxx
Potent Cap.:  363  292   871   318  291   777  1109 xxxx xxxxx  1265 xxxx xxxxx
Move Cap.:    335  280   871   276  279   777  1109 xxxx xxxxx  1265 xxxx xxxxx
Volume/Cap:  0.00 0.07  0.05  0.08 0.05  0.01  0.01 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   6.1 xxxx xxxxx   0.8 xxxx xxxxx   2.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  19.1 xxxx xxxxx   8.3 xxxx xxxxx   7.9 xxxx xxxxx
LOS by Move:    *    *     *     C    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  537 xxxxx  xxxx xxxx   342  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.4 xxxxx xxxxx xxxx   0.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.7 xxxxx xxxxx xxxx  16.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    *     C     *    *     *     *    *     *
ApproachDel:      12.7             17.7            xxxxxx           xxxxxx
ApproachLOS:         B                C                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   19    47    21   15     6    11  296    11    41  457     6
ApproachDel:      12.7             17.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=67]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=931]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=42]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=931]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   19    47    21   15     6    11  296    11    41  457     6
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             822
Minor Approach Volume:           67
Minor Approach Volume Threshold: 352
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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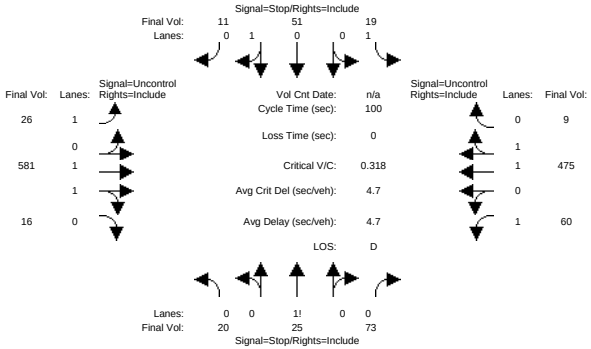
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20   24    73    19   51    11    26  581    16    60  475     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   20   24    73    19   51    11    26  581    16    60  475     9
Added Vol:      0    1     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20   25    73    19   51    11    26  581    16    60  475     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20   25    73    19   51    11    26  581    16    60  475     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20   25    73    19   51    11    26  581    16    60  475     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1024 1245   299   955 1249   242   484 xxxx xxxxx   597 xxxx xxxxx
Potent Cap.:  192  176   704   216  175   765  1089 xxxx xxxxx   989 xxxx xxxxx
Move Cap.:    134  161   704   160  160   765  1089 xxxx xxxxx   989 xxxx xxxxx
Volume/Cap:  0.15 0.16  0.10  0.12 0.32  0.01  0.02 xxxx  xxxx  0.06 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   9.9 xxxx xxxxx   1.8 xxxx xxxxx   4.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  30.5 xxxx xxxxx   8.4 xxxx xxxxx   8.9 xxxx xxxxx
LOS by Move:    *    *     *     D    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  289 xxxxx  xxxx xxxx   186  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.9 xxxxx xxxxx xxxx   1.4 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 25.8 xxxxx xxxxx xxxx  33.7 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    *     D     *    *     *     *    *     *
ApproachDel:      25.8             32.9            xxxxxx           xxxxxx
ApproachLOS:         D                D                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   25    73    19   51    11    26  581    16    60  475     9
ApproachDel:      25.8             32.9            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=118]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1366]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=81]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1366]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

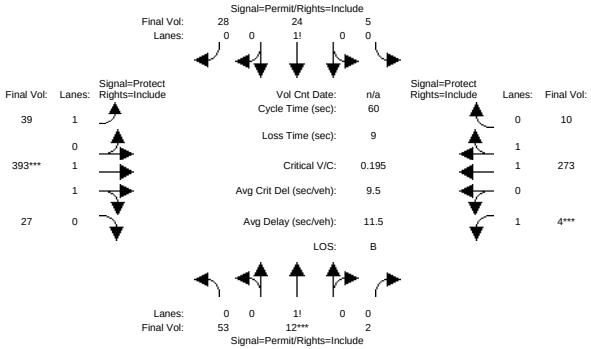
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   25    73    19   51    11    26  581    16    60  475     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1167
Minor Approach Volume:           118
Minor Approach Volume Threshold: 232
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1023: 15th St / Martin Luther King Wy



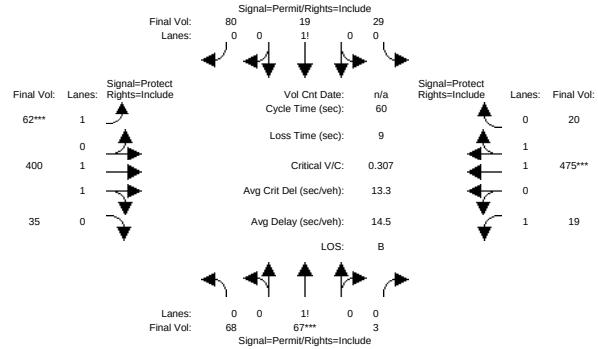
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	6	2	5	1	28	39	393	27	4	273	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	6	2	5	1	28	39	393	27	4	273	10
Added Vol:	0	6	0	0	23	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	12	2	5	24	28	39	393	27	4	273	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	12	2	5	24	28	39	393	27	4	273	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	12	2	5	24	28	39	393	27	4	273	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	12	2	5	24	28	39	393	27	4	273	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.77	0.77	0.92	0.92	0.92	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.79	0.18	0.03	0.09	0.42	0.49	1.00	1.87	0.13	1.00	1.93	0.07
Final Sat.:	1153	261	43	153	732	854	1805	3344	230	1805	3465	127
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.03	0.03	0.03	0.02	0.12	0.12	0.00	0.08	0.08
Crit Moves:		****						****		****		
Green/Cycle:	0.21	0.21	0.21	0.21	0.21	0.21	0.27	0.53	0.53	0.12	0.38	0.38
Volume/Cap:	0.22	0.22	0.22	0.16	0.16	0.16	0.08	0.22	0.22	0.02	0.21	0.21
Delay/Veh:	20.2	20.2	20.2	19.8	19.8	19.8	16.6	7.7	7.7	23.5	12.6	12.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.2	20.2	20.2	19.8	19.8	19.8	16.6	7.7	7.7	23.5	12.6	12.6
LOS by Move:	C	C	C	B	B	B	B	A	A	C	B	B
HCM2kAvgQ:	30	30	30	24	24	24	13	53	53	2	44	44

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1023: 15th St / Martin Luther King Wy



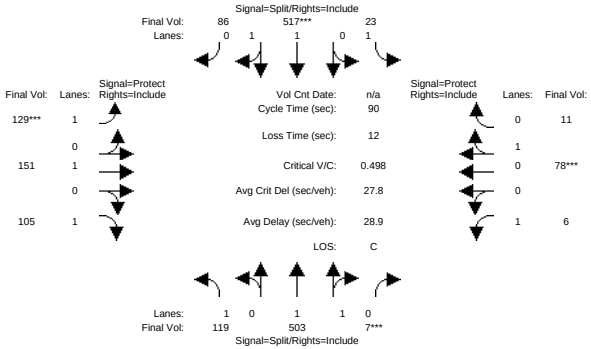
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	68	44	3	29	13	80	62	400	35	19	475	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	68	44	3	29	13	80	62	400	35	19	475	20
Added Vol:	0	23	0	0	6	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68	67	3	29	19	80	62	400	35	19	475	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	67	3	29	19	80	62	400	35	19	475	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	67	3	29	19	80	62	400	35	19	475	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	67	3	29	19	80	62	400	35	19	475	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.82	0.82	0.82	0.85	0.85	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	0.49	0.49	0.02	0.23	0.15	0.62	1.00	1.84	0.16	1.00	1.92	0.08
Final Sat.:	764	753	34	364	239	1005	1805	3280	287	1805	3443	145
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.08	0.08	0.08	0.03	0.12	0.12	0.01	0.14	0.14
Crit Moves:		****					****				****	
Green/Cycle:	0.29	0.29	0.29	0.29	0.29	0.29	0.12	0.33	0.33	0.23	0.45	0.45
Volume/Cap:	0.31	0.31	0.31	0.28	0.28	0.28	0.29	0.37	0.37	0.05	0.31	0.31
Delay/Veh:	17.1	17.1	17.1	16.9	16.9	16.9	25.0	15.5	15.5	17.9	10.8	10.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.1	17.1	17.1	16.9	16.9	16.9	25.0	15.5	15.5	17.9	10.8	10.8
LOS by Move:	B	B	B	B	B	B	C	B	B	B	B	B
HCM2kAvgQ:	56	56	56	51	51	51	26	78	78	6	73	73

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1024: 16th St / Martin Luther King Wy

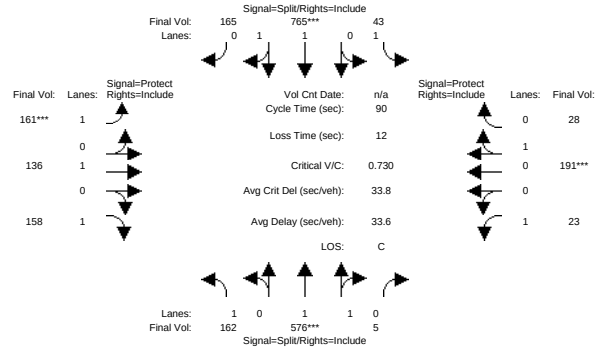



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119  318     7   23  304    86  129  151   105    6   78    11
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  119  318     7   23  304    86  129  151   105    6   78    11
Added Vol:      0  185     0    0  213     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  119  503     7   23  517    86  129  151   105    6   78    11
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   119  503     7   23  517    86  129  151   105    6   78    11
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  119  503     7   23  517    86  129  151   105    6   78    11
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  119  503     7   23  517    86  129  151   105    6   78    11
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.93  0.93 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.97  0.03 1.00 1.71  0.29 1.00 1.00  1.00 1.00 0.88  0.12
Final Sat.:  1805 3553    49 1805 3030   504 1805 1900  1615 1805 1634   230
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.14  0.14 0.01 0.17  0.17 0.07 0.08  0.07 0.00 0.05  0.05
Crit Moves:             ****      ****       ****                 ****
Green/Cycle: 0.28 0.28  0.28 0.34 0.34  0.34 0.14 0.15  0.15 0.10 0.11  0.11
Volume/Cap:  0.24 0.51  0.51 0.04 0.51  0.51 0.51 0.54  0.44 0.03 0.43  0.43
Delay/Veh:   25.3 27.7  27.7 20.1 24.3  24.3 37.5 37.5  36.2 36.3 38.8  38.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  25.3 27.7  27.7 20.1 24.3  24.3 37.5 37.5  36.2 36.3 38.8  38.8
LOS by Move:    C    C     C    C    C     C    D    D     D    D    D     D
HCM2kAvgQ:     65  166   166   10  170   170   82   96    65    4   57    57
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1024: 16th St / Martin Luther King Wy

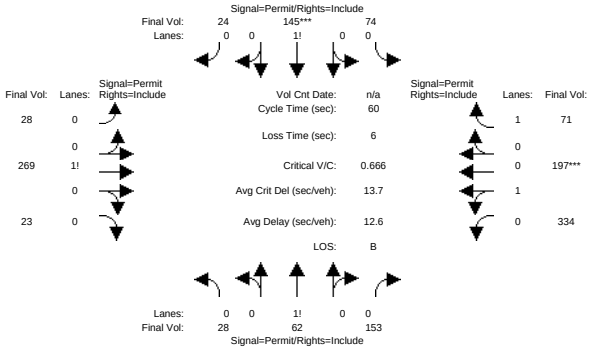



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     162  363     5   43  580   165  161  136   158   23  191    28
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  162  363     5   43  580   165  161  136   158   23  191    28
Added Vol:      0  213     0    0  185     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  162  576     5   43  765   165  161  136   158   23  191    28
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   162  576     5   43  765   165  161  136   158   23  191    28
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  162  576     5   43  765   165  161  136   158   23  191    28
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  162  576     5   43  765   165  161  136   158   23  191    28
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.92  0.92 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.98  0.02 1.00 1.65  0.35 1.00 1.00  1.00 1.00 0.87  0.13
Final Sat.:  1805 3575    31 1805 2889   623 1805 1900  1615 1805 1626   238
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.16  0.16 0.02 0.26  0.26 0.09 0.07  0.10 0.01 0.12  0.12
Crit Moves:             ****      ****       ****                 ****
Green/Cycle: 0.22 0.22  0.22 0.36 0.36  0.36 0.12 0.17  0.17 0.12 0.16  0.16
Volume/Cap:  0.41 0.73  0.73 0.07 0.73  0.73 0.73 0.43  0.59 0.11 0.73  0.73
Delay/Veh:   30.7 36.0  36.0 18.8 27.0  27.0 49.8 34.6  38.0 35.8 44.7  44.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  30.7 36.0  36.0 18.8 27.0  27.0 49.8 34.6  38.0 35.8 44.7  44.7
LOS by Move:    C    D     D    B    C     C    D    C     D    D    D     D
HCM2kAvgQ:    103  236   236   18  293   293  113   82   101   14  151   151
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1025: 13th St / G St



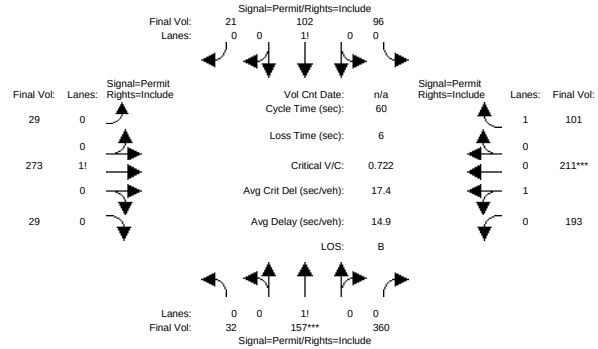
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	28	62	153	74	145	20	28	265	23	334	185	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	62	153	74	145	20	28	265	23	334	185	71
Added Vol:	0	0	0	0	0	4	0	4	0	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	62	153	74	145	24	28	269	23	334	197	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	62	153	74	145	24	28	269	23	334	197	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	62	153	74	145	24	28	269	23	334	197	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	62	153	74	145	24	28	269	23	334	197	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	0.78	0.78	0.78	0.94	0.94	0.94	0.64	0.64	0.85
Lanes:	0.12	0.25	0.63	0.30	0.60	0.10	0.09	0.84	0.07	0.63	0.37	1.00
Final Sat.:	192	424	1046	452	885	147	156	1494	128	766	452	1615
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.15	0.16	0.16	0.16	0.18	0.18	0.18	0.44	0.44	0.04
Crit Moves:					****						****	
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.65	0.65	0.65	0.65	0.65	0.65
Volume/Cap:	0.59	0.59	0.59	0.67	0.67	0.67	0.28	0.28	0.28	0.67	0.67	0.07
Delay/Veh:	22.4	22.4	22.4	25.1	25.1	25.1	4.5	4.5	4.5	8.5	8.5	3.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.4	22.4	22.4	25.1	25.1	25.1	4.5	4.5	4.5	8.5	8.5	3.8
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	124	124	124	105	105	105	66	66	66	156	156	12

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1025: 13th St / G St



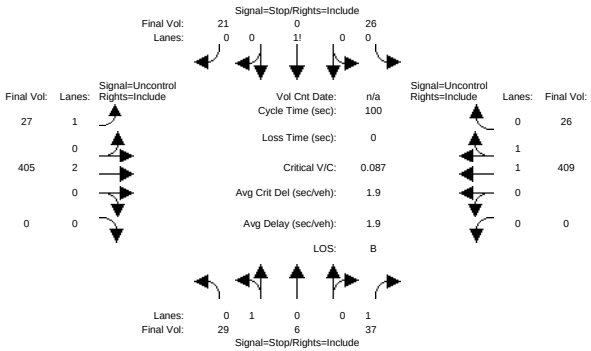
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	32	157	360	95	102	20	29	261	29	193	207	101
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	157	360	95	102	20	29	261	29	193	207	101
Added Vol:	0	0	0	1	0	1	0	12	0	0	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	157	360	96	102	21	29	273	29	193	211	101
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	157	360	96	102	21	29	273	29	193	211	101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	157	360	96	102	21	29	273	29	193	211	101
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	32	157	360	96	102	21	29	273	29	193	211	101
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.89	0.67	0.67	0.67	0.94	0.94	0.94	0.65	0.65	0.85
Lanes:	0.06	0.29	0.65	0.44	0.46	0.10	0.09	0.82	0.09	0.48	0.52	1.00
Final Sat.:	99	484	1109	558	593	122	156	1471	156	594	649	1615
Capacity Analysis Module:												
Vol/Sat:	0.32	0.32	0.32	0.17	0.17	0.17	0.19	0.19	0.19	0.33	0.33	0.06
Crit Moves:		****									****	
Green/Cycle:	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Volume/Cap:	0.72	0.72	0.72	0.38	0.38	0.38	0.41	0.41	0.41	0.72	0.72	0.14
Delay/Veh:	16.9	16.9	16.9	11.4	11.4	11.4	11.5	11.5	11.5	18.0	18.0	9.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.9	16.9	16.9	11.4	11.4	11.4	11.5	11.5	11.5	18.0	18.0	9.8
LOS by Move:	B	B	B	B	B	B	B	B	B	B	B	A
HCM2kAvgQ:	246	246	246	66	66	66	110	110	110	156	156	26

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26    2    37    26    0    21    27  401     0     0  394    26
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26    2    37    26    0    21    27  401     0     0  394    26
Added Vol:      3    4     0     0    0     0     0    4     0     0   15     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   29    6    37    26    0    21    27  405     0     0  409    26
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    29    6    37    26    0    21    27  405     0     0  409    26
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   29    6    37    26    0    21    27  405     0     0  409    26
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  664  894   203   682  881   218   435 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  350  283   811   340  288   793  1135 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    335  276   811   313  281   793  1135 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.09 0.02  0.05  0.08 0.00  0.03  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.6  xxxx xxxx xxxxx   1.8 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx   9.7 xxxxx xxxx xxxxx   8.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     A     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  323 xxxx xxxxx  xxxx  429 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.4 xxxx xxxxx xxxxx  0.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 17.5 xxxx xxxxx xxxxx 14.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:      13.5             14.4            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   29    6    37    26    0    21    27  405     0     0  409    26
ApproachDel:      13.5             14.4            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=72]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=986]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=47]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=986]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

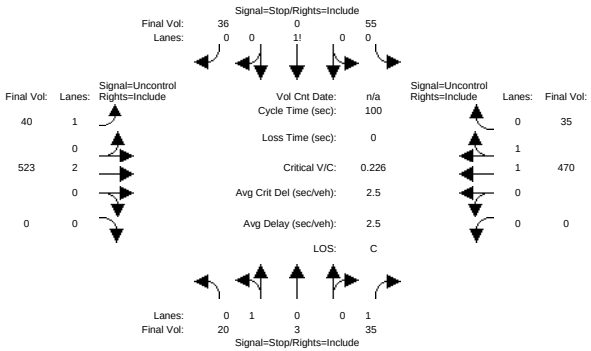
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   29    6    37    26    0    21    27  405     0     0  409    26
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             867
Minor Approach Volume:           72
Minor Approach Volume Threshold: 435
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      19    2    35    55    0    36    40  514     0     0  459    35
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   19    2    35    55    0    36    40  514     0     0  459    35
Added Vol:      1    1     0     0    0     0     0    9     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20    3    35    55    0    36    40  523     0     0  470    35
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20    3    35    55    0    36    40  523     0     0  470    35
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20    3    35    55    0    36    40  523     0     0  470    35
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  838 1108   262   831 1091   253   505 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  262  212   743   266  217   753  1070 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    243  204   743   243  209   753  1070 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.08 0.01  0.05  0.23 0.00  0.05  0.04 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.7  xxxx xxxx xxxxx   2.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  10.1 xxxxx xxxx xxxxx   8.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  237 xxxx xxxxx  xxxx  332 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.3 xxxx xxxxx xxxxx  1.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 21.8 xxxx xxxxx xxxxx 19.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:      14.7             19.9           xxxxxx           xxxxxx
ApproachLOS:         B                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   20    3    35    55    0    36    40  523     0     0  470    35
ApproachDel:      14.7             19.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=58]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1217]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=91]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1217]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

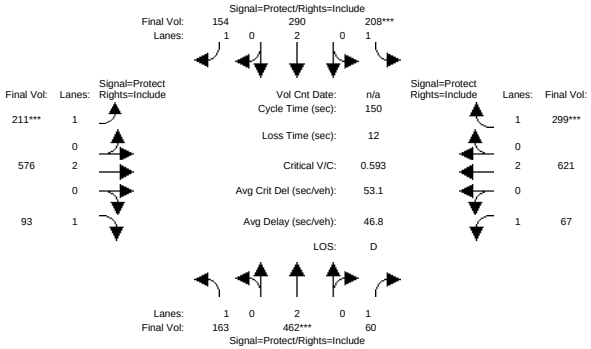
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   20    3    35    55    0    36    40  523     0     0  470    35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1068
Minor Approach Volume:           91
Minor Approach Volume Threshold: 262
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1028: Olive Ave / G St



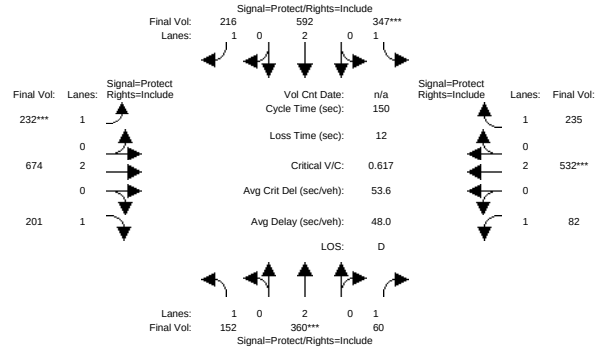
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	158	462	60	208	290	154	211	573	90	67	615	299
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	158	462	60	208	290	154	211	573	90	67	615	299
Added Vol:	5	0	0	0	0	0	0	3	3	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	163	462	60	208	290	154	211	576	93	67	621	299
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	163	462	60	208	290	154	211	576	93	67	621	299
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	163	462	60	208	290	154	211	576	93	67	621	299
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	163	462	60	208	290	154	211	576	93	67	621	299
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.04	0.12	0.08	0.10	0.12	0.16	0.06	0.04	0.17	0.19
Crit Moves:		****		****			****					****
Green/Cycle:	0.20	0.22	0.22	0.19	0.21	0.21	0.20	0.39	0.39	0.12	0.31	0.31
Volume/Cap:	0.45	0.59	0.17	0.59	0.38	0.45	0.59	0.40	0.15	0.32	0.55	0.59
Delay/Veh:	53.7	54.1	48.1	57.7	51.1	52.6	57.4	32.9	29.3	61.9	43.4	45.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.7	54.1	48.1	57.7	51.1	52.6	57.4	32.9	29.3	61.9	43.4	45.4
LOS by Move:	D	D	D	E	D	D	E	C	C	E	D	D
HCM2kAvgQ:	169	262	56	212	143	148	234	244	67	76	312	297

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1028: Olive Ave / G St



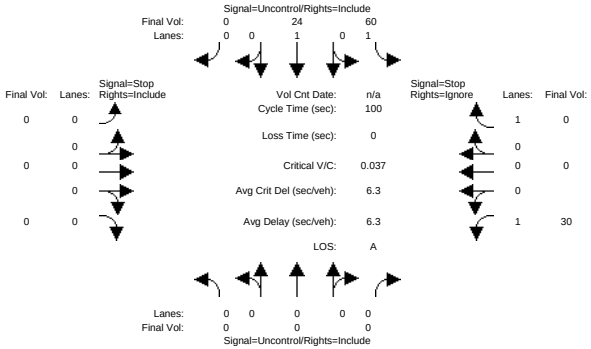
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	149	360	60	347	592	216	232	668	196	82	529	235
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	360	60	347	592	216	232	668	196	82	529	235
Added Vol:	3	0	0	0	0	0	0	6	5	0	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	152	360	60	347	592	216	232	674	201	82	532	235
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	152	360	60	347	592	216	232	674	201	82	532	235
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	152	360	60	347	592	216	232	674	201	82	532	235
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	152	360	60	347	592	216	232	674	201	82	532	235
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.10	0.04	0.19	0.16	0.13	0.13	0.19	0.12	0.05	0.15	0.15
Crit Moves:		****		****			****					****
Green/Cycle:	0.16	0.16	0.16	0.31	0.31	0.31	0.21	0.36	0.36	0.09	0.24	0.24
Volume/Cap:	0.52	0.62	0.23	0.62	0.52	0.43	0.62	0.52	0.35	0.51	0.62	0.61
Delay/Veh:	59.5	60.6	55.2	46.1	42.9	41.5	57.0	38.4	35.7	67.8	52.3	53.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.5	60.6	55.2	46.1	42.9	41.5	57.0	38.4	35.7	67.8	52.3	53.7
LOS by Move:	E	E	E	D	D	D	E	D	D	E	D	D
HCM2kAvgQ:	171	220	62	326	280	187	257	318	167	105	298	254

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    51   24     0     0    0     0    30    0   161
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    51   24     0     0    0     0    30    0   161
Added Vol:      0    0     0     9    0     0     0    0     0     0    0    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    60   24     0     0    0     0    30    0   175
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0    60   24     0     0    0     0    30    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    60   24     0     0    0     0    30    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   144 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   853 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   829 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.04 xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   2.9 xxxx xxxxx  xxxx xxxx xxxxx   2.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx   9.5 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.5
ApproachLOS:         *                *                *                A
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0    60   24     0     0    0     0    30    0   175
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.5
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=205]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=289]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

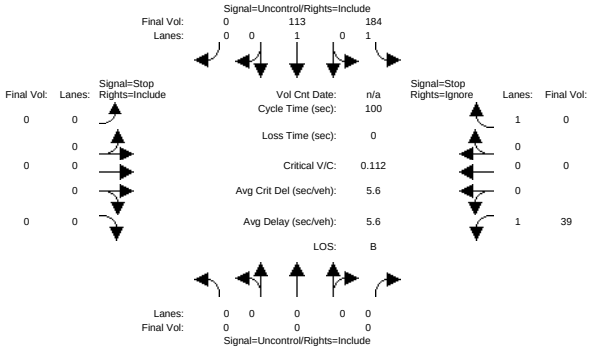
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0    60   24     0     0    0     0    30    0   175
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             84
Minor Approach Volume:          205
Minor Approach Volume Threshold: 1439
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   170  113     0     0    0     0    39    0    96
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   170  113     0     0    0     0    39    0    96
Added Vol:      0    0     0    14    0     0     0    0     0     0    0     9
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   184  113     0     0    0     0    39    0   105
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   184  113     0     0    0     0    39    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   184  113     0     0    0     0    39    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   481 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   548 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   500 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.11 xxxx  xxxx  xxxx xxxx  xxxx  0.08 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   9.5 xxxx xxxxx  xxxx xxxx xxxxx   6.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  12.8 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             12.8
ApproachLOS:         *                *                *                B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   184  113     0     0    0     0    39    0   105
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             12.8
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=144]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=441]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

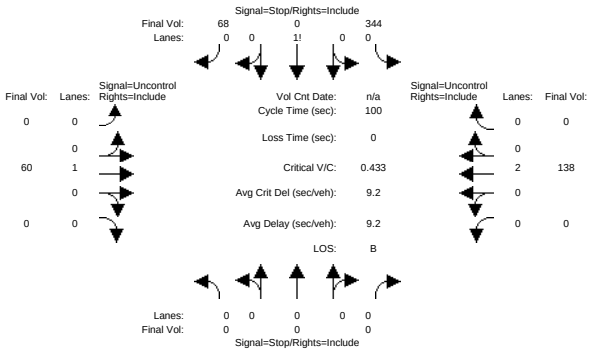
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   184  113     0     0    0     0    39    0   105
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             297
Minor Approach Volume:           144
Minor Approach Volume Threshold: 896
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   344    0    68     0   51     0     0  124     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   344    0    68     0   51     0     0  124     0
Added Vol:      0    0     0     0    0     0     0    9     0     0   14     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   344    0    68     0   60     0     0  138     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   344    0    68     0   60     0     0  138     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   344    0    68     0   60     0     0  138     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   198  198    69  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   795  701  1000  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   795  701  1000  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.43 0.00  0.07  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  823 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 13.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             13.7            xxxxxx           xxxxxx
ApproachLOS:         *                B                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0    68     0   60     0     0  138     0
ApproachDel:    xxxxxx             13.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=412]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=610]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

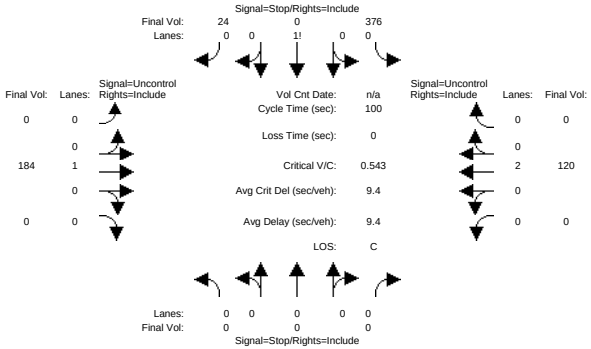
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0    68     0   60     0     0  138     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             198
Minor Approach Volume:           412
Minor Approach Volume Threshold: 843
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   376    0    24     0  170     0     0  111     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   376    0    24     0  170     0     0  111     0
Added Vol:      0    0     0     0    0     0     0   14     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   376    0    24     0  184     0     0  120     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   376    0    24     0  184     0     0  120     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   376    0    24     0  184     0     0  120     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   304  304    60  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   692  613  1011  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   692  613  1011  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.54 0.00  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  705 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 16.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             16.6           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    24     0  184     0     0  120     0
ApproachDel:    xxxxxx              16.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=400]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=704]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

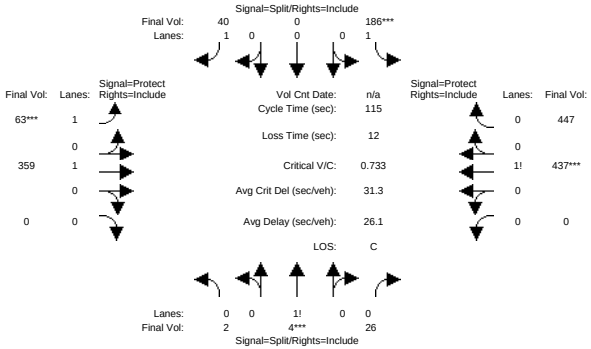
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    24     0  184     0     0  120     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             304
Minor Approach Volume:           400
Minor Approach Volume Threshold: 695
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

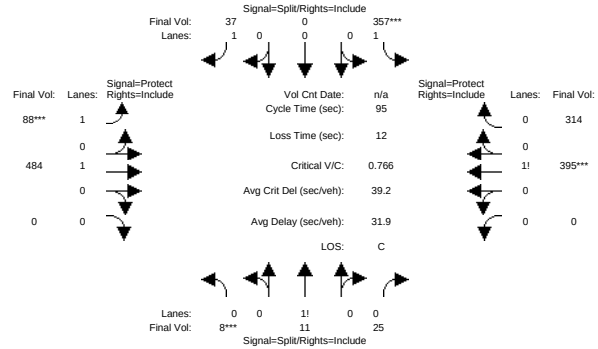



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10    10    0   10     7   10    0     0   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    3   26   184    0   40    63  350    0     0  423  439
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    2    3   26   184    0   40    63  350    0     0  423  439
Added Vol:      0    1    0     2    0    0     0    9    0     0   14    8
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    2    4   26   186    0   40    63  359    0     0  437  447
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     2    4   26   186    0   40    63  359    0     0  437  447
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    2    4   26   186    0   40    63  359    0     0  437  447
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    2    4   26   186    0   40    63  359    0     0  437  447
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.89 0.89 0.89  0.95 1.00 0.85  0.95 1.00 1.00  1.00 0.93 0.93
Lanes:       0.06 0.13 0.81  1.00 0.00 1.00  1.00 1.00 0.00  0.00 0.49 0.51
Final Sat.:   105  211 1370  1805    0 1615  1805 1900    0     0  875  895
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.02 0.02  0.10 0.00 0.02  0.03 0.19 0.00  0.00 0.50 0.50
Crit Moves:        ****        ****             ****                 ****
Green/Cycle: 0.09 0.09 0.09  0.13 0.00 0.13  0.06 0.68 0.00  0.00 0.62 0.62
Volume/Cap:  0.22 0.22 0.22  0.81 0.00 0.19  0.57 0.28 0.00  0.00 0.81 0.81
Delay/Veh:   49.6 49.6 49.6  67.1  0.0 45.3  59.7  7.3  0.0   0.0 21.0 21.0
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  49.6 49.6 49.6  67.1  0.0 45.3  59.7  7.3  0.0   0.0 21.0 21.0
LOS by Move:    D    D    D     E    A    D     E    A    A     A    C    C
HCM2kAvgQ:     31   31   31   214    0   34    77  122    0     0  564  564
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

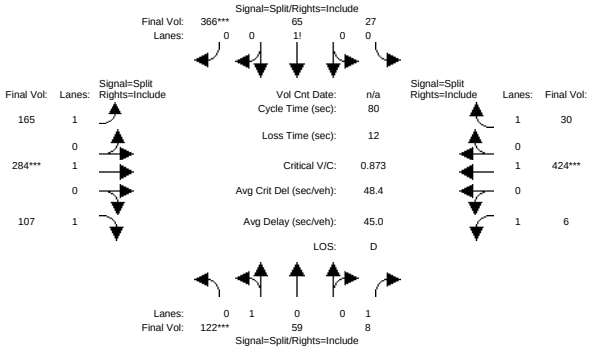



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10    10   10   10     7   10    0     0   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8   11   25   349    0   37    88  470    0     0  386  312
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    8   11   25   349    0   37    88  470    0     0  386  312
Added Vol:      0    0    0     8    0    0     0   14    0     0    9    2
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    8   11   25   357    0   37    88  484    0     0  395  314
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     8   11   25   357    0   37    88  484    0     0  395  314
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    8   11   25   357    0   37    88  484    0     0  395  314
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    8   11   25   357    0   37    88  484    0     0  395  314
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.91 0.91 0.91  0.95 1.00 0.85  0.95 1.00 1.00  1.00 0.94 0.94
Lanes:       0.18 0.25 0.57  1.00 0.00 1.00  1.00 1.00 0.00  0.00 0.56 0.44
Final Sat.:   316  434  987  1805    0 1615  1805 1900    0     0  995  791
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.03 0.03  0.20 0.00 0.02  0.05 0.25 0.00  0.00 0.40 0.40
Crit Moves:  ****             ****             ****                 ****
Green/Cycle: 0.11 0.11 0.11  0.23 0.00 0.23  0.07 0.54 0.00  0.00 0.46 0.46
Volume/Cap:  0.24 0.24 0.24  0.86 0.00 0.10  0.66 0.47 0.00  0.00 0.86 0.86
Delay/Veh:   39.7 39.7 39.7  50.9  0.0 28.9  54.6 14.0  0.0   0.0 31.4 31.4
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  39.7 39.7 39.7  50.9  0.0 28.9  54.6 14.0  0.0   0.0 31.4 31.4
LOS by Move:    D    D    D     D    A    C     D    B    A     A    C    C
HCM2kAvgQ:     34   34   34   324    0   22    95  220    0     0  449  449
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

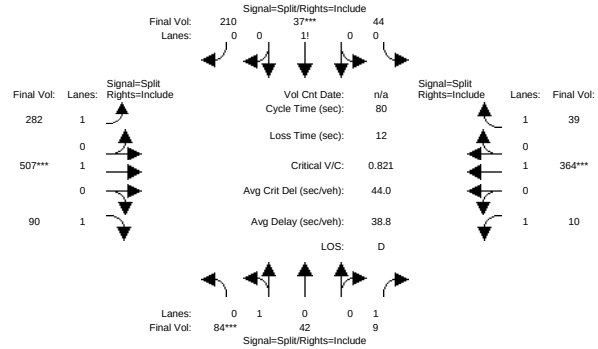



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     122   59     8   27   65   366  165  273   107    6  402    30
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  122   59     8   27   65   366  165  273   107    6  402    30
Added Vol:      0    0     0    0    0     0    0   11     0    0   22     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  122   59     8   27   65   366  165  284   107    6  424    30
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   122   59     8   27   65   366  165  284   107    6  424    30
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  122   59     8   27   65   366  165  284   107    6  424    30
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  122   59     8   27   65   366  165  284   107    6  424    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.89 0.89  0.89 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.06 0.14  0.80 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1238  599  1615  100  240  1350 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.00 0.27 0.27  0.27 0.09 0.15  0.07 0.00 0.22  0.02
Crit Moves:  ****                      ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.31 0.31  0.31 0.17 0.17  0.17 0.25 0.25  0.25
Volume/Cap:  0.79 0.79  0.04 0.89 0.89  0.89 0.54 0.89  0.39 0.01 0.89  0.07
Delay/Veh:   50.5 50.5  30.9 43.4 43.4  43.4 32.5 57.1  30.6 22.5 46.9  22.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  50.5 50.5  30.9 43.4 43.4  43.4 32.5 57.1  30.6 22.5 46.9  22.9
LOS by Move:    D    D     C    D    D     D    C    E     C    C    D     C
HCM2kAvgQ:    163  163     5  362  362   362   93  199    58    3  344    15
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

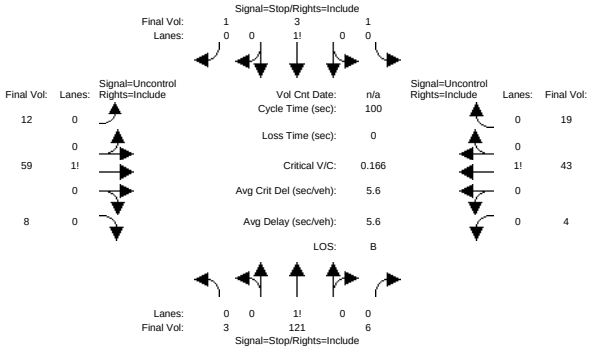



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      84   42     9   44   37   210  282  485    90   10  353    39
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   84   42     9   44   37   210  282  485    90   10  353    39
Added Vol:      0    0     0    0    0     0    0   22     0    0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   84   42     9   44   37   210  282  507    90   10  364    39
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    84   42     9   44   37   210  282  507    90   10  364    39
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   84   42     9   44   37   210  282  507    90   10  364    39
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   84   42     9   44   37   210  282  507    90   10  364    39
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.90 0.90  0.90 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.15 0.13  0.72 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1226  613  1615  258  217  1229 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.01 0.17 0.17  0.17 0.16 0.27  0.06 0.01 0.19  0.02
Crit Moves:  ****                      ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.20 0.20  0.20 0.31 0.31  0.31 0.22 0.22  0.22
Volume/Cap:  0.55 0.55  0.04 0.87 0.87  0.87 0.51 0.87  0.18 0.03 0.87  0.11
Delay/Veh:   35.7 35.7  30.9 51.8 51.8  51.8 23.5 39.3  20.5 24.5 47.3  25.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  35.7 35.7  30.9 51.8 51.8  51.8 23.5 39.3  20.5 24.5 47.3  25.0
LOS by Move:    D    D     C    D    D     D    C    D     C    C    D     C
HCM2kAvgQ:     94   94     6  253  253   253  139  321    39    5  298    20
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                          O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3   18     6     1     3     1    11   59     8     4   43     7
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3   18     6     1     3     1    11   59     8     4   43     7
Added Vol:      0  103     0     0     0     0     1    0     0     0    0    12
PasserByVol:    0    0     0     0     0     0     0    0     0     0    0     0
Initial Fut:    3  121     6     1     3     1    12   59     8     4   43    19
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3  121     6     1     3     1    12   59     8     4   43    19
Reduct Vol:     0    0     0     0     0     0     0    0     0     0    0     0
FinalVolume:    3  121     6     1     3     1    12   59     8     4   43    19
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  150  157    63   211  152    53    62 xxxx xxxxx    67 xxxx xxxxx
Potent Cap.:  823  739  1007   750  744  1021  1554 xxxx xxxxx  1547 xxxx xxxxx
Move Cap.:    813  731  1007   646  736  1021  1554 xxxx xxxxx  1547 xxxx xxxxx
Volume/Cap:  0.00 0.17  0.01  0.00 0.00  0.00  0.01 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  742 xxxxx  xxxx  757 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.9 xxxxx xxxxx  9.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    A     *     *    *     *     *    *     *
ApproachDel:      10.9              9.8           xxxxxx           xxxxxx
ApproachLOS:         B                A                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3  121     6     1     3     1    12   59     8     4   43    19
ApproachDel:      10.9              9.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=130]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=280]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=280]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

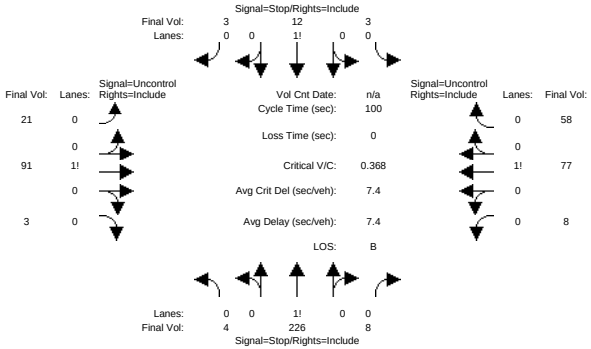
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3  121     6     1     3     1    12   59     8     4   43    19
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             145
Minor Approach Volume:           130
Minor Approach Volume Threshold: 734
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                          O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   58     8     3   12     3    18   91     3     8   77    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   58     8     3   12     3    18   91     3     8   77    11
Added Vol:      0  168     0     0    0     0     3    0     0     0    0    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4  226     8     3   12     3    21   91     3     8   77    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4  226     8     3   12     3    21   91     3     8   77    58
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4  226     8     3   12     3    21   91     3     8   77    58
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  264  286    93   374  258   106   135 xxxx xxxxx    94 xxxx xxxxx
Potent Cap.:  693  627   970   587  650   954  1462 xxxx xxxxx  1513 xxxx xxxxx
Move Cap.:    671  615   970   410  637   954  1462 xxxx xxxxx  1513 xxxx xxxxx
Volume/Cap:  0.01 0.37  0.01  0.01 0.02  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  623 xxxxx  xxxx  614 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.8 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 14.3 xxxxx xxxxx 11.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      14.3             11.0           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  226     8     3   12     3    21   91     3     8   77    58
ApproachDel:      14.3             11.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=238]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=514]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=514]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

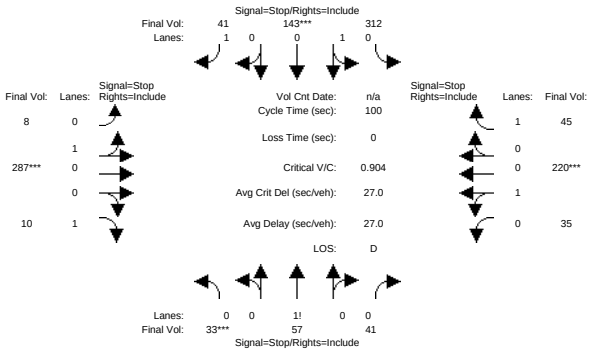
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  226     8     3   12     3    21   91     3     8   77    58
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             258
Minor Approach Volume:           238
Minor Approach Volume Threshold: 581
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    56    33    91   138    41     8   266    10    25   209    45
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   33    56    33    91   138    41     8   266    10    25   209    45
Added Vol:      0     1     8   221     5     0     0    21     0    10    11     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   33    57    41   312   143    41     8   287    10    35   220    45
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    33    57    41   312   143    41     8   287    10    35   220    45
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   33    57    41   312   143    41     8   287    10    35   220    45
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   33    57    41   312   143    41     8   287    10    35   220    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.25  0.44  0.31  0.69  0.31  1.00  0.03  0.97  1.00  0.14  0.86  1.00
Final Sat.:   111   191   137   345   158   581    13   464   525    64   405   520
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.30  0.30  0.30  0.90  0.90  0.07  0.62  0.62  0.02  0.54  0.54  0.09
Crit Moves:  ****                  ****              ****              ****
Delay/Veh:   13.4  13.4  13.4  44.5  44.5   9.2  19.8  19.8   9.3  17.6  17.6   9.8
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  13.4  13.4  13.4  44.5  44.5   9.2  19.8  19.8   9.3  17.6  17.6   9.8
LOS by Move:    B     B     B     E     E     A     C     C     A     C     C     A
ApproachDel:      13.4              41.6              19.5              16.5
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       13.4              41.6              19.5              16.5
LOS by Appr:         B                 E                 C                 C
AllWayAvgQ:   8.6   8.6   8.6   121   121   1.8  32.9  32.9   0.4  24.8  24.8   2.1
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   33   57    41   312  143    41     8  287    10    35  220    45
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             627
Minor Approach Volume:           305
Minor Approach Volume Threshold: 575
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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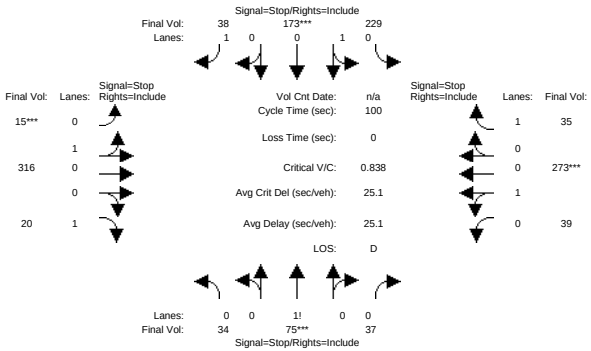
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      34    72    30   111   172    38    15   300    20    26   253    35
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   34    72    30   111   172    38    15   300    20    26   253    35
Added Vol:      0     3     7   118     1     0     0    16     0    13    20     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   34    75    37   229   173    38    15   316    20    39   273    35
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    34    75    37   229   173    38    15   316    20    39   273    35
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   34    75    37   229   173    38    15   316    20    39   273    35
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   34    75    37   229   173    38    15   316    20    39   273    35
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.23  0.52  0.25  0.57  0.43  1.00  0.05  0.95  1.00  0.12  0.88  1.00
Final Sat.:    96   212   104   273   206   545    22   456   521    59   413   518
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35  0.35  0.35  0.84  0.84  0.07  0.69  0.69  0.04  0.66  0.66  0.07
Crit Moves:        ****              ****        ****                    ****
Delay/Veh:   14.5  14.5  14.5  36.0  36.0   9.6  23.6  23.6   9.5  22.1  22.1   9.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  14.5  14.5  14.5  36.0  36.0   9.6  23.6  23.6   9.5  22.1  22.1   9.7
LOS by Move:    B     B     B     E     E     A     C     C     A     C     C     A
ApproachDel:       14.5              33.7              22.8              20.8
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        14.5              33.7              22.8              20.8
LOS by Appr:          B                 D                 C                 C
AllWayAvgQ:  10.4  10.4  10.4  86.3  86.3   1.7  45.0  45.0   0.9  39.4  39.4   1.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



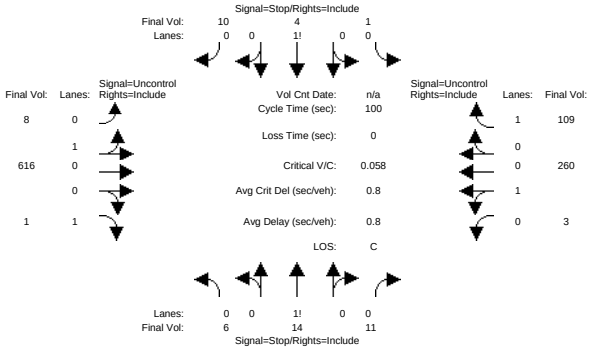
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   34   75   37   229  173   38    15  316   20    39  273   35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             698
Minor Approach Volume:           440
Minor Approach Volume Threshold: 529
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   14     7     1    4    10     8  366     1     3  238     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   14     7     1    4    10     8  366     1     3  238     6
Added Vol:      0    0     4     0    0     0     0  250     0     0   22   103
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6   14    11     1    4    10     8  616     1     3  260   109
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6   14    11     1    4    10     8  616     1     3  260   109
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6   14    11     1    4    10     8  616     1     3  260   109
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  960 1007   616   911  899   260   369 xxxx xxxxx   617 xxxx xxxxx
Potent Cap.:  238  243   494   257  281   784  1201 xxxx xxxxx   973 xxxx xxxxx
Move Cap.:    231  240   494   238  278   784  1201 xxxx xxxxx   973 xxxx xxxxx
Volume/Cap:  0.03 0.06  0.02  0.00 0.01  0.01  0.01 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.0 xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  291 xxxxx  xxxx  479 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.4 xxxxx xxxxx  0.1 xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 18.8 xxxxx xxxxx 12.8 xxxxx   8.0 xxxx xxxxx   8.7 xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     A    *     *     A    *     *
ApproachDel:      18.8             12.8           xxxxxx           xxxxxx
ApproachLOS:         C                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14    11     1    4    10     8  616     1     3  260   109
ApproachDel:      18.8             12.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1043]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1043]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14    11     1    4    10     8  616     1     3  260   109
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             997
Minor Approach Volume:           31
Minor Approach Volume Threshold: 286
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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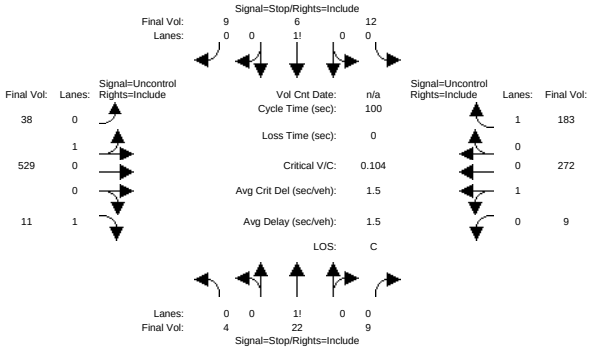
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   22     8    12    6     9    38  388    11     9  240    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   22     8    12    6     9    38  388    11     9  240    15
Added Vol:      0    0     1     0    0     0     0  141     0     0   32   168
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4   22     9    12    6     9    38  529    11     9  272   183
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4   22     9    12    6     9    38  529    11     9  272   183
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4   22     9    12    6     9    38  529    11     9  272   183
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  994 1078   529   916  906   272   455 xxxx xxxxx   540 xxxx xxxxx
Potent Cap.:  226  220   554   255  278   772  1116 xxxx xxxxx  1039 xxxx xxxxx
Move Cap.:    212  211   554   223  266   772  1116 xxxx xxxxx  1039 xxxx xxxxx
Volume/Cap:  0.02 0.10  0.02  0.05 0.02  0.01  0.03 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.6 xxxx xxxxx   0.7 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  251 xxxxx  xxxx  307 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.5 xxxxx xxxxx  0.3 xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 21.6 xxxxx xxxxx 17.8 xxxxx   8.3 xxxx xxxxx   8.5 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      21.6             17.8            xxxxxx           xxxxxx
ApproachLOS:         C                C                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22     9    12    6     9    38  529    11     9  272   183
ApproachDel:      21.6             17.8            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1104]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1104]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

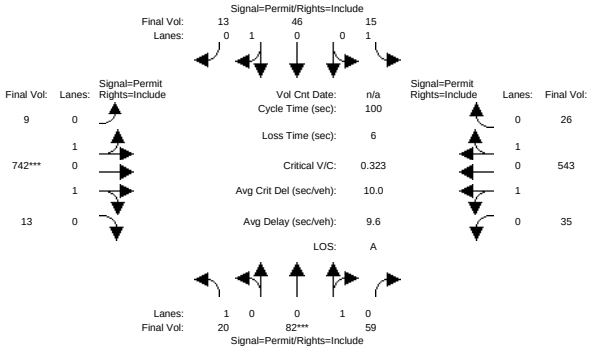
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22     9    12    6     9    38  529    11     9  272   183
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1042
Minor Approach Volume:           35
Minor Approach Volume Threshold: 271
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1036: Main St / M St

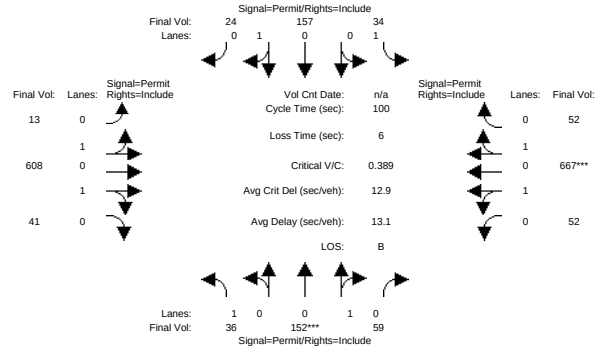



```
Street Name:            Main Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10    10   10    10    10   10    10    10   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      19   81    59    15   46    13     9  721    13    35  529    26
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   19   81    59    15   46    13     9  721    13    35  529    26
Added Vol:      1    1     0     0    0     0     0   21     0     0   14     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20   82    59    15   46    13     9  742    13    35  543    26
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20   82    59    15   46    13     9  742    13    35  543    26
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   20   82    59    15   46    13     9  742    13    35  543    26
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   20   82    59    15   46    13     9  742    13    35  543    26
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.72 0.94  0.94  0.57 0.97  0.97  0.90 0.90  0.90  0.83 0.83  0.83
Lanes:       1.00 0.58  0.42  1.00 0.78  0.22  0.02 1.95  0.03  0.11 1.80  0.09
Final Sat.:  1368 1035   745  1083 1432   405    40 3310    58   183 2836   136
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.08  0.08  0.01 0.03  0.03  0.22 0.22  0.22  0.19 0.19  0.19
Crit Moves:        ****                          ****
Green/Cycle: 0.25 0.25  0.25  0.25 0.25  0.25  0.69 0.69  0.69  0.69 0.69  0.69
Volume/Cap:  0.06 0.32  0.32  0.06 0.13  0.13  0.32 0.32  0.32  0.28 0.28  0.28
Delay/Veh:   29.0 31.3  31.3  29.0 29.5  29.5   6.1  6.1   6.1   5.8  5.8   5.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  29.0 31.3  31.3  29.0 29.5  29.5   6.1  6.1   6.1   5.8  5.8   5.8
LOS by Move:    C    C     C     C    C     C     A    A     A     A    A     A
HCM2kAvgQ:     12   92    92     9   36    36   119  119   119    91   91    91
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1036: Main St / M St

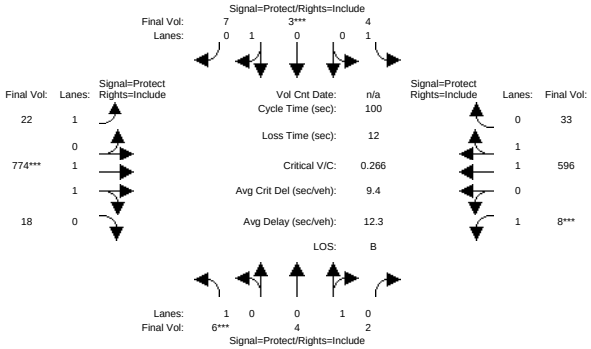



```
Street Name:            Main Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10    10   10    10    10   10    10    10   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36  152    59    34  156    24    13  594    40    52  646    52
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36  152    59    34  156    24    13  594    40    52  646    52
Added Vol:      0    0     0     0    1     0     0   14     1     0   21     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   36  152    59    34  157    24    13  608    41    52  667    52
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    36  152    59    34  157    24    13  608    41    52  667    52
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   36  152    59    34  157    24    13  608    41    52  667    52
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   36  152    59    34  157    24    13  608    41    52  667    52
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.53 0.96  0.96  0.49 0.98  0.98  0.88 0.88  0.88  0.81 0.81  0.81
Lanes:       1.00 0.72  0.28  1.00 0.87  0.13  0.04 1.84  0.12  0.13 1.74  0.13
Final Sat.:  1013 1311   509   927 1615   247    66 3075   207   209 2674   209
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.12  0.12  0.04 0.10  0.10  0.20 0.20  0.20  0.25 0.25  0.25
Crit Moves:        ****                          ****
Green/Cycle: 0.30 0.30  0.30  0.30 0.30  0.30  0.64 0.64  0.64  0.64 0.64  0.64
Volume/Cap:  0.12 0.39  0.39  0.12 0.33  0.33  0.31 0.31  0.31  0.39 0.39  0.39
Delay/Veh:   25.7 28.3  28.3  25.8 27.6  27.6   8.1  8.1   8.1   8.7  8.7   8.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  25.7 28.3  28.3  25.8 27.6  27.6   8.1  8.1   8.1   8.7  8.7   8.7
LOS by Move:    C    C     C     C    C     C     A    A     A     A    A     A
HCM2kAvgQ:     22  132   132    21  110   110   115  115   115   146  146   146
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1037: 18th St / M St



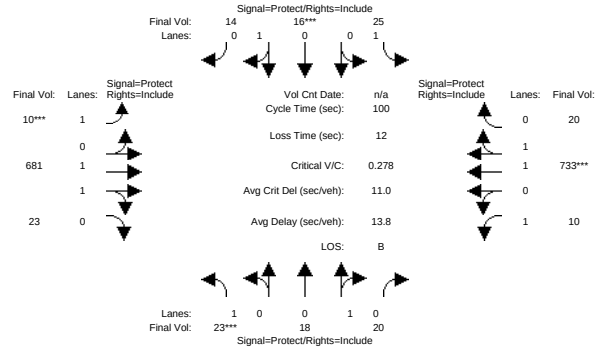
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	2		3		2	4		2		7	22		769		2	8		586		32
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	2		3		2	4		2		7	22		769		2	8		586		32
Added Vol:	4		1		0	0		1		0	0		5		16	0		10		1
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	6		4		2	4		3		7	22		774		18	8		596		33
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	6		4		2	4		3		7	22		774		18	8		596		33
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	6		4		2	4		3		7	22		774		18	8		596		33
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	6		4		2	4		3		7	22		774		18	8		596		33
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.95		0.95	0.95		0.90		0.90	0.95		0.95		0.95	0.95		0.94		0.94
Lanes:	1.00		0.67		0.33	1.00		0.30		0.70	1.00		1.95		0.05	1.00		1.90		0.10
Final Sat.:	1805		1203		602	1805		510		1190	1805		3517		82	1805		3393		188
Capacity Analysis Module:																				
Vol/Sat:	0.00		0.00		0.00	0.00		0.01		0.01	0.01		0.22		0.22	0.00		0.18		0.18
Crit Moves:	****							****					****			****				
Green/Cycle:	0.07		0.10		0.10	0.07		0.10		0.10	0.20		0.64		0.64	0.07		0.51		0.51
Volume/Cap:	0.05		0.03		0.03	0.03		0.06		0.06	0.06		0.34		0.34	0.06		0.35		0.35
Delay/Veh:	43.5		40.7		40.7	43.4		40.9		40.9	32.3		8.4		8.4	43.6		14.8		14.8
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	43.5		40.7		40.7	43.4		40.9		40.9	32.3		8.4		8.4	43.6		14.8		14.8
LOS by Move:	D		D		D	D		D		D	C		A		A	D		B		B
HCM2kAvgQ:	5		5		5	3		7		7	13		144		144	7		150		150

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1037: 18th St / M St



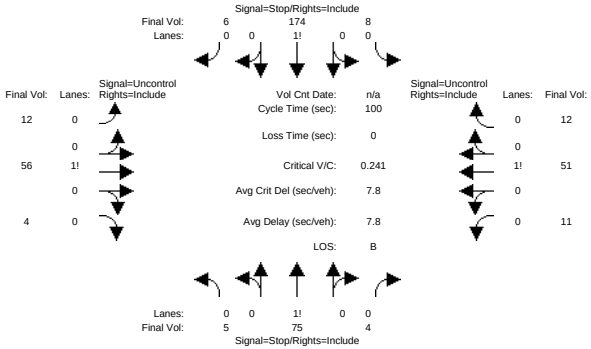
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	7		17		20	24		15		14	10		671		19	10		728		20
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	7		17		20	24		15		14	10		671		19	10		728		20
Added Vol:	16		1		0	1		1		0	0		10		4	0		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	23		18		20	25		16		14	10		681		23	10		733		20
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	23		18		20	25		16		14	10		681		23	10		733		20
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	23		18		20	25		16		14	10		681		23	10		733		20
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	23		18		20	25		16		14	10		681		23	10		733		20
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.92		0.92	0.95		0.93		0.93	0.95		0.95		0.95	0.95		0.95		0.95
Lanes:	1.00		0.47		0.53	1.00		0.53		0.47	1.00		1.93		0.07	1.00		1.95		0.05
Final Sat.:	1805		829		921	1805		942		825	1805		3475		117	1805		3500		95
Capacity Analysis Module:																				
Vol/Sat:	0.01		0.02		0.02	0.01		0.02		0.02	0.01		0.20		0.20	0.01		0.21		0.21
Crit Moves:	****							****			****					****				
Green/Cycle:	0.07		0.10		0.10	0.07		0.10		0.10	0.07		0.52		0.52	0.19		0.64		0.64
Volume/Cap:	0.18		0.22		0.22	0.20		0.17		0.17	0.08		0.37		0.37	0.03		0.33		0.33
Delay/Veh:	44.5		42.0		42.0	44.6		41.7		41.7	43.8		14.3		14.3	33.3		8.3		8.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	44.5		42.0		42.0	44.6		41.7		41.7	43.8		14.3		14.3	33.3		8.3		8.3
LOS by Move:	D		D		D	D		D		D	D		B		B	C		A		A
HCM2kAvgQ:	21		31		31	18		20		20	7		163		163	6		137		137

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5   43     4     8   44     6    12   56     4    11   51    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    5   43     4     8   44     6    12   56     4    11   51    12
Added Vol:      0   32     0     0  130     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    5   75     4     8  174     6    12   56     4    11   51    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     5   75     4     8  174     6    12   56     4    11   51    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    5   75     4     8  174     6    12   56     4    11   51    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  251  167    58   201  163    57    63 xxxx xxxxx    60 xxxx xxxxx
Potent Cap.:  707  729  1014   762  733  1015  1553 xxxx xxxxx  1556 xxxx xxxxx
Move Cap.:    566  719  1014   691  722  1015  1553 xxxx xxxxx  1556 xxxx xxxxx
Volume/Cap:  0.01 0.10  0.00  0.01 0.24  0.01  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx   0.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  717 xxxxx  xxxx  728 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.4 xxxxx xxxxx  1.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.7 xxxxx xxxxx 11.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      10.7             11.7            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5   75     4     8  174     6    12   56     4    11   51    12
ApproachDel:      10.7             11.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=84]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=418]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=188]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=418]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

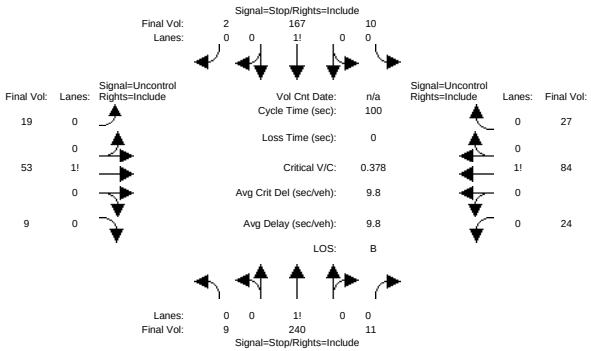
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5   75     4     8  174     6    12   56     4    11   51    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             146
Minor Approach Volume:           188
Minor Approach Volume Threshold: 733
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9  110    11    10  135     2    19   53     9    24   84    27
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9  110    11    10  135     2    19   53     9    24   84    27
Added Vol:      0  130     0     0   32     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    9  240    11    10  167     2    19   53     9    24   84    27
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9  240    11    10  167     2    19   53     9    24   84    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    9  240    11    10  167     2    19   53     9    24   84    27
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  326  255    58   367  246    98   111 xxxx xxxxx    62 xxxx xxxxx
Potent Cap.:  631  653  1014   593  660   964  1492 xxxx xxxxx  1554 xxxx xxxxx
Move Cap.:    493  634  1014   406  641   964  1492 xxxx xxxxx  1554 xxxx xxxxx
Volume/Cap:  0.02 0.38  0.01  0.02 0.26  0.00  0.01 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   1.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  638 xxxxx  xxxx  624 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.0 xxxxx xxxxx  1.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 14.5 xxxxx xxxxx 13.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      14.5             13.1            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  240    11    10  167     2    19   53     9    24   84    27
ApproachDel:      14.5             13.1            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=260]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=655]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=179]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=655]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

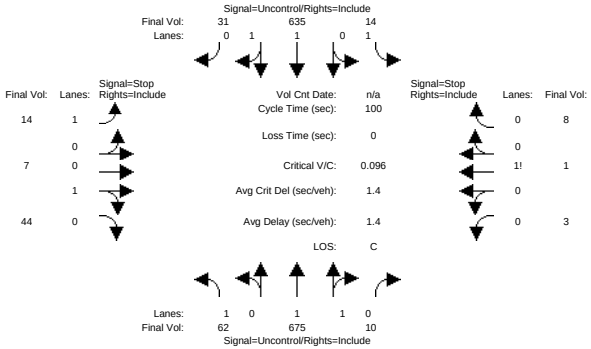
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  240    11    10  167     2    19   53     9    24   84    27
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             216
Minor Approach Volume:           260
Minor Approach Volume Threshold: 628
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62  490    10    14  422    31    14    7    44     3    1     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62  490    10    14  422    31    14    7    44     3    1     8
Added Vol:      0  185     0     0  213     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   62  675    10    14  635    31    14    7    44     3    1     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    62  675    10    14  635    31    14    7    44     3    1     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62  675    10    14  635    31    14    7    44     3    1     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  666 xxxx xxxxx   685 xxxx xxxxx  1141 1488   333  1153 1498   343
Potent Cap.:  933 xxxx xxxxx   918 xxxx xxxxx   158  125   669   155  124   659
Move Cap.:    933 xxxx xxxxx   918 xxxx xxxxx   146  115   669   130  114   659
Volume/Cap:  0.07 xxxx  xxxx  0.02 xxxx  xxxx  0.10 0.06  0.07  0.02 0.01  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    5.3 xxxx xxxxx   1.2 xxxx xxxxx   7.8 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.1 xxxx xxxxx   9.0 xxxx xxxxx  32.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     D    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   403  xxxx  272 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   0.4 xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  15.2 xxxxx 18.8 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     C     *    C     *
ApproachDel:    xxxxxx           xxxxxx             18.9            18.8
ApproachLOS:         *                *                C               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   62  675    10    14  635    31    14    7    44     3    1     8
ApproachDel:    xxxxxx           xxxxxx             18.9            18.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=65]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1504]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1504]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

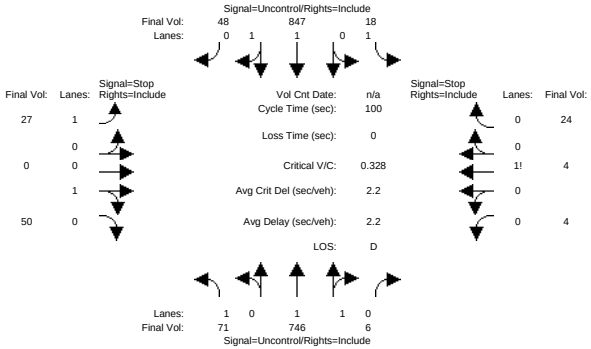
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   62  675    10    14  635    31    14    7    44     3    1     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1427
Minor Approach Volume:           65
Minor Approach Volume Threshold: 221
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  533     6    18  662    48    27    0    50     4    4    24
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   71  533     6    18  662    48    27    0    50     4    4    24
Added Vol:      0  213     0     0  185     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   71  746     6    18  847    48    27    0    50     4    4    24
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    71  746     6    18  847    48    27    0    50     4    4    24
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   71  746     6    18  847    48    27    0    50     4    4    24
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  895 xxxx xxxxx   752 xxxx xxxxx  1424 1801   448  1351 1822   376
Potent Cap.:  767 xxxx xxxxx   867 xxxx xxxxx    98   81   564   111   78   627
Move Cap.:    767 xxxx xxxxx   867 xxxx xxxxx    82   72   564    92   70   627
Volume/Cap:  0.09 xxxx  xxxx  0.02 xxxx  xxxx  0.33 0.00  0.09  0.04 0.06  0.04
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    7.6 xxxx xxxxx   1.6 xxxx xxxxx  31.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.2 xxxx xxxxx   9.2 xxxx xxxxx  68.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     A    *     *     F    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   564  xxxx  230 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   0.3 xxxxx  0.5 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  12.0 xxxxx 23.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     B     *    C     *
ApproachDel:    xxxxxx           xxxxxx             31.9            23.2
ApproachLOS:         *                *                D               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   71  746     6    18  847    48    27    0    50     4    4    24
ApproachDel:    xxxxxx           xxxxxx             31.9            23.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=77]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1845]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1845]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

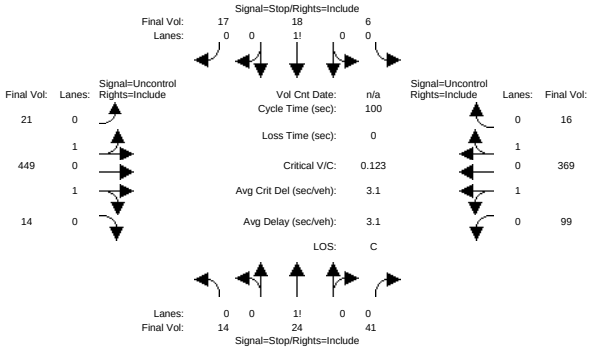
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   71  746     6    18  847    48    27    0    50     4    4    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1736
Minor Approach Volume:           77
Minor Approach Volume Threshold: 137 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      14   23    25     6   16     7     2  440    14    34  360    16
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   14   23    25     6   16     7     2  440    14    34  360    16
Added Vol:      0    1    16     0    2    10    19    9     0    65    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   14   24    41     6   18    17    21  449    14    99  369    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    14   24    41     6   18    17    21  449    14    99  369    16
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   14   24    41     6   18    17    21  449    14    99  369    16
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  890 1081   232   854 1080   193   385 xxxx xxxxx   463 xxxx xxxxx
Potent Cap.:  241  220   777   256  220   823  1185 xxxx xxxxx  1109 xxxx xxxxx
Move Cap.:    201  195   777   201  195   823  1185 xxxx xxxxx  1109 xxxx xxxxx
Volume/Cap:  0.07 0.12  0.05  0.03 0.09  0.02  0.02 xxxx  xxxx  0.09 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.4 xxxx xxxxx   7.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx   8.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  322 xxxxx  xxxx  287 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx  0.5 xxxxx   0.1 xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx 19.8 xxxxx xxxxx 19.6 xxxxx   8.1 xxxx xxxxx   8.6 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      19.8             19.6           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   24    41     6   18    17    21  449    14    99  369    16
ApproachDel:      19.8             19.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=79]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1088]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=41]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1088]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

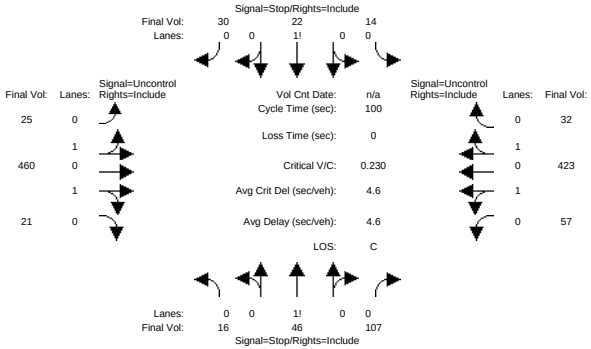
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   24    41     6   18    17    21  449    14    99  369    16
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             968
Minor Approach Volume:           79
Minor Approach Volume Threshold: 296
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      16   40    42    14   22    11    15  451    21    41  414    32
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   16   40    42    14   22    11    15  451    21    41  414    32
Added Vol:      0    6    65     0    0    19    10    9     0    16    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   16   46   107    14   22    30    25  460    21    57  423    32
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    16   46   107    14   22    30    25  460    21    57  423    32
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   16   46   107    14   22    30    25  460    21    57  423    32
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  857 1090   241   856 1084   228   455 xxxx xxxxx   481 xxxx xxxxx
Potent Cap.:  254  217   767   255  219   781  1116 xxxx xxxxx  1092 xxxx xxxxx
Move Cap.:    211  200   767   170  202   781  1116 xxxx xxxxx  1092 xxxx xxxxx
Volume/Cap:  0.08 0.23  0.14  0.08 0.11  0.04  0.02 xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.7 xxxx xxxxx   4.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  380 xxxxx  xxxx  287 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.2 xxxxx xxxxx  0.9 xxxxx   0.1 xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx 21.9 xxxxx xxxxx 21.2 xxxxx   8.3 xxxx xxxxx   8.5 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      21.9             21.2           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   46   107    14   22    30    25  460    21    57  423    32
ApproachDel:      21.9             21.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=169]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1253]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=66]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1253]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

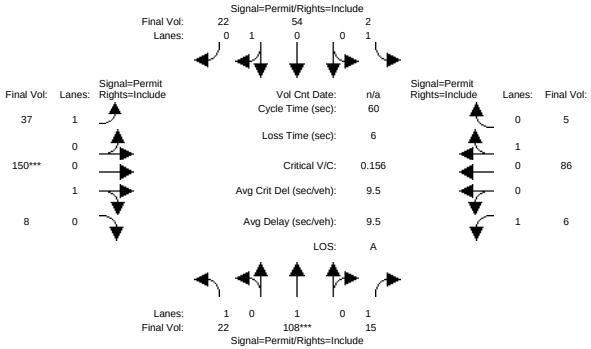
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   46   107    14   22    30    25  460    21    57  423    32
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1018
Minor Approach Volume:           169
Minor Approach Volume Threshold: 279
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1041: Main St / Martin Luther King Wy

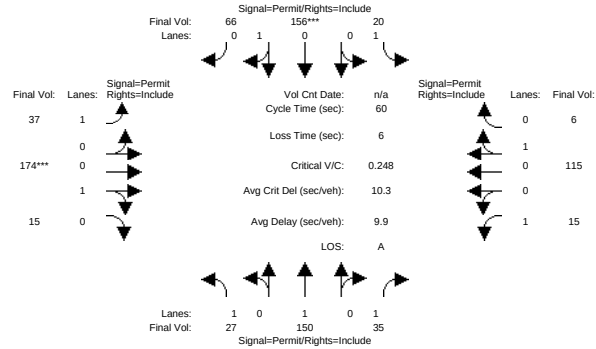



```
Street Name:            Main Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      22  106    15    2   54    22   37  150     8    6   86     5
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   22  106    15    2   54    22   37  150     8    6   86     5
Added Vol:      0    2     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   22  108    15    2   54    22   37  150     8    6   86     5
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    22  108    15    2   54    22   37  150     8    6   86     5
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   22  108    15    2   54    22   37  150     8    6   86     5
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   22  108    15    2   54    22   37  150     8    6   86     5
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.71 1.00  0.85 0.68 0.96  0.96 0.70 0.99  0.99 0.65 0.99  0.99
Lanes:       1.00 1.00  1.00 1.00 0.71  0.29 1.00 0.95  0.05 1.00 0.95  0.05
Final Sat.:  1343 1900  1615 1300 1292   526 1322 1789    95 1237 1781   104
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.06  0.01 0.00 0.04  0.04 0.03 0.08  0.08 0.00 0.05  0.05
Crit Moves:         ****                          ****
Green/Cycle: 0.36 0.36  0.36 0.36 0.36  0.36 0.54 0.54  0.54 0.54 0.54  0.54
Volume/Cap:  0.05 0.16  0.03 0.00 0.11  0.11 0.05 0.16  0.16 0.01 0.09  0.09
Delay/Veh:   12.4 13.0  12.3 12.2 12.8  12.8  6.7  7.1   7.1  6.5  6.8   6.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  12.4 13.0  12.3 12.2 12.8  12.8  6.7  7.1   7.1  6.5  6.8   6.8
LOS by Move:    B    B     B    B    B     B    A    A     A    A    A     A
HCM2kAvgQ:      7   35     5    1   24    24    8   35    35    1   21    21
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1041: Main St / Martin Luther King Wy

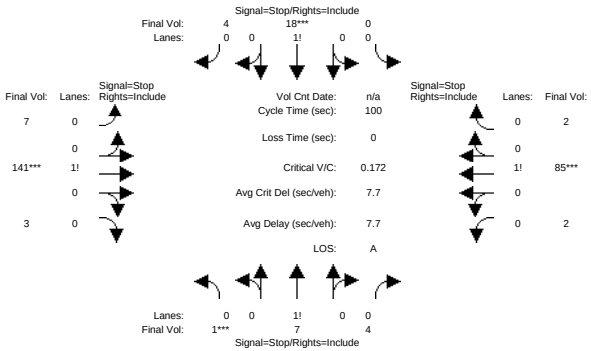



```
Street Name:            Main Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      27  150    35   20  154    66   37  174    15   15  115     6
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   27  150    35   20  154    66   37  174    15   15  115     6
Added Vol:      0    0     0    0    2     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   27  150    35   20  156    66   37  174    15   15  115     6
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    27  150    35   20  156    66   37  174    15   15  115     6
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   27  150    35   20  156    66   37  174    15   15  115     6
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   27  150    35   20  156    66   37  174    15   15  115     6
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.59 1.00  0.85 0.66 0.96  0.96 0.68 0.99  0.99 0.60 0.99  0.99
Lanes:       1.00 1.00  1.00 1.00 0.70  0.30 1.00 0.92  0.08 1.00 0.95  0.05
Final Sat.:  1113 1900  1615 1246 1275   539 1283 1728   149 1142 1793    94
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.08  0.02 0.02 0.12  0.12 0.03 0.10  0.10 0.01 0.06  0.06
Crit Moves:                         ****            ****
Green/Cycle: 0.49 0.49  0.49 0.49 0.49  0.49 0.41 0.41  0.41 0.41 0.41  0.41
Volume/Cap:  0.05 0.16  0.04 0.03 0.25  0.25 0.07 0.25  0.25 0.03 0.16  0.16
Delay/Veh:    7.9  8.4   7.9  7.8  8.9   8.9 10.9 11.9  11.9 10.7 11.4  11.4
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   7.9  8.4   7.9  7.8  8.9   8.9 10.9 11.9  11.9 10.7 11.4  11.4
LOS by Move:    A    A     A    A    A     A    B    B     B    B    B     B
HCM2kAvgQ:      7   39     9    5   62    62   10   55    55    5   37    37
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1    2     4     0    1     4     7  141     3     2   85     2
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1    2     4     0    1     4     7  141     3     2   85     2
Added Vol:      0    5     0     0   17     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1    7     4     0   18     4     7  141     3     2   85     2
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1    7     4     0   18     4     7  141     3     2   85     2
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1    7     4     0   18     4     7  141     3     2   85     2
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    1    7     4     0   18     4     7  141     3     2   85     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.08 0.59  0.33  0.00 0.82  0.18  0.05 0.93  0.02  0.02 0.96  0.02
Final Sat.:    67  471   269     0  652   145    41  821    17    19  828    19
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.01  0.01  xxxx 0.03  0.03  0.17 0.17  0.17  0.10 0.10  0.10
Crit Moves:  ****                 ****             ****             ****
Delay/Veh:    7.3  7.3   7.3   0.0  7.4   7.4   7.9  7.9   7.9   7.6  7.6   7.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.3  7.3   7.3   0.0  7.4   7.4   7.9  7.9   7.9   7.6  7.6   7.6
LOS by Move:    A    A     A     *    A     A     A    A     A     A    A     A
ApproachDel:       7.3              7.4              7.9              7.6
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.3              7.4              7.9              7.6
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.3  0.3   0.3   0.6  0.6   0.6   5.1  5.1   5.1   2.8  2.8   2.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



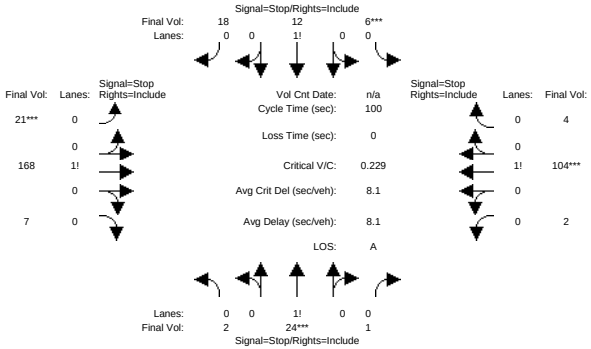
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    1    7     4     0   18     4     7  141     3     2   85     2
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             240
Minor Approach Volume:           22
Minor Approach Volume Threshold: 600
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    7     1     6    7    18    21  168     7     2  104     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    7     1     6    7    18    21  168     7     2  104     4
Added Vol:      0   17     0     0    5     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   24     1     6   12    18    21  168     7     2  104     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2   24     1     6   12    18    21  168     7     2  104     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   24     1     6   12    18    21  168     7     2  104     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    2   24     1     6   12    18    21  168     7     2  104     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.07 0.89  0.04  0.17 0.33  0.50  0.11 0.86  0.03  0.02 0.94  0.04
Final Sat.:    55  658    27   131  262   393    92  733    31    15  792    30
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.04  0.04  0.05 0.05  0.05  0.23 0.23  0.23  0.13 0.13  0.13
Crit Moves:        ****        ****              ****                    ****
Delay/Veh:    7.7  7.7   7.7   7.5  7.5   7.5   8.4  8.4   8.4   7.8  7.8   7.8
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.7  7.7   7.7   7.5  7.5   7.5   8.4  8.4   8.4   7.8  7.8   7.8
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       7.7              7.5              8.4              7.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.7              7.5              8.4              7.8
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.8  0.8   0.8   1.1  1.1   1.1   7.2  7.2   7.2   3.6  3.6   3.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2   24     1     6   12    18    21  168     7     2  104     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             306
Minor Approach Volume:           36
Minor Approach Volume Threshold: 535
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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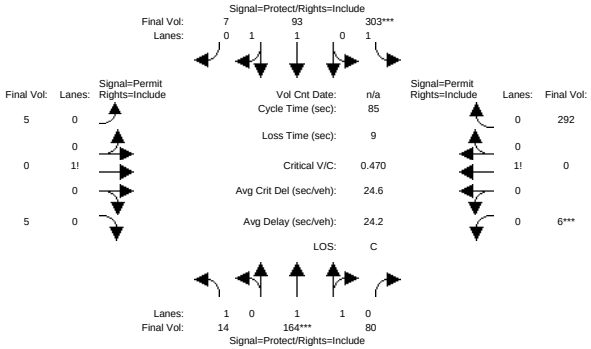
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1043: 16th St / H St



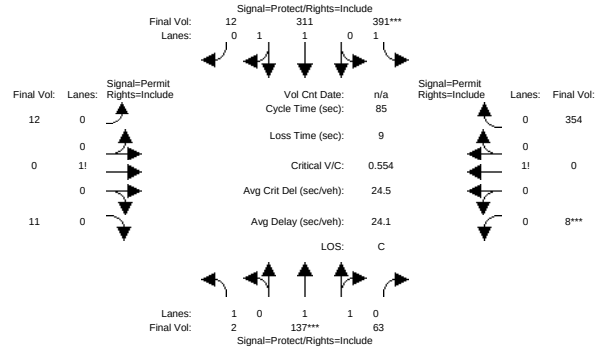
Street Name:	16th Street									H Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	14	142	80		293	84	7		5	0	5		6	0	286	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	14	142	80		293	84	7		5	0	5		6	0	286	
Added Vol:	0	22	0		10	9	0		0	0	0		0	0	6	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	14	164	80		303	93	7		5	0	5		6	0	292	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	14	164	80		303	93	7		5	0	5		6	0	292	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	14	164	80		303	93	7		5	0	5		6	0	292	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	14	164	80		303	93	7		5	0	5		6	0	292	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.90	0.90		0.95	0.94	0.94		0.84	1.00	0.84		0.87	1.00	0.87	
Lanes:	1.00	1.34	0.66		1.00	1.86	0.14		0.50	0.00	0.50		0.02	0.00	0.98	
Final Sat.:	1805	2308	1126		1805	3324	250		799	0	799		33	0	1611	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.07	0.07		0.17	0.03	0.03		0.01	0.00	0.01		0.18	0.00	0.18	
Crit Moves:		****			****								****			
Green/Cycle:	0.21	0.15	0.15		0.36	0.30	0.30		0.39	0.00	0.39		0.39	0.00	0.39	
Volume/Cap:	0.04	0.47	0.47		0.47	0.09	0.09		0.02	0.00	0.02		0.47	0.00	0.47	
Delay/Veh:	26.8	33.6	33.6		21.6	21.5	21.5		16.2	0.0	16.2		20.1	0.0	20.1	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	26.8	33.6	33.6		21.6	21.5	21.5		16.2	0.0	16.2		20.1	0.0	20.1	
LOS by Move:	C	C	C		C	C	C		B	A	B		C	A	C	
HCM2kAvgQ:	8	90	90		160	25	25		4	0	4		154	0	154	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1043: 16th St / H St



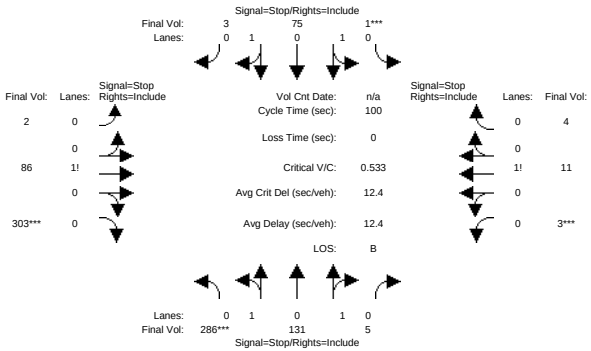
Street Name:	16th Street									H Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	2	122	63		378	297	12		12	0	11		8	0	350	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	2	122	63		378	297	12		12	0	11		8	0	350	
Added Vol:	0	15	0		13	14	0		0	0	0		0	0	4	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	2	137	63		391	311	12		12	0	11		8	0	354	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	2	137	63		391	311	12		12	0	11		8	0	354	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	2	137	63		391	311	12		12	0	11		8	0	354	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	2	137	63		391	311	12		12	0	11		8	0	354	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.91	0.91		0.95	0.94	0.94		0.79	1.00	0.79		0.86	1.00	0.86	
Lanes:	1.00	1.37	0.63		1.00	1.93	0.07		0.52	0.00	0.48		0.02	0.00	0.98	
Final Sat.:	1805	2357	1084		1805	3455	133		787	0	721		36	0	1606	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.06	0.06		0.22	0.09	0.09		0.02	0.00	0.02		0.22	0.00	0.22	
Crit Moves:		****			****								****			
Green/Cycle:	0.21	0.12	0.12		0.38	0.30	0.30		0.39	0.00	0.39		0.39	0.00	0.39	
Volume/Cap:	0.01	0.49	0.49		0.56	0.30	0.30		0.04	0.00	0.04		0.56	0.00	0.56	
Delay/Veh:	26.8	36.1	36.1		21.6	23.3	23.3		16.0	0.0	16.0		21.3	0.0	21.3	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	26.8	36.1	36.1		21.6	23.3	23.3		16.0	0.0	16.0		21.3	0.0	21.3	
LOS by Move:	C	D	D		C	C	C		B	A	B		C	A	C	
HCM2kAvgQ:	1	81	81		212	89	89		9	0	9		198	0	198	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1044: Main St / H St



Street Name:	Main Street									H Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Volume Module:																
Base Vol:	280	129	5		1	75	3		2	86	293		3	11	4	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	280	129	5		1	75	3		2	86	293		3	11	4	
Added Vol:	6	2	0		0	0	0		0	0	10		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	286	131	5		1	75	3		2	86	303		3	11	4	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	286	131	5		1	75	3		2	86	303		3	11	4	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	286	131	5		1	75	3		2	86	303		3	11	4	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	286	131	5		1	75	3		2	86	303		3	11	4	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.98	0.02		0.02	1.90	0.08		0.01	0.22	0.77		0.17	0.61	0.22	
Final Sat.:	574	610	15		14	1058	43		4	161	568		97	357	130	
Capacity Analysis Module:																
Vol/Sat:	0.50	0.21	0.34		0.07	0.07	0.07		0.53	0.53	0.53		0.03	0.03	0.03	
Crit Moves:	****				****						****		****			
Delay/Veh:	14.4	9.8	9.8		9.2	9.2	9.1		12.7	12.7	12.7		8.8	8.8	8.8	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	14.4	9.8	9.8		9.2	9.2	9.1		12.7	12.7	12.7		8.8	8.8	8.8	
LOS by Move:	B	A	A		A	A	A		B	B	B		A	A	A	
ApproachDel:	12.9				9.2				12.7				8.8			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	12.9				9.2				12.7				8.8			
LOS by Appr:	B				A				B				A			
AllWayAvgQ:	22.3	6.5	6.5		1.7	1.6	1.6		25.1	25.1	25.1		0.7	0.7	0.7	

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1044 Main St / H St

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	1	0	1 0	0	1	0	1 0	0	0	1!	0 0	0	0	1!	0 0
Initial Vol:	286	131		5	1	75		3	2	86		303	3	11		4

Major Street Volume: 501
Minor Approach Volume: 391
Minor Approach Volume Threshold: 523

SIGNAL WARRANT DISCLAIMER

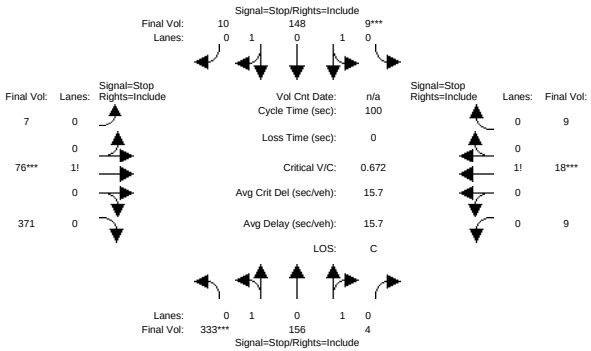
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     329  156     4     9  146    10     7   76   358     9   18     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  329  156     4     9  146    10     7   76   358     9   18     9
Added Vol:      4    0     0     0    2     0     0    0    13     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  333  156     4     9  148    10     7   76   371     9   18     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   333  156     4     9  148    10     7   76   371     9   18     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  333  156     4     9  148    10     7   76   371     9   18     9
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  333  156     4     9  148    10     7   76   371     9   18     9
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.98  0.02  0.11 1.77  0.12  0.01 0.17  0.82  0.25 0.50  0.25
Final Sat.:   536  570     9    55  915    62    10  113   552   127  254   127
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.62 0.27  0.43  0.16 0.16  0.16  0.67 0.67  0.67  0.07 0.07  0.07
Crit Moves:  ****             ****                   ****              ****
Delay/Veh:   18.9 11.0  11.0  10.5 10.4  10.3  17.4 17.4  17.4   9.7  9.7   9.7
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  18.9 11.0  11.0  10.5 10.4  10.3  17.4 17.4  17.4   9.7  9.7   9.7
LOS by Move:    C    B     B     B    B     B     C    C     C     A    A     A
ApproachDel:      16.3             10.4             17.4              9.7
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       16.3             10.4             17.4              9.7
LOS by Appr:         C                B                C                A
AllWayAvgQ:  35.8  8.9   8.9   4.2  4.1   4.1  43.2 43.2  43.2   1.5  1.5   1.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  333  156     4     9  148    10     7   76   371     9   18     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             660
Minor Approach Volume:           454
Minor Approach Volume Threshold: 428
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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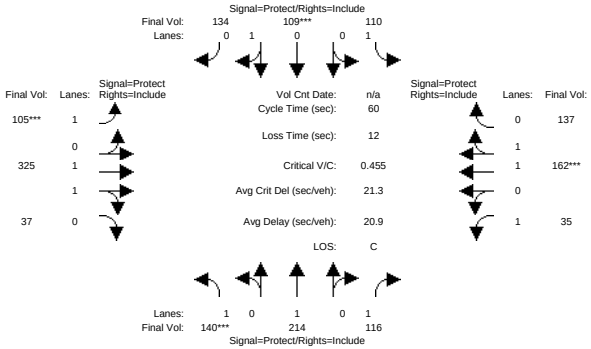
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1046: Main St / G St



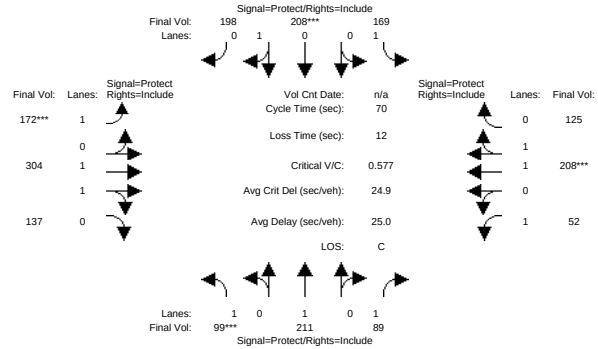
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	214	113	105	109	128	105	323	36	35	158	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	214	113	105	109	128	105	323	36	35	158	129
Added Vol:	6	0	3	5	0	6	0	2	1	0	4	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	214	116	110	109	134	105	325	37	35	162	137
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	214	116	110	109	134	105	325	37	35	162	137
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	214	116	110	109	134	105	325	37	35	162	137
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	214	116	110	109	134	105	325	37	35	162	137
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.92	0.92	0.95	0.94	0.94	0.95	0.88	0.88
Lanes:	1.00	1.00	1.00	1.00	0.45	0.55	1.00	1.80	0.20	1.00	1.08	0.92
Final Sat.:	1805	1900	1615	1805	782	961	1805	3192	363	1805	1821	1540
Capacity Analysis Module:												
Vol/Sat:	0.08	0.11	0.07	0.06	0.14	0.14	0.06	0.10	0.10	0.02	0.09	0.09
Crit Moves:	****				****		****				****	
Green/Cycle:	0.17	0.28	0.28	0.20	0.31	0.31	0.13	0.19	0.19	0.13	0.20	0.20
Volume/Cap:	0.46	0.40	0.26	0.31	0.46	0.46	0.46	0.54	0.54	0.15	0.46	0.46
Delay/Veh:	23.5	18.0	17.0	21.1	17.4	17.4	25.7	22.8	22.8	23.3	21.8	21.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.5	18.0	17.0	21.1	17.4	17.4	25.7	22.8	22.8	23.3	21.8	21.8
LOS by Move:	C	B	B	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	73	89	46	50	102	102	45	80	80	14	64	64

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1046: Main St / G St



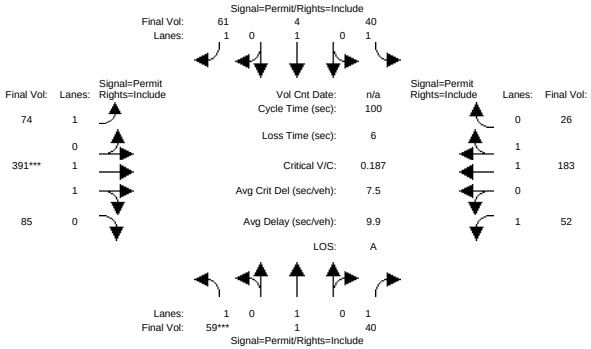
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	98	211	88	161	208	191	172	301	131	50	205	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	211	88	161	208	191	172	301	131	50	205	120
Added Vol:	1	0	1	8	0	7	0	3	6	2	3	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	211	89	169	208	198	172	304	137	52	208	125
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	211	89	169	208	198	172	304	137	52	208	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	211	89	169	208	198	172	304	137	52	208	125
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	211	89	169	208	198	172	304	137	52	208	125
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.91	0.91	0.95	0.90	0.90
Lanes:	1.00	1.00	1.00	1.00	0.51	0.49	1.00	1.38	0.62	1.00	1.25	0.75
Final Sat.:	1805	1900	1615	1805	902	859	1805	2372	1069	1805	2129	1279
Capacity Analysis Module:												
Vol/Sat:	0.05	0.11	0.06	0.09	0.23	0.23	0.10	0.13	0.13	0.03	0.10	0.10
Crit Moves:	****				****		****				****	
Green/Cycle:	0.10	0.29	0.29	0.20	0.40	0.40	0.16	0.20	0.20	0.14	0.17	0.17
Volume/Cap:	0.55	0.38	0.19	0.46	0.58	0.58	0.58	0.66	0.66	0.21	0.58	0.58
Delay/Veh:	33.5	20.2	18.8	25.3	17.8	17.8	30.0	28.4	28.4	27.3	28.4	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.5	20.2	18.8	25.3	17.8	17.8	30.0	28.4	28.4	27.3	28.4	28.4
LOS by Move:	C	C	B	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	73	97	38	93	188	188	86	118	118	24	88	88

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #1047: 18th St / G St



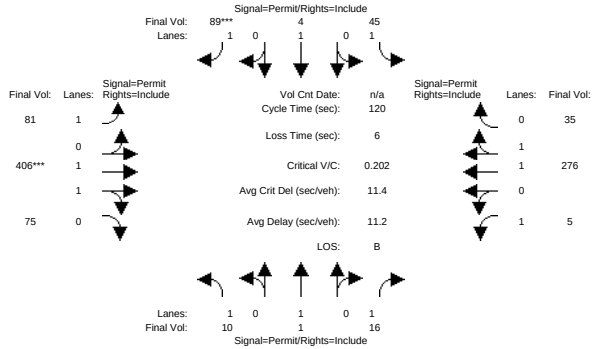
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	59	1	40	40	4	60	70	385	85	52	172	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	1	40	40	4	60	70	385	85	52	172	26
Added Vol:	0	0	0	0	0	1	4	6	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	59	1	40	40	4	61	74	391	85	52	183	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	1	40	40	4	61	74	391	85	52	183	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	1	40	40	4	61	74	391	85	52	183	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	59	1	40	40	4	61	74	391	85	52	183	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.61	0.92	0.92	0.47	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.64	0.36	1.00	1.75	0.25
Final Sat.:	1455	1900	1615	1459	1900	1615	1165	2885	627	885	3101	441
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.02	0.03	0.00	0.04	0.06	0.14	0.14	0.06	0.06	0.06
Crit Moves:	****							****				
Green/Cycle:	0.22	0.22	0.22	0.22	0.22	0.22	0.72	0.72	0.72	0.72	0.72	0.72
Volume/Cap:	0.19	0.00	0.11	0.13	0.01	0.17	0.09	0.19	0.19	0.08	0.08	0.08
Delay/Veh:	32.3	30.7	31.6	31.7	30.8	32.1	4.1	4.5	4.5	4.1	4.1	4.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	30.7	31.6	31.7	30.8	32.1	4.1	4.5	4.5	4.1	4.1	4.1
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	39	1	26	26	2	40	16	60	60	13	25	25

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #1047: 18th St / G St



Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	1	16	45	4	85	80	395	75	5	270	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1	16	45	4	85	80	395	75	5	270	35
Added Vol:	0	0	0	0	0	4	1	11	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	1	16	45	4	89	81	406	75	5	276	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	1	16	45	4	89	81	406	75	5	276	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1	16	45	4	89	81	406	75	5	276	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1	16	45	4	89	81	406	75	5	276	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.55	0.93	0.93	0.45	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.69	0.31	1.00	1.77	0.23
Final Sat.:	1455	1900	1615	1459	1900	1615	1049	2977	550	863	3149	399
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.03	0.00	0.06	0.08	0.14	0.14	0.01	0.09	0.09
Crit Moves:						****		****				
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.68	0.68	0.68	0.68	0.68	0.68
Volume/Cap:	0.03	0.00	0.04	0.11	0.01	0.20	0.11	0.20	0.20	0.01	0.13	0.13
Delay/Veh:	31.9	31.7	32.0	32.8	31.7	33.8	6.9	7.3	7.3	6.3	6.9	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.9	31.7	32.0	32.8	31.7	33.8	6.9	7.3	7.3	6.3	6.9	6.9
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	7	1	11	31	3	63	25	83	83	2	52	52

Note: Queue reported is the distance per lane in feet.

MERCED STATION ANALYSIS

INTERSECTION

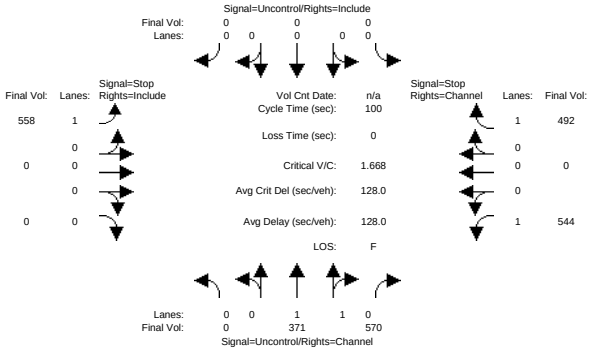
2035 NOBUILD CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1001: 16th St / SR-59

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Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  371   570     0    0     0   558    0     0   544    0   492
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  371   570     0    0     0   558    0     0   544    0   492
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  371   570     0    0     0   558    0     0   544    0   492
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  371   570     0    0     0   558    0     0   544    0   492
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  371   570     0    0     0   558    0     0   544    0   492
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   186 xxxx xxxxx   656 xxxx   186
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   780 xxxx xxxxx   382 xxxx   862
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   335 xxxx xxxxx   382 xxxx   862
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  1.67 xxxx  xxxx  1.43 xxxx  0.57
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   852 xxxx xxxxx   692 xxxx  92.4
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 341.0 xxxx xxxxx 233.7 xxxx  14.6
LOS by Move:    *    *     *     *    *     *     F    *     *     F    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            341.0           129.6
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  371   570     0    0     0   558    0     0   544    0   492
ApproachDel:    xxxxxx           xxxxxx            341.0           129.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=52.9]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=558]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2535]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=37.3]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1036]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2535]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

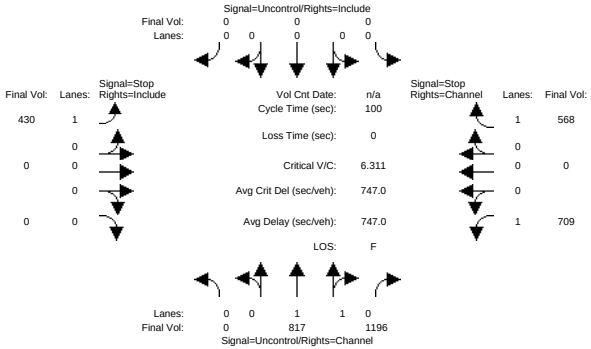
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  371   570     0    0     0   558    0     0   544    0   492
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             941
Minor Approach Volume:           1036
Minor Approach Volume Threshold: 400
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1001: 16th St / SR-59




```
Street Name:            16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  817  1196     0    0     0   430    0     0   709    0   568
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  817  1196     0    0     0   430    0     0   709    0   568
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  817  1196     0    0     0   430    0     0   709    0   568
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  817  1196     0    0     0   430    0     0   709    0   568
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  817  1196     0    0     0   430    0     0   709    0   568
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   409 xxxx xxxxx  1415 xxxx   409
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   557 xxxx xxxxx   116 xxxx   647
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx    68 xxxx xxxxx   116 xxxx   647
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  6.31 xxxx  xxxx  6.10 xxxx  0.88
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  1214 xxxx xxxxx  1938 xxxx 261.5
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  2509 xxxx xxxxx  2368 xxxx  37.4
LOS by Move:    *    *     *     *    *     *     F    *     *     F    *     E
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           2509.1           1331.3
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  817  1196     0    0     0   430    0     0   709    0   568
ApproachDel:    xxxxxx           xxxxxx           2509.1           1331.3
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=299.7]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=430]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3720]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=472.2]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1277]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3720]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

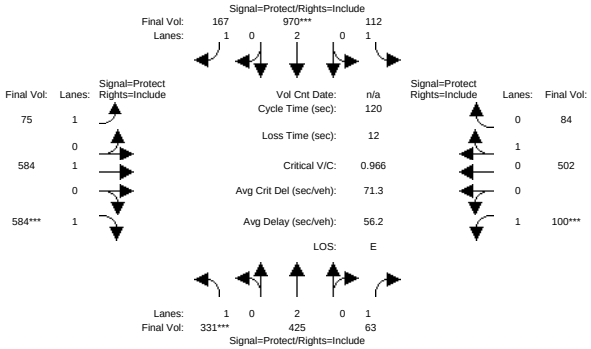
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  817  1196     0    0     0   430    0     0   709    0   568
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2013
Minor Approach Volume:           1277
Minor Approach Volume Threshold: 73 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

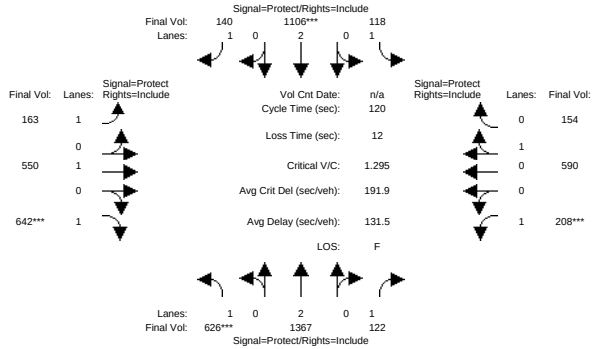



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     331  425    63   112  970   167    75  584   584   100  502    84
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  331  425    63   112  970   167    75  584   584   100  502    84
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  331  425    63   112  970   167    75  584   584   100  502    84
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   331  425    63   112  970   167    75  584   584   100  502    84
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  331  425    63   112  970   167    75  584   584   100  502    84
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  331  425    63   112  970   167    75  584   584   100  502    84
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.98  0.98
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.86  0.14
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1593   267
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.12  0.04  0.06 0.27  0.10  0.04 0.31  0.36  0.06 0.32  0.32
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.19 0.31  0.31  0.16 0.28  0.28  0.07 0.37  0.37  0.06 0.36  0.36
Volume/Cap:  0.97 0.38  0.13  0.38 0.97  0.37  0.62 0.82  0.97  0.95 0.86  0.86
Delay/Veh:   87.9 33.0  30.2  45.8 63.5  35.4  63.5 41.6  65.2 127.8 46.4  46.4
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  87.9 33.0  30.2  45.8 63.5  35.4  63.5 41.6  65.2 127.8 46.4  46.4
LOS by Move:    F    C     C     D    E     D     E    D     E     F    D     D
HCM2kAvgQ:    359  155    40    99  594   127    93  533   662   164  566   566
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

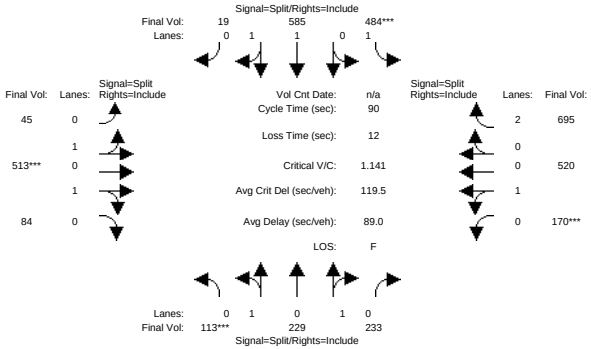



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     626 1367   122   118 1106   140   163  550   642   208  590   154
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  626 1367   122   118 1106   140   163  550   642   208  590   154
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  626 1367   122   118 1106   140   163  550   642   208  590   154
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   626 1367   122   118 1106   140   163  550   642   208  590   154
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  626 1367   122   118 1106   140   163  550   642   208  590   154
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  626 1367   122   118 1106   140   163  550   642   208  590   154
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.97  0.97
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.79  0.21
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1460   381
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35 0.38  0.08  0.07 0.31  0.09  0.09 0.29  0.40  0.12 0.40  0.40
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.27 0.43  0.43  0.07 0.24  0.24  0.07 0.31  0.31  0.09 0.32  0.32
Volume/Cap:  1.30 0.88  0.18  0.88 1.30  0.37  1.25 0.94  1.30  1.30 1.25  1.25
Delay/Veh:  191.6 37.6  21.2  99.1  187  38.9 216.1 64.6 188.9 225.8  166 166.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 191.6 37.6  21.2  99.1  187  38.9 216.1 64.6 188.9 225.8  166 166.2
LOS by Move:    F    D     C     F    F     D     F    E     F     F    F     F
HCM2kAvgQ:    973  562    63   172  990   112   310  609  1084   395 1186  1186
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

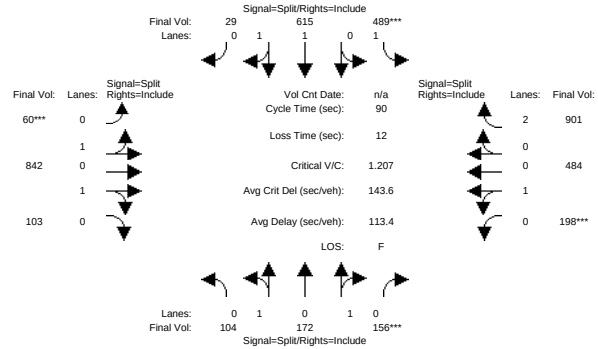



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     113  229   233  484  585    19   45  513    84  170  520   695
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  113  229   233  484  585    19   45  513    84  170  520   695
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  113  229   233  484  585    19   45  513    84  170  520   695
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   113  229   233  484  585    19   45  513    84  170  520   695
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  113  229   233  484  585    19   45  513    84  170  520   695
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  113  229   233  484  585    19   45  513    84  170  520   695
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.88 0.88  0.88 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.39 0.80  0.81 1.00 1.94  0.06 0.14 1.60  0.26 0.25 0.75  2.00
Final Sat.:   660 1337  1360 1805 3479   113  247 2818   462  462 1415  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.17  0.17 0.27 0.17  0.17 0.18 0.18  0.18 0.37 0.37  0.24
Crit Moves:  ****            ****                 ****        ****
Green/Cycle: 0.15 0.15  0.15 0.23 0.23  0.23 0.16 0.16  0.16 0.32 0.32  0.32
Volume/Cap:  1.14 1.14  1.14 1.14 0.72  0.72 1.14 1.14  1.14 1.14 1.14  0.76
Delay/Veh:  123.4  123 123.4 122.7 34.6  34.6 121.1  121 121.1 112.7  113  31.1
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 123.4  123 123.4 122.7 34.6  34.6 121.1  121 121.1 112.7  113  31.1
LOS by Move:    F    F     F    F    C     C    F    F     F    F    F     C
HCM2kAvgQ:    412  412   412  612  238   238  452  452   452  832  832   289
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

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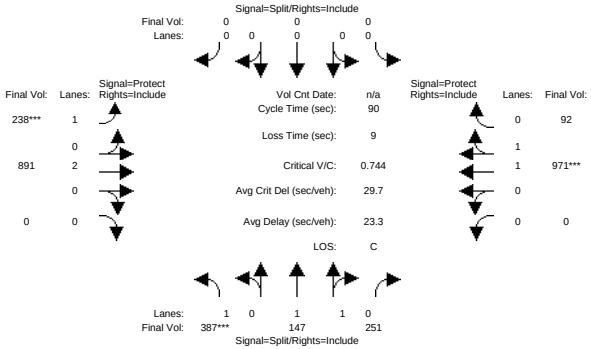
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     104  172   156  489  615    29   60  842   103  198  484   901
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  104  172   156  489  615    29   60  842   103  198  484   901
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  104  172   156  489  615    29   60  842   103  198  484   901
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   104  172   156  489  615    29   60  842   103  198  484   901
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  104  172   156  489  615    29   60  842   103  198  484   901
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  104  172   156  489  615    29   60  842   103  198  484   901
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.89 0.89  0.89 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.48 0.80  0.72 1.00 1.91  0.09 0.12 1.68  0.20 0.29 0.71  2.00
Final Sat.:   812 1343  1218 1805 3423   161  212 2970   363  544 1330  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.13 0.27 0.18  0.18 0.28 0.28  0.28 0.36 0.36  0.32
Crit Moves:             ****  ****             ****             ****
Green/Cycle: 0.11 0.11  0.11 0.22 0.22  0.22 0.23 0.23  0.23 0.30 0.30  0.30
Volume/Cap:  1.15 1.15  1.15 1.22 0.81  0.81 1.22 1.22  1.22 1.22 1.22  1.06
Delay/Veh:  134.8  135 134.8 152.8 39.2  39.2 142.5  143 142.5 144.1  144  79.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 134.8  135 134.8 152.8 39.2  39.2 142.5  143 142.5 144.1  144  79.0
LOS by Move:    F    F     F    F    D     D    F    F     F    F    F     E
HCM2kAvgQ:    330  330   330  679  280   280  728  728   728  914  914   569
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

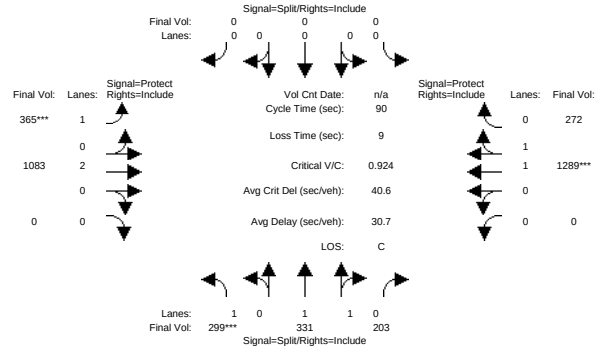



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     387  147   251     0    0     0   238  891     0     0  971    92
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  387  147   251     0    0     0   238  891     0     0  971    92
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  387  147   251     0    0     0   238  891     0     0  971    92
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   387  147   251     0    0     0   238  891     0     0  971    92
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  387  147   251     0    0     0   238  891     0     0  971    92
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  387  147   251     0    0     0   238  891     0     0  971    92
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.86  0.86  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       1.00 1.00  1.00  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.83  0.17
Final Sat.:  1615 1634  1634     0    0     0  1805 3610     0     0 3255   308
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24 0.09  0.15  0.00 0.00  0.00  0.13 0.25  0.00  0.00 0.30  0.30
Crit Moves:  ****                             ****                 ****
Green/Cycle: 0.32 0.32  0.32  0.00 0.00  0.00  0.18 0.58  0.00  0.00 0.40  0.40
Volume/Cap:  0.74 0.28  0.48  0.00 0.00  0.00  0.74 0.43  0.00  0.00 0.74  0.74
Delay/Veh:   33.0 22.8  24.9   0.0  0.0   0.0  44.2 10.8   0.0   0.0 25.2  25.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  33.0 22.8  24.9   0.0  0.0   0.0  44.2 10.8   0.0   0.0 25.2  25.2
LOS by Move:    C    C     C     A    A     A     D    B     A     A    C     C
HCM2kAvgQ:    279   82   155     0    0     0   200  183     0     0  333   333
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

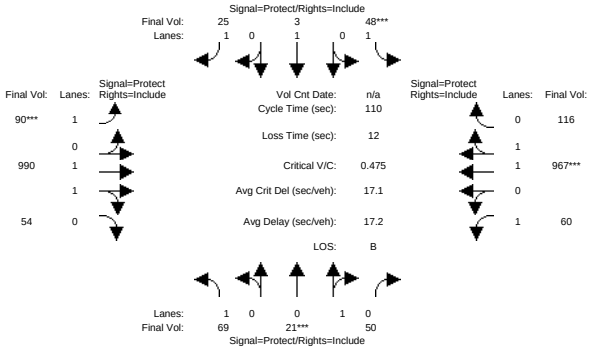



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     299  331   203     0    0     0   365 1083     0     0 1289   272
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  299  331   203     0    0     0   365 1083     0     0 1289   272
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  299  331   203     0    0     0   365 1083     0     0 1289   272
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   299  331   203     0    0     0   365 1083     0     0 1289   272
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  299  331   203     0    0     0   365 1083     0     0 1289   272
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  299  331   203     0    0     0   365 1083     0     0 1289   272
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.90  0.90  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.93  0.93
Lanes:       1.00 1.24  0.76  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.65  0.35
Final Sat.:  1615 2110  1294     0    0     0  1805 3610     0     0 2903   613
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.16  0.16  0.00 0.00  0.00  0.20 0.30  0.00  0.00 0.44  0.44
Crit Moves:  ****                             ****                 ****
Green/Cycle: 0.20 0.20  0.20  0.00 0.00  0.00  0.22 0.70  0.00  0.00 0.48  0.48
Volume/Cap:  0.92 0.78  0.78  0.00 0.00  0.00  0.92 0.43  0.00  0.00 0.92  0.92
Delay/Veh:   66.3 40.0  40.0   0.0  0.0   0.0  61.5  5.9   0.0   0.0 30.8  30.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  66.3 40.0  40.0   0.0  0.0   0.0  61.5  5.9   0.0   0.0 30.8  30.8
LOS by Move:    E    D     D     A    A     A     E    A     A     A    C     C
HCM2kAvgQ:    302  237   237     0    0     0   352  172     0     0  572   572
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1005: 15th St / V St



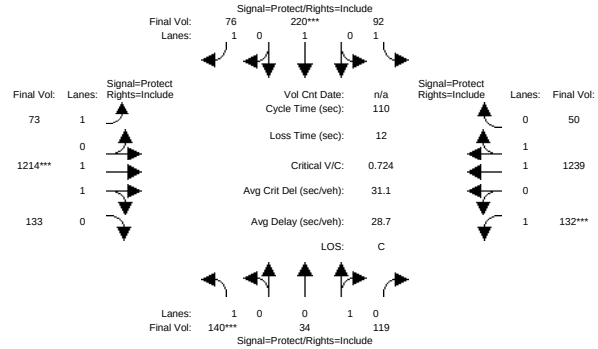
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	69	21	50	48	3	25	90	990	54	60	967	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	21	50	48	3	25	90	990	54	60	967	116
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	21	50	48	3	25	90	990	54	60	967	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	69	21	50	48	3	25	90	990	54	60	967	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	21	50	48	3	25	90	990	54	60	967	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	21	50	48	3	25	90	990	54	60	967	116
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.79	0.21
Final Sat.:	1805	502	1196	1805	1900	1615	1805	3396	185	1805	3172	380
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.03	0.00	0.02	0.05	0.29	0.29	0.03	0.30	0.30
Crit Moves:		****		****			****				****	
Green/Cycle:	0.06	0.09	0.09	0.06	0.09	0.09	0.10	0.60	0.60	0.13	0.63	0.63
Volume/Cap:	0.60	0.46	0.46	0.42	0.02	0.17	0.48	0.48	0.48	0.25	0.48	0.48
Delay/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.5	12.3	12.3	43.4	10.8	10.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.5	12.3	12.3	43.4	10.8	10.8
LOS by Move:	E	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	82	71	71	52	3	23	71	252	252	41	232	232

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1005: 15th St / V St



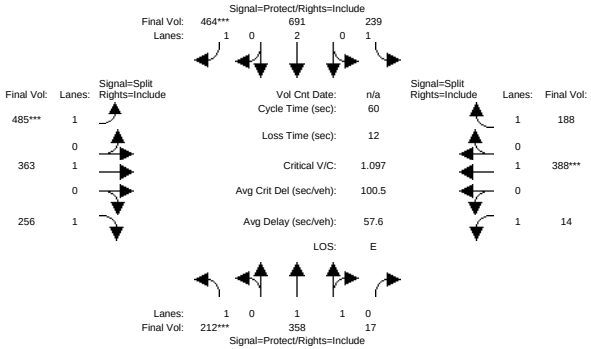
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	140	34	119	92	220	76	73	1214	133	132	1239	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	34	119	92	220	76	73	1214	133	132	1239	50
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	34	119	92	220	76	73	1214	133	132	1239	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	34	119	92	220	76	73	1214	133	132	1239	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	34	119	92	220	76	73	1214	133	132	1239	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	34	119	92	220	76	73	1214	133	132	1239	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.22	0.78	1.00	1.00	1.00	1.00	1.80	0.20	1.00	1.92	0.08
Final Sat.:	1805	373	1305	1805	1900	1615	1805	3205	351	1805	3449	139
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.05	0.12	0.05	0.04	0.38	0.38	0.07	0.36	0.36
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.16	0.16	0.11	0.16	0.16	0.09	0.52	0.52	0.10	0.53	0.53
Volume/Cap:	0.72	0.58	0.58	0.46	0.72	0.29	0.43	0.72	0.72	0.72	0.68	0.68
Delay/Veh:	60.3	46.2	46.2	47.7	52.3	41.4	48.8	21.6	21.6	61.4	20.0	20.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.3	46.2	46.2	47.7	52.3	41.4	48.8	21.6	21.6	61.4	20.0	20.0
LOS by Move:	E	D	D	D	D	D	D	C	C	E	B	B
HCM2kAvgQ:	154	140	140	86	214	61	57	459	459	99	384	384

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1006: 16th St / V St

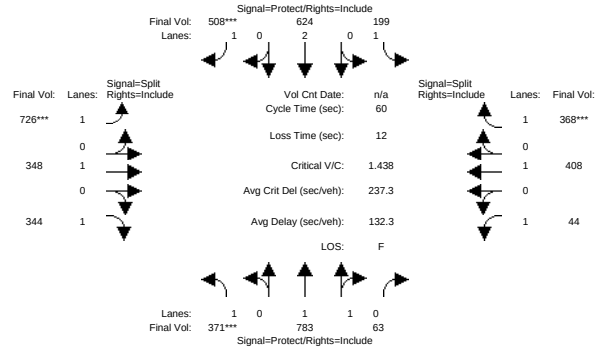



```
Street Name:            16th Street                     V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10   10     7   10   10    10   10   10    10   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     212  358   17   239  691  464   485  363  256    14  388  188
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:  212  358   17   239  691  464   485  363  256    14  388  188
Added Vol:      0    0    0     0    0    0     0    0    0     0    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:  212  358   17   239  691  464   485  363  256    14  388  188
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:   212  358   17   239  691  464   485  363  256    14  388  188
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:  212  358   17   239  691  464   485  363  256    14  388  188
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:  212  358   17   239  691  464   485  363  256    14  388  188
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.95 0.94 0.94  0.95 0.95 0.85  0.95 1.00 0.85  0.95 1.00 0.85
Lanes:       1.00 1.91 0.09  1.00 2.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Final Sat.:  1805 3422  163  1805 3610 1615  1805 1900 1615  1805 1900 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.10 0.10  0.13 0.19 0.29  0.27 0.19 0.16  0.01 0.20 0.12
Crit Moves:  ****                 ****  ****                 ****
Green/Cycle: 0.12 0.21 0.21  0.17 0.26 0.26  0.24 0.24 0.24  0.18 0.18 0.18
Volume/Cap:  1.01 0.50 0.50  0.80 0.74 1.11  1.11 0.79 0.66  0.04 1.11 0.63
Delay/Veh:   90.3 21.5 21.5  38.0 23.6 100.5 100.1 30.4 24.5  20.2  107 27.1
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  90.3 21.5 21.5  38.0 23.6 100.5 100.1 30.4 24.5  20.2  107 27.1
LOS by Move:    F    C    C     D    C    F     F    C    C     C    F    C
HCM2kAvgQ:    147   80   80   167  201  471   408  168  109     6  408  111
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1006: 16th St / V St

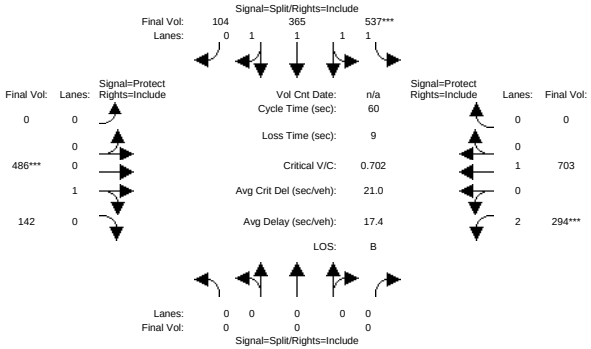



```
Street Name:            16th Street                     V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10   10     7   10   10    10   10   10    10   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     371  783   63   199  624  508   726  348  344    44  408  368
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:  371  783   63   199  624  508   726  348  344    44  408  368
Added Vol:      0    0    0     0    0    0     0    0    0     0    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:  371  783   63   199  624  508   726  348  344    44  408  368
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:   371  783   63   199  624  508   726  348  344    44  408  368
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:  371  783   63   199  624  508   726  348  344    44  408  368
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:  371  783   63   199  624  508   726  348  344    44  408  368
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.95 0.94 0.94  0.95 0.95 0.85  0.95 1.00 0.85  0.95 1.00 0.85
Lanes:       1.00 1.85 0.15  1.00 2.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Final Sat.:  1805 3304  266  1805 3610 1615  1805 1900 1615  1805 1900 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.21 0.24 0.24  0.11 0.17 0.31  0.40 0.18 0.21  0.02 0.21 0.23
Crit Moves:  ****                 ****  ****                 ****
Green/Cycle: 0.14 0.24 0.24  0.12 0.22 0.22  0.28 0.28 0.28  0.17 0.17 0.17
Volume/Cap:  1.46 0.99 0.99  0.94 0.80 1.46  1.46 0.66 0.77  0.15 1.29 1.37
Delay/Veh:  251.6 51.0 51.0  70.1 28.2 244.2 238.0 22.4 28.0  21.6  177 212.2
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh: 251.6 51.0 51.0  70.1 28.2 244.2 238.0 22.4 28.0  21.6  177 212.2
LOS by Move:    F    D    D     E    C    F     F    C    C     C    F    F
HCM2kAvgQ:    528  258  258   187  207  779  1030  139  148    20  541  537
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1007: 13th St / R St



Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	537	365	104	0	486	142	294	703	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	537	365	104	0	486	142	294	703	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	537	365	104	0	486	142	294	703	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	537	365	104	0	486	142	294	703	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	537	365	104	0	486	142	294	703	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	537	365	104	0	486	142	294	703	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.56	0.44	0.00	0.77	0.23	2.00	1.00	0.00
Final Sat.:	0	0	0	3134	2439	695	0	1425	416	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.17	0.15	0.15	0.00	0.34	0.34	0.08	0.37	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.24	0.24	0.24	0.00	0.49	0.49	0.12	0.61	0.00
Volume/Cap:	0.00	0.00	0.00	0.70	0.61	0.61	0.00	0.70	0.70	0.70	0.61	0.00
Delay/Veh:	0.0	0.0	0.0	22.3	20.8	20.8	0.0	14.5	14.5	30.7	8.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.3	20.8	20.8	0.0	14.5	14.5	30.7	8.4	0.0
LOS by Move:	A	A	A	C	C	C	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	164	132	132	0	259	259	71	203	0

Note: Queue reported is the distance per lane in feet.

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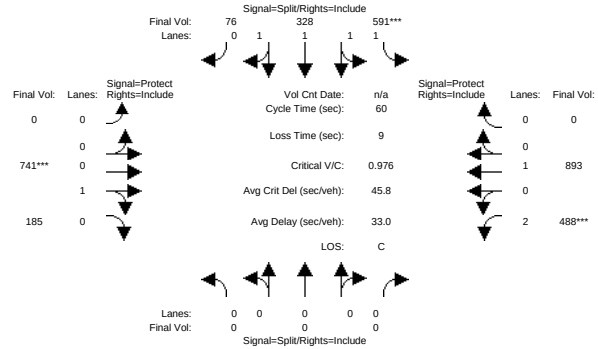
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1007: 13th St / R St



Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	591	328	76	0	741	185	488	893	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	591	328	76	0	741	185	488	893	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	591	328	76	0	741	185	488	893	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	591	328	76	0	741	185	488	893	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	591	328	76	0	741	185	488	893	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	591	328	76	0	741	185	488	893	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.62	0.38	0.00	0.80	0.20	2.00	1.00	0.00
Final Sat.:	0	0	0	3116	2529	586	0	1479	369	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.19	0.13	0.13	0.00	0.50	0.50	0.14	0.47	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.19	0.19	0.19	0.00	0.51	0.51	0.14	0.66	0.00
Volume/Cap:	0.00	0.00	0.00	0.98	0.67	0.67	0.00	0.98	0.98	0.98	0.72	0.00
Delay/Veh:	0.0	0.0	0.0	46.6	23.6	23.6	0.0	37.8	37.8	59.7	8.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	46.6	23.6	23.6	0.0	37.8	37.8	59.7	8.7	0.0
LOS by Move:	A	A	A	A	D	C	A	D	D	E	A	A
HCM2kAvgQ:	0	0	0	282	130	130	0	613	613	158	273	0

Note: Queue reported is the distance per lane in feet.

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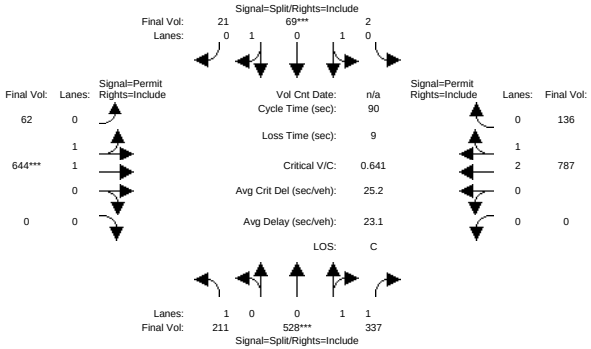
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

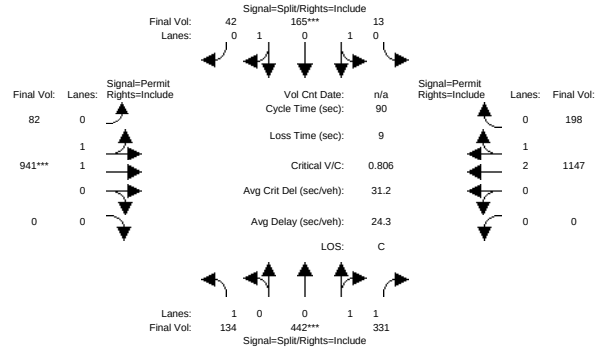



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     211  528   337    2   69    21   62  644     0    0  787   136
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  211  528   337    2   69    21   62  644     0    0  787   136
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  211  528   337    2   69    21   62  644     0    0  787   136
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   211  528   337    2   69    21   62  644     0    0  787   136
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  211  528   337    2   69    21   62  644     0    0  787   136
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  211  528   337    2   69    21   62  644     0    0  787   136
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.92 0.92  0.92 0.73 0.73  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.04 1.50  0.46 0.18 1.82  0.00 0.00 2.56  0.44
Final Sat.:  1805 1790  1790   76 2613   795  243 2522     0    0 4325   747
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.30  0.19 0.03 0.03  0.03 0.26 0.26  0.00 0.00 0.18  0.18
Crit Moves:        ****            ****            ****
Green/Cycle: 0.42 0.42  0.42 0.11 0.11  0.11 0.37 0.37  0.00 0.00 0.37  0.37
Volume/Cap:  0.28 0.70  0.45 0.24 0.24  0.24 0.70 0.70  0.00 0.00 0.50  0.50
Delay/Veh:   17.2 23.0  18.6 36.8 36.8  36.8 26.5 26.5   0.0  0.0 22.3  22.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  17.2 23.0  18.6 36.8 36.8  36.8 26.5 26.5   0.0  0.0 22.3  22.3
LOS by Move:    B    C     B    D    D     D    C    C     A    A    C     C
HCM2kAvgQ:     96  324   170   35   35    35  215  215     0    0  176   176
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

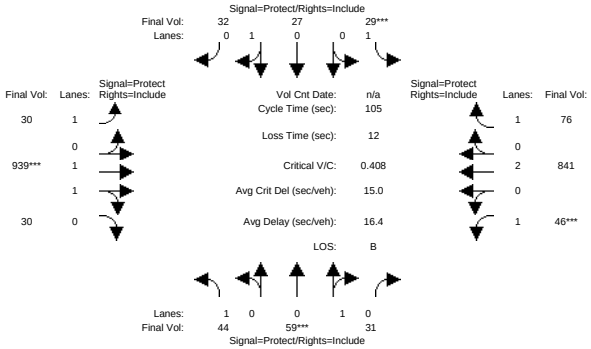



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     134  442   331   13  165    42   82  941     0    0 1147   198
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  134  442   331   13  165    42   82  941     0    0 1147   198
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  134  442   331   13  165    42   82  941     0    0 1147   198
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   134  442   331   13  165    42   82  941     0    0 1147   198
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  134  442   331   13  165    42   82  941     0    0 1147   198
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  134  442   331   13  165    42   82  941     0    0 1147   198
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.92 0.92  0.92 0.65 0.65  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.12 1.50  0.38 0.16 1.84  0.00 0.00 2.56  0.44
Final Sat.:  1805 1778  1778  207 2621   667  198 2271     0    0 4326   747
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.25  0.19 0.06 0.06  0.06 0.41 0.41  0.00 0.00 0.27  0.27
Crit Moves:        ****            ****            ****
Green/Cycle: 0.30 0.30  0.30 0.11 0.11  0.11 0.49 0.49  0.00 0.00 0.49  0.49
Volume/Cap:  0.25 0.84  0.63 0.57 0.57  0.57 0.84 0.84  0.00 0.00 0.54  0.54
Delay/Veh:   24.4 36.7  28.5 39.9 39.9  39.9 25.1 25.1   0.0  0.0 16.0  16.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  24.4 36.7  28.5 39.9 39.9  39.9 25.1 25.1   0.0  0.0 16.0  16.0
LOS by Move:    C    D     C    D    D     D    C    C     A    A    B     B
HCM2kAvgQ:     72  355   219   98   98    98  301  301     0    0  226   226
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1009: 15th St / R St



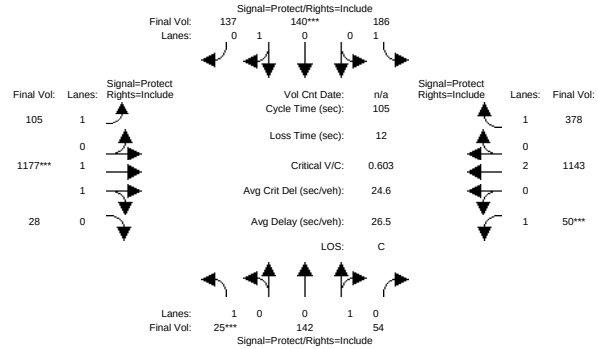
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	44	59	31	29	27	32	30	939	30	46	841	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	59	31	29	27	32	30	939	30	46	841	76
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	59	31	29	27	32	30	939	30	46	841	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	59	31	29	27	32	30	939	30	46	841	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	59	31	29	27	32	30	939	30	46	841	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	59	31	29	27	32	30	939	30	46	841	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.66	0.34	1.00	0.46	0.54	1.00	1.94	0.06	1.00	2.00	1.00
Final Sat.:	1805	1181	620	1805	799	947	1805	3481	111	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.05	0.05	0.02	0.03	0.03	0.02	0.27	0.27	0.03	0.23	0.05
Crit Moves:		****		****				****		****		
Green/Cycle:	0.08	0.12	0.12	0.07	0.11	0.11	0.16	0.63	0.63	0.07	0.55	0.55
Volume/Cap:	0.32	0.42	0.42	0.24	0.31	0.31	0.11	0.42	0.42	0.38	0.43	0.09
Delay/Veh:	47.3	44.4	44.4	47.5	44.1	44.1	38.2	9.7	9.7	49.0	14.3	11.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.3	44.4	44.4	47.5	44.1	44.1	38.2	9.7	9.7	49.0	14.3	11.4
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	42	79	79	28	51	51	19	196	196	35	203	28

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1009: 15th St / R St



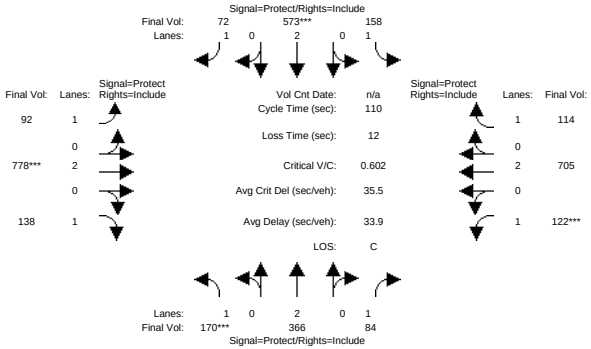
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	25	142	54	186	140	137	105	1177	28	50	1143	378
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	142	54	186	140	137	105	1177	28	50	1143	378
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	142	54	186	140	137	105	1177	28	50	1143	378
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	25	142	54	186	140	137	105	1177	28	50	1143	378
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	25	142	54	186	140	137	105	1177	28	50	1143	378
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	25	142	54	186	140	137	105	1177	28	50	1143	378
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.72	0.28	1.00	0.51	0.49	1.00	1.95	0.05	1.00	2.00	1.00
Final Sat.:	1805	1320	502	1805	889	870	1805	3516	84	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.11	0.11	0.10	0.16	0.16	0.06	0.33	0.33	0.03	0.32	0.23
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.16	0.16	0.15	0.24	0.24	0.10	0.51	0.51	0.07	0.48	0.48
Volume/Cap:	0.21	0.69	0.69	0.69	0.65	0.65	0.58	0.65	0.65	0.42	0.66	0.49
Delay/Veh:	47.2	48.6	48.6	49.4	39.6	39.6	49.7	19.7	19.7	49.4	21.9	19.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.2	48.6	48.6	49.4	39.6	39.6	49.7	19.7	19.7	49.4	21.9	19.2
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	B
HCM2kAvgQ:	24	182	182	175	225	225	77	354	354	37	352	195

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1010: 16th St / R St



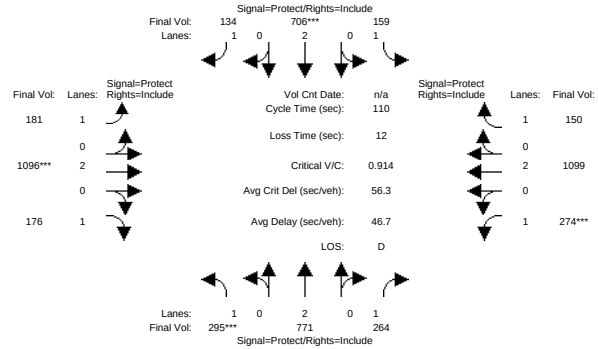
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	170	366	84	158	573	72	92	778	138	122	705	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	170	366	84	158	573	72	92	778	138	122	705	114
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	170	366	84	158	573	72	92	778	138	122	705	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	170	366	84	158	573	72	92	778	138	122	705	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	170	366	84	158	573	72	92	778	138	122	705	114
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	170	366	84	158	573	72	92	778	138	122	705	114
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.10	0.05	0.09	0.16	0.04	0.05	0.22	0.09	0.07	0.20	0.07
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.23	0.23	0.19	0.26	0.12	0.12	0.36	0.36	0.11	0.35	0.35
Volume/Cap:	0.60	0.45	0.23	0.45	0.60	0.17	0.44	0.60	0.24	0.60	0.55	0.20
Delay/Veh:	46.8	37.1	35.1	40.0	36.5	31.4	46.8	29.7	25.0	51.5	29.0	24.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.8	37.1	35.1	40.0	36.5	31.4	46.8	29.7	25.0	51.5	29.0	24.8
LOS by Move:	D	D	D	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	155	147	60	111	213	44	71	277	78	98	243	63

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1010: 16th St / R St



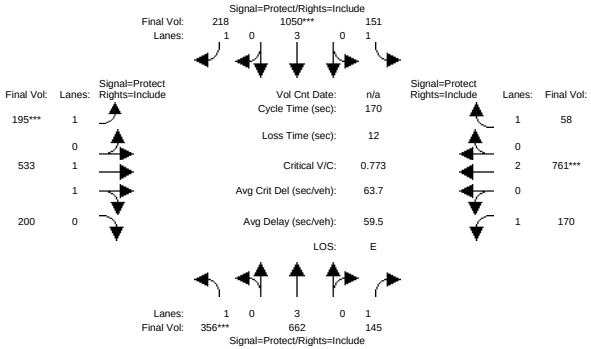
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	295	771	264	159	706	134	181	1096	176	274	1099	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	295	771	264	159	706	134	181	1096	176	274	1099	150
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	295	771	264	159	706	134	181	1096	176	274	1099	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	295	771	264	159	706	134	181	1096	176	274	1099	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	295	771	264	159	706	134	181	1096	176	274	1099	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	295	771	264	159	706	134	181	1096	176	274	1099	150
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.16	0.21	0.16	0.09	0.20	0.08	0.10	0.30	0.11	0.15	0.30	0.09
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.28	0.28	0.11	0.21	0.21	0.12	0.33	0.33	0.17	0.37	0.37
Volume/Cap:	0.91	0.77	0.59	0.77	0.91	0.39	0.81	0.91	0.33	0.91	0.81	0.25
Delay/Veh:	73.5	40.1	36.3	63.2	57.6	37.8	66.8	46.0	27.9	75.8	34.8	23.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	73.5	40.1	36.3	63.2	57.6	37.8	66.8	46.0	27.9	75.8	34.8	23.9
LOS by Move:	E	D	D	E	E	D	E	D	C	E	C	C
HCM2kAvgQ:	336	355	208	130	321	91	156	499	105	246	435	82

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1011: Olive Ave / R St

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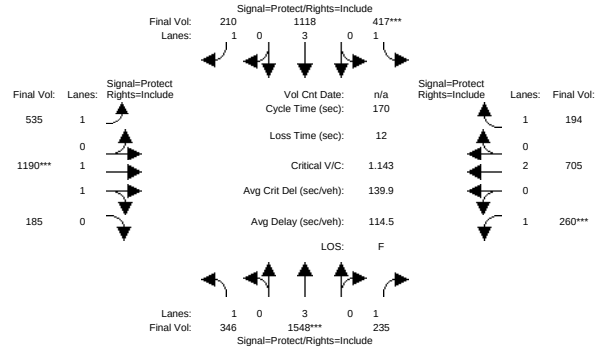
Street Name:            Olive Avenue                    R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     356 662 145   151 1050 218   195 533 200   170 761  58
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  356 662 145   151 1050 218   195 533 200   170 761  58
Added Vol:      0   0   0     0    0   0     0   0   0     0   0   0
PasserByVol:    0   0   0     0    0   0     0   0   0     0   0   0
Initial Fut:  356 662 145   151 1050 218   195 533 200   170 761  58
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   356 662 145   151 1050 218   195 533 200   170 761  58
Reduct Vol:     0   0   0     0    0   0     0   0   0     0   0   0
Reduced Vol:  356 662 145   151 1050 218   195 533 200   170 761  58
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  356 662 145   151 1050 218   195 533 200   170 761  58
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.91 0.85 0.95 0.91 0.85 0.95 0.91 0.91 0.95 0.95 0.85
Lanes:       1.00 3.00 1.00 1.00 3.00 1.00 1.00 1.45 0.55 1.00 2.00 1.00
Final Sat.:  1805 5187 1615 1805 5187 1615 1805 2517  945 1805 3610 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.20 0.13 0.09 0.08 0.20 0.13 0.11 0.21 0.21 0.09 0.21 0.04
Crit Moves:  ****              ****        ****              ****
Green/Cycle: 0.26 0.31 0.31 0.20 0.26 0.26 0.14 0.29 0.29 0.13 0.27 0.27
Volume/Cap:  0.77 0.41 0.29 0.41 0.77 0.52 0.77 0.74 0.74 0.74 0.77 0.13
Delay/Veh:   66.7 46.3 44.5 59.4 60.9 54.6 84.3 58.1 58.1 83.7 60.8 46.8
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  66.7 46.3 44.5 59.4 60.9 54.6 84.3 58.1 58.1 83.7 60.8 46.8
LOS by Move:    E    D    D    E    E    D    F    E    E    F    E    D
HCM2kAvgQ:    412 231 132  156 430 222  285 475 475  249 507  55
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1011: Olive Ave / R St

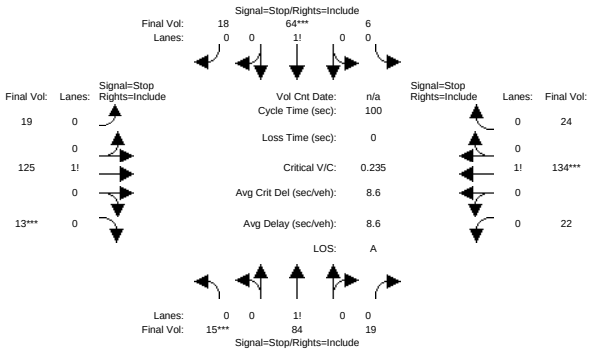



```
Street Name:            Olive Avenue                    R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     346 1548 235   417 1118 210   535 1190 185   260 705 194
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  346 1548 235   417 1118 210   535 1190 185   260 705 194
Added Vol:      0    0   0     0    0   0     0    0   0     0   0   0
PasserByVol:    0    0   0     0    0   0     0    0   0     0   0   0
Initial Fut:  346 1548 235   417 1118 210   535 1190 185   260 705 194
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   346 1548 235   417 1118 210   535 1190 185   260 705 194
Reduct Vol:     0    0   0     0    0   0     0    0   0     0   0   0
Reduced Vol:  346 1548 235   417 1118 210   535 1190 185   260 705 194
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  346 1548 235   417 1118 210   535 1190 185   260 705 194
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.91 0.85 0.95 0.91 0.85 0.95 0.93 0.93 0.95 0.95 0.85
Lanes:       1.00 3.00 1.00 1.00 3.00 1.00 1.00 1.73 0.27 1.00 2.00 1.00
Final Sat.:  1805 5187 1615 1805 5187 1615 1805 3062  476 1805 3610 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.30 0.15 0.23 0.22 0.13 0.30 0.39 0.39 0.14 0.20 0.12
Crit Moves:       ****        ****              ****        ****
Green/Cycle: 0.22 0.26 0.26 0.20 0.25 0.25 0.28 0.34 0.34 0.13 0.19 0.19
Volume/Cap:  0.88 1.14 0.56 1.14 0.88 0.53 1.05 1.14 1.14 1.14 1.05 0.65
Delay/Veh:   84.0  136 56.0 159.7 69.0 57.0 116.3  131 130.7 177.9  119 69.1
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  84.0  136 56.0 159.7 69.0 57.0 116.3  131 130.7 177.9  119 69.1
LOS by Move:    F    F    E    F    E    E    F    F    F    F    F    E
HCM2kAvgQ:    404 902 242  665 475 217  884 1272 1272  509 641 253
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #1012: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15    84    19     6    64    18    19   125    13    22   134    24
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   15    84    19     6    64    18    19   125    13    22   134    24
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   15    84    19     6    64    18    19   125    13    22   134    24
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    15    84    19     6    64    18    19   125    13    22   134    24
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   15    84    19     6    64    18    19   125    13    22   134    24
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   15    84    19     6    64    18    19   125    13    22   134    24
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.13  0.71  0.16  0.07  0.73  0.20  0.12  0.80  0.08  0.12  0.75  0.13
Final Sat.:    92   513   116    49   522   147    92   602    63    94   571   102
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16  0.16  0.16  0.12  0.12  0.12  0.21  0.21  0.21  0.23  0.23  0.23
Crit Moves:  ****                  ****                  ****        ****
Delay/Veh:    8.5   8.5   8.5   8.3   8.3   8.3   8.7   8.7   8.7   8.8   8.8   8.8
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.5   8.5   8.5   8.3   8.3   8.3   8.7   8.7   8.7   8.8   8.8   8.8
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        8.5               8.3               8.7               8.8
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         8.5               8.3               8.7               8.8
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   4.3   4.3   4.3   3.0   3.0   3.0   5.9   5.9   5.9   6.9   6.9   6.9
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
```



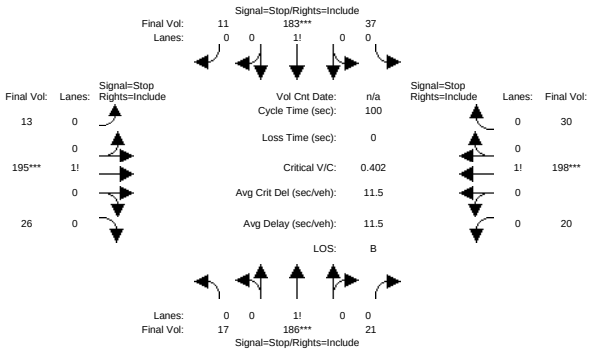
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   15   84    19     6   64    18    19  125    13    22  134    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             337
Minor Approach Volume:           118
Minor Approach Volume Threshold: 509
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #1012: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17   186    21    37   183    11    13   195    26    20   198    30
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   17   186    21    37   183    11    13   195    26    20   198    30
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   17   186    21    37   183    11    13   195    26    20   198    30
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    17   186    21    37   183    11    13   195    26    20   198    30
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   17   186    21    37   183    11    13   195    26    20   198    30
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   17   186    21    37   183    11    13   195    26    20   198    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.08  0.83  0.09  0.16  0.79  0.05  0.06  0.83  0.11  0.08  0.80  0.12
Final Sat.:    46   502    57    97   478    29    34   511    68    50   493    75
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.37  0.37  0.37  0.38  0.38  0.38  0.38  0.38  0.38  0.40  0.40  0.40
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   11.4  11.4  11.4  11.6  11.6  11.6  11.4  11.4  11.4  11.7  11.7  11.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  11.4  11.4  11.4  11.6  11.6  11.6  11.4  11.4  11.4  11.7  11.7  11.7
LOS by Move:    B     B     B     B     B     B     B     B     B     B     B     B
ApproachDel:       11.4              11.6              11.4              11.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        11.4              11.6              11.4              11.7
LOS by Appr:          B                 B                 B                 B
AllWayAvgQ:  12.0  12.0  12.0  12.7  12.7  12.7  12.7  12.7  12.7  13.8  13.8  13.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
```



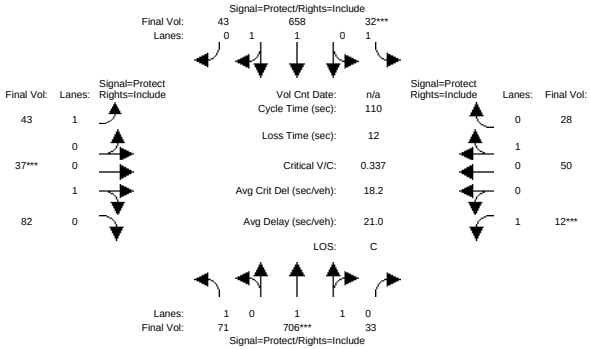
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   17  186    21    37  183    11    13  195    26    20  198    30
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             482
Minor Approach Volume:           231
Minor Approach Volume Threshold: 414
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1013: 16th St / O St



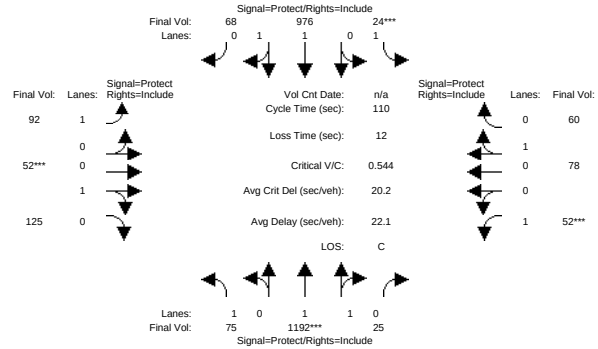
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	71	706	33	32	658	43	43	37	82	12	50	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	706	33	32	658	43	43	37	82	12	50	28
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	706	33	32	658	43	43	37	82	12	50	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	706	33	32	658	43	43	37	82	12	50	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	706	33	32	658	43	43	37	82	12	50	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	71	706	33	32	658	43	43	37	82	12	50	28
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.91	0.09	1.00	1.88	0.12	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3425	160	1805	3358	219	1805	530	1174	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.04	0.21	0.21	0.02	0.20	0.20	0.02	0.07	0.07	0.01	0.04	0.04
Crit Moves:		****		****				****		****		
Green/Cycle:	0.16	0.57	0.57	0.06	0.48	0.48	0.11	0.19	0.19	0.06	0.15	0.15
Volume/Cap:	0.25	0.36	0.36	0.28	0.41	0.41	0.23	0.36	0.36	0.10	0.29	0.29
Delay/Veh:	41.3	12.9	12.9	50.4	18.8	18.8	45.7	39.2	39.2	48.9	42.0	42.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.3	12.9	12.9	50.4	18.8	18.8	45.7	39.2	39.2	48.9	42.0	42.0
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	56	175	175	33	200	200	37	93	93	12	63	63

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1013: 16th St / O St



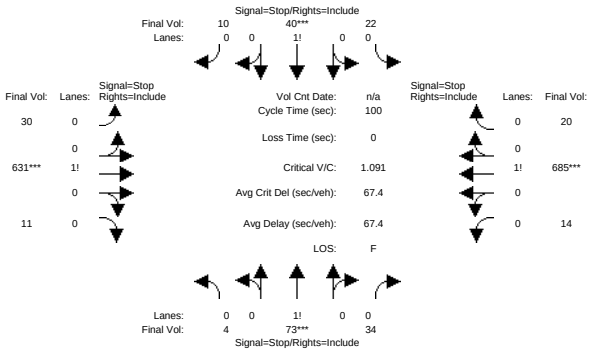
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	75	1192	25	24	976	68	92	52	125	52	78	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	1192	25	24	976	68	92	52	125	52	78	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	1192	25	24	976	68	92	52	125	52	78	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	1192	25	24	976	68	92	52	125	52	78	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	1192	25	24	976	68	92	52	125	52	78	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	1192	25	24	976	68	92	52	125	52	78	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.87	0.13	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3525	74	1805	3341	233	1805	499	1200	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.04	0.34	0.34	0.01	0.29	0.29	0.05	0.10	0.10	0.03	0.08	0.08
Crit Moves:		****		****				****		****		
Green/Cycle:	0.12	0.58	0.58	0.06	0.53	0.53	0.10	0.18	0.18	0.06	0.14	0.14
Volume/Cap:	0.36	0.58	0.58	0.21	0.55	0.55	0.51	0.58	0.58	0.45	0.54	0.54
Delay/Veh:	45.9	14.8	14.8	49.8	17.4	17.4	49.3	44.1	44.1	52.5	46.2	46.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.9	14.8	14.8	49.8	17.4	17.4	49.3	44.1	44.1	52.5	46.2	46.2
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	66	341	341	24	308	308	90	156	156	57	125	125

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #1014: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    73    34    22    40    10    30   631    11    14   685    20
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    4    73    34    22    40    10    30   631    11    14   685    20
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    4    73    34    22    40    10    30   631    11    14   685    20
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     4    73    34    22    40    10    30   631    11    14   685    20
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    4    73    34    22    40    10    30   631    11    14   685    20
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    4    73    34    22    40    10    30   631    11    14   685    20
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.03  0.66  0.31  0.30  0.56  0.14  0.04  0.94  0.02  0.02  0.95  0.03
Final Sat.:    18   334   155   148   268    67    29   617    11    13   628    18
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.22  0.22  0.22  0.15  0.15  0.15  1.02  1.02  1.02  1.09  1.09  1.09
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   11.9  11.9  11.9  11.6  11.6  11.6  63.9  63.9  63.9  84.7  84.7  84.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  11.9  11.9  11.9  11.6  11.6  11.6  63.9  63.9  63.9  84.7  84.7  84.7
LOS by Move:    B     B     B     B     B     B     F     F     F     F     F     F
ApproachDel:       11.9              11.6              63.9              84.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        11.9              11.6              63.9              84.7
LOS by Appr:          B                 B                 F                 F
AllWayAvgQ:   6.8   6.8   6.8   4.2   4.2   4.2   253   253 253.1   349   349 349.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4   73    34    22   40    10    30  631    11    14  685    20
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1391
Minor Approach Volume:           111
Minor Approach Volume Threshold: 131
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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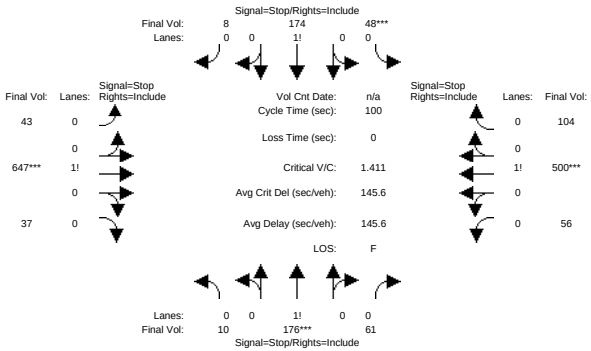
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #1014: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10   176    61    48   174     8    43   647    37    56   500   104
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   10   176    61    48   174     8    43   647    37    56   500   104
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   10   176    61    48   174     8    43   647    37    56   500   104
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    10   176    61    48   174     8    43   647    37    56   500   104
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   10   176    61    48   174     8    43   647    37    56   500   104
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   10   176    61    48   174     8    43   647    37    56   500   104
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.04  0.71  0.25  0.21  0.76  0.03  0.06  0.89  0.05  0.08  0.76  0.16
Final Sat.:    18   319   111    91   329    15    30   458    26    44   394    82
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.55  0.55  0.55  0.53  0.53  0.53  1.41  1.41  1.41  1.27  1.27  1.27
Crit Moves:        ****        ****                    ****              ****
Delay/Veh:   19.8  19.8  19.8  19.5  19.5  19.5 216.6   217 216.6 158.4   158 158.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  19.8  19.8  19.8  19.5  19.5  19.5 216.6   217 216.6 158.4   158 158.4
LOS by Move:    C     C     C     C     C     C     F     F     F     F     F     F
ApproachDel:       19.8             19.5            216.6            158.4
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:        19.8             19.5            216.6            158.4
LOS by Appr:          C                C                F                F
AllWayAvgQ:  27.7  27.7  27.7  25.3  25.3  25.3   739   739 739.1   535   535 535.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   10  176    61    48  174     8    43  647    37    56  500   104
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1387
Minor Approach Volume:           247
Minor Approach Volume Threshold: 132
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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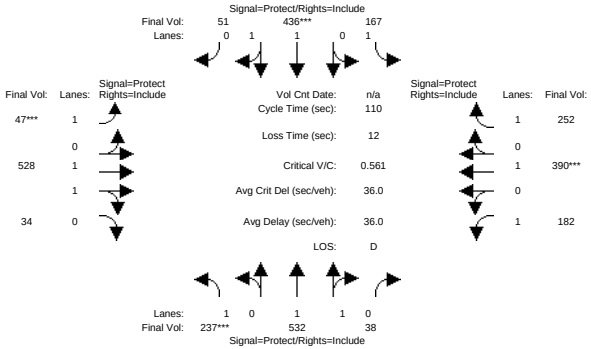
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1015: 16th St / M St



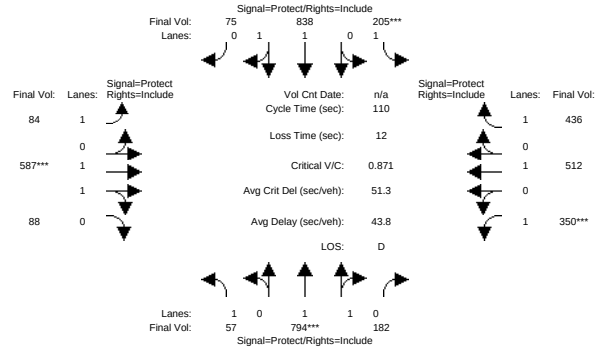
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	237		532	38	167		436	51	47		528	34	182		390	252
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	237		532	38	167		436	51	47		528	34	182		390	252
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	237		532	38	167		436	51	47		528	34	182		390	252
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	237		532	38	167		436	51	47		528	34	182		390	252
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	237		532	38	167		436	51	47		528	34	182		390	252
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	237		532	38	167		436	51	47		528	34	182		390	252
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.94	0.94	0.95		0.93	0.93	0.95		0.94	0.94	0.95		1.00	0.85
Lanes:	1.00		1.87	0.13	1.00		1.79	0.21	1.00		1.88	0.12	1.00		1.00	1.00
Final Sat.:	1805		3336	238	1805		3180	372	1805		3361	216	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.13		0.16	0.16	0.09		0.14	0.14	0.03		0.16	0.16	0.10		0.21	0.16
Crit Moves:	****						****		****						****	
Green/Cycle:	0.23		0.30	0.30	0.17		0.24	0.24	0.06		0.26	0.26	0.17		0.36	0.36
Volume/Cap:	0.57		0.54	0.54	0.54		0.57	0.57	0.41		0.61	0.61	0.61		0.57	0.44
Delay/Veh:	39.5		32.9	32.9	43.4		37.8	37.8	51.9		37.2	37.2	46.3		29.7	27.3
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	39.5		32.9	32.9	43.4		37.8	37.8	51.9		37.2	37.2	46.3		29.7	27.3
LOS by Move:	D		C	C	D		D	D	D		D	D	D		C	C
HCM2kAvgQ:	171		203	203	144		204	204	51		236	236	140		256	155

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1015: 16th St / M St



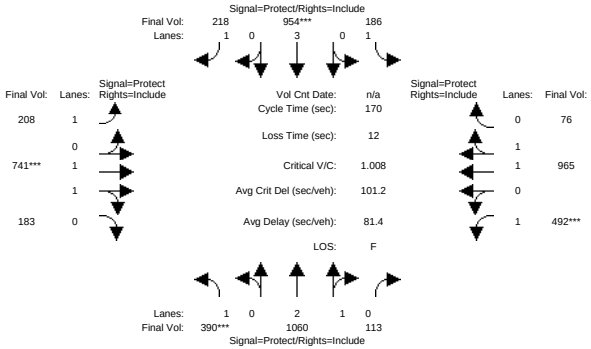
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	57		794	182	205		838	75	84		587	88	350		512	436
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	57		794	182	205		838	75	84		587	88	350		512	436
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	57		794	182	205		838	75	84		587	88	350		512	436
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	57		794	182	205		838	75	84		587	88	350		512	436
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	57		794	182	205		838	75	84		587	88	350		512	436
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	57		794	182	205		838	75	84		587	88	350		512	436
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.92	0.92	0.95		0.94	0.94	0.95		0.93	0.93	0.95		1.00	0.85
Lanes:	1.00		1.63	0.37	1.00		1.84	0.16	1.00		1.74	0.26	1.00		1.00	1.00
Final Sat.:	1805		2855	654	1805		3274	293	1805		3080	462	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.03		0.28	0.28	0.11		0.26	0.26	0.05		0.19	0.19	0.19		0.27	0.27
Crit Moves:			****		****						****		****			
Green/Cycle:	0.09		0.32	0.32	0.13		0.36	0.36	0.08		0.22	0.22	0.22		0.36	0.36
Volume/Cap:	0.35		0.87	0.87	0.87		0.71	0.71	0.55		0.87	0.87	0.87		0.75	0.76
Delay/Veh:	48.4		42.9	42.9	74.7		32.2	32.2	52.7		52.0	52.0	59.5		35.9	36.8
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	48.4		42.9	42.9	74.7		32.2	32.2	52.7		52.0	52.0	59.5		35.9	36.8
LOS by Move:	D		D	D	E		C	C	D		D	D	E		D	D
HCM2kAvgQ:	41		378	378	241		372	372	89		366	366	287		365	312

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1016: Olive Ave / M St



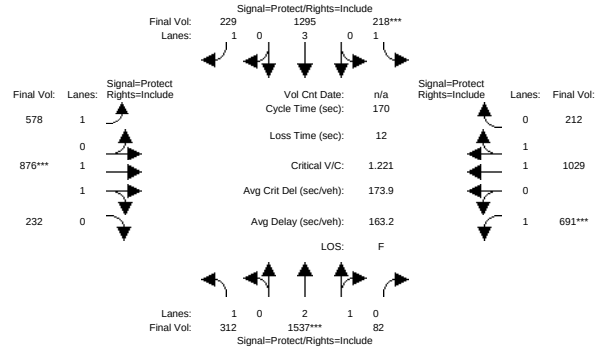
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	390	1060		113	186	954		218	208	741		183	492	965		76
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	390	1060		113	186	954		218	208	741		183	492	965		76
Added Vol:	0	0		0	0	0		0	0	0		0	0	0		0
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	390	1060		113	186	954		218	208	741		183	492	965		76
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	390	1060		113	186	954		218	208	741		183	492	965		76
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	390	1060		113	186	954		218	208	741		183	492	965		76
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	390	1060		113	186	954		218	208	741		183	492	965		76
Saturation Flow Module:																
Sat/Lane:	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900
Adjustment:	0.95	0.90		0.90	0.95	0.91		0.85	0.95	0.92		0.92	0.95	0.94		0.94
Lanes:	1.00	2.71		0.29	1.00	3.00		1.00	1.00	1.60		0.40	1.00	1.85		0.15
Final Sat.:	1805	4622		493	1805	5187		1615	1805	2808		694	1805	3310		261
Capacity Analysis Module:																
Vol/Sat:	0.22	0.23		0.23	0.10	0.18		0.13	0.12	0.26		0.26	0.27	0.29		0.29
Crit Moves:	****					****				****			****			
Green/Cycle:	0.21	0.27		0.27	0.12	0.18		0.18	0.15	0.26		0.26	0.27	0.38		0.38
Volume/Cap:	1.01	0.84		0.84	0.84	1.01		0.74	0.76	1.01		1.01	1.01	0.76		0.76
Delay/Veh:	114.4	62.8		62.8	96.3	101		75.2	81.4	94.3		94.3	104.6	48.5		48.5
User DelAdj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
AdjDel/Veh:	114.4	62.8		62.8	96.3	101		75.2	81.4	94.3		94.3	104.6	48.5		48.5
LOS by Move:	F	E		E	F	F		E	F	F		F	F	D		D
HCM2kAvgQ:	505	486		486	238	506		261	298	775		775	783	636		636

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1016: Olive Ave / M St



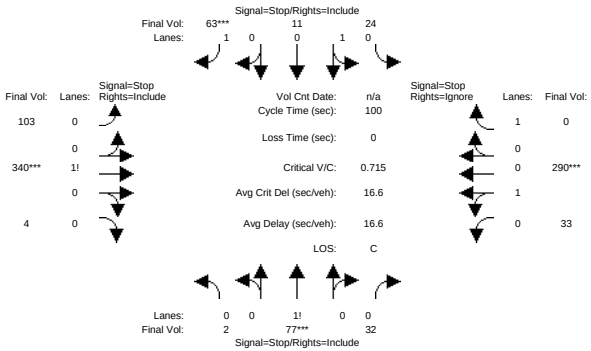
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	312	1537		82	218	1295		229	578	876		232	691	1029		212
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	312	1537		82	218	1295		229	578	876		232	691	1029		212
Added Vol:	0	0		0	0	0		0	0	0		0	0	0		0
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	312	1537		82	218	1295		229	578	876		232	691	1029		212
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	312	1537		82	218	1295		229	578	876		232	691	1029		212
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	312	1537		82	218	1295		229	578	876		232	691	1029		212
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	312	1537		82	218	1295		229	578	876		232	691	1029		212
Saturation Flow Module:																
Sat/Lane:	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900
Adjustment:	0.95	0.90		0.90	0.95	0.91		0.85	0.95	0.92		0.92	0.95	0.93		0.93
Lanes:	1.00	2.85		0.15	1.00	3.00		1.00	1.00	1.58		0.42	1.00	1.66		0.34
Final Sat.:	1805	4885		261	1805	5187		1615	1805	2766		732	1805	2915		601
Capacity Analysis Module:																
Vol/Sat:	0.17	0.31		0.31	0.12	0.25		0.14	0.32	0.32		0.32	0.38	0.35		0.35
Crit Moves:		****			****					****			****			
Green/Cycle:	0.15	0.26		0.26	0.10	0.21		0.21	0.27	0.26		0.26	0.31	0.30		0.30
Volume/Cap:	1.19	1.22		1.22	1.22	1.19		0.67	1.18	1.22		1.22	1.22	1.18		1.18
Delay/Veh:	187.6	170		169.6	215.9	160		66.9	160.3	172		172.4	173.1	148		148.4
User DelAdj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
AdjDel/Veh:	187.6	170		169.6	215.9	160		66.9	160.3	172		172.4	173.1	148		148.4
LOS by Move:	F	F		F	F	F		E	F	F		F	F	F		F
HCM2kAvgQ:	527	1044		1044	396	821		258	1068	1123		1123	1315	1195		1195

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   77    32    24   11    63   103  340     4    33  290   102
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   77    32    24   11    63   103  340     4    33  290   102
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   77    32    24   11    63   103  340     4    33  290   102
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2   77    32    24   11    63   103  340     4    33  290     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   77    32    24   11    63   103  340     4    33  290     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    2   77    32    24   11    63   103  340     4    33  290     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.69  0.29  0.69 0.31  1.00  0.23 0.76  0.01  0.10 0.90  1.00
Final Sat.:     9  343   143   315  144   530   144  476     6    63  550   702
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.22 0.22  0.22  0.08 0.08  0.12  0.71 0.71  0.71  0.53 0.53  0.00
Crit Moves:       ****                    ****       ****              ****
Delay/Veh:   11.2 11.2  11.2  10.3 10.3   9.4  21.1 21.1  21.1  14.3 14.3   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.2 11.2  11.2  10.3 10.3   9.4  21.1 21.1  21.1  14.3 14.3   0.0
LOS by Move:    B    B     B     B    B     A     C    C     C     B    B     *
ApproachDel:      11.2              9.7             21.1             14.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       11.2              9.7             21.1             14.3
LOS by Appr:         B                A                C                B
AllWayAvgQ:   5.7  5.7   5.7   1.7  1.7   2.6  53.9 53.9  53.9  25.0 25.0   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



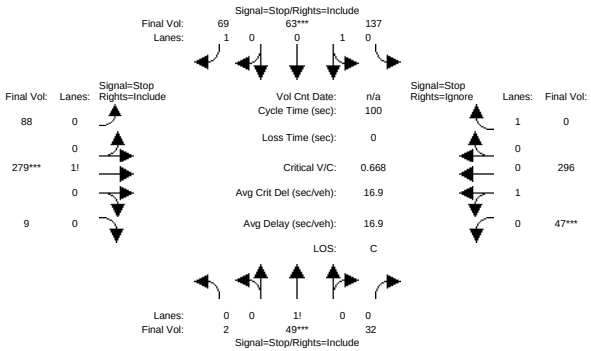
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   77    32    24   11    63   103  340     4    33  290   102
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             872
Minor Approach Volume:           111
Minor Approach Volume Threshold: 332
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   49    32   137   63    69    88  279     9    47  296    88
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   49    32   137   63    69    88  279     9    47  296    88
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   49    32   137   63    69    88  279     9    47  296    88
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2   49    32   137   63    69    88  279     9    47  296     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   49    32   137   63    69    88  279     9    47  296     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    2   49    32   137   63    69    88  279     9    47  296     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.69 0.31  1.00  0.23 0.75  0.02  0.14 0.86  1.00
Final Sat.:    11  267   175   329  151   557   132  417    13    77  483   632
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18  0.18  0.42 0.42  0.12  0.67 0.67  0.67  0.61 0.61  0.00
Crit Moves:       ****              ****              ****        ****
Delay/Veh:   11.3 11.3  11.3  14.2 14.2   9.5  20.2 20.2  20.2  17.7 17.7   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.3 11.3  11.3  14.2 14.2   9.5  20.2 20.2  20.2  17.7 17.7   0.0
LOS by Move:    B    B     B     B    B     A     C    C     C     C    C     *
ApproachDel:      11.3             13.0             20.2             17.7
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       11.3             13.0             20.2             17.7
LOS by Appr:         B                B                C                C
AllWayAvgQ:   4.2  4.2   4.2  15.0 15.0   3.0  43.0 43.0  43.0  34.1 34.1   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   49    32   137   63    69    88  279     9    47  296    88
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             807
Minor Approach Volume:           269
Minor Approach Volume Threshold: 466
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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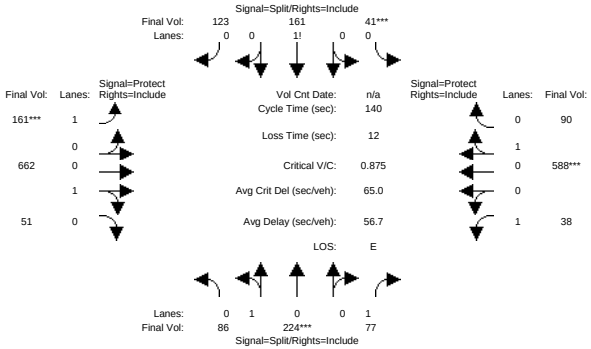
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1018: Childs Ave / Martin Luther King Wy



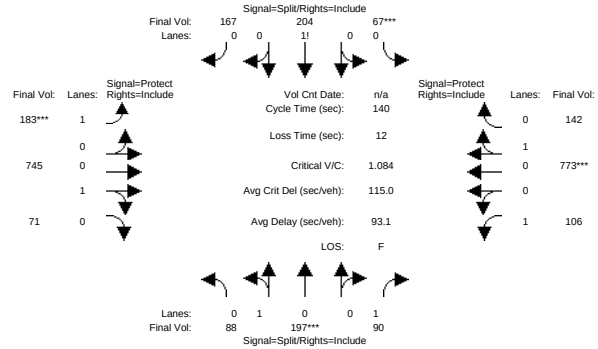
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	224	77	41	161	123	161	662	51	38	588	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	224	77	41	161	123	161	662	51	38	588	90
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	86	224	77	41	161	123	161	662	51	38	588	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	224	77	41	161	123	161	662	51	38	588	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	224	77	41	161	123	161	662	51	38	588	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	224	77	41	161	123	161	662	51	38	588	90
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.13	0.49	0.38	1.00	0.93	0.07	1.00	0.87	0.13
Final Sat.:	520	1354	1615	226	888	678	1805	1745	134	1805	1615	247
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.05	0.18	0.18	0.18	0.09	0.38	0.38	0.02	0.36	0.36
Crit Moves:		****		****			****				****	
Green/Cycle:	0.19	0.19	0.19	0.21	0.21	0.21	0.10	0.46	0.46	0.06	0.42	0.42
Volume/Cap:	0.88	0.88	0.25	0.88	0.88	0.88	0.88	0.83	0.83	0.35	0.88	0.88
Delay/Veh:	76.0	76.0	48.8	73.8	73.8	73.8	96.1	40.0	40.0	65.1	48.4	48.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	76.0	76.0	48.8	73.8	73.8	73.8	96.1	40.0	40.0	65.1	48.4	48.4
LOS by Move:	E	E	D	E	E	E	F	D	D	E	D	D
HCM2kAvgQ:	394	394	72	409	409	409	236	705	705	38	687	687

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1018: Childs Ave / Martin Luther King Wy



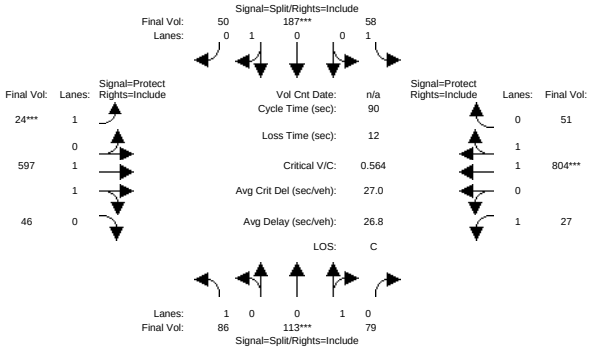
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	197	90	67	204	167	183	745	71	106	773	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	197	90	67	204	167	183	745	71	106	773	142
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	197	90	67	204	167	183	745	71	106	773	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	197	90	67	204	167	183	745	71	106	773	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	197	90	67	204	167	183	745	71	106	773	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	197	90	67	204	167	183	745	71	106	773	142
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.31	0.69	1.00	0.15	0.47	0.38	1.00	0.91	0.09	1.00	0.84	0.16
Final Sat.:	578	1294	1615	274	833	682	1805	1712	163	1805	1568	288
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.06	0.24	0.24	0.24	0.10	0.44	0.44	0.06	0.49	0.49
Crit Moves:		****		****			****				****	
Green/Cycle:	0.14	0.14	0.14	0.23	0.23	0.23	0.09	0.48	0.48	0.07	0.45	0.45
Volume/Cap:	1.08	1.08	0.40	1.08	1.08	1.08	1.08	0.90	0.90	0.90	1.08	1.08
Delay/Veh:	140.0	140	55.9	123.5	124	123.5	157.1	45.1	45.1	118.4	94.6	94.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	140.0	140	55.9	123.5	124	123.5	157.1	45.1	45.1	118.4	94.6	94.6
LOS by Move:	F	F	E	F	F	F	F	D	D	F	F	F
HCM2kAvgQ:	465	465	96	672	672	672	322	875	875	123	1213	1213

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1019: 13th St / Martin Luther King Wy

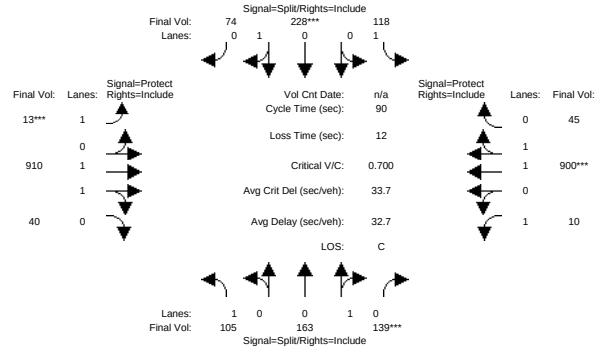



```
Street Name:            13th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      86  113    79   58  187    50   24  597    46   27  804    51
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   86  113    79   58  187    50   24  597    46   27  804    51
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   86  113    79   58  187    50   24  597    46   27  804    51
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    86  113    79   58  187    50   24  597    46   27  804    51
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   86  113    79   58  187    50   24  597    46   27  804    51
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   86  113    79   58  187    50   24  597    46   27  804    51
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.95 0.97  0.97 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.59  0.41 1.00 0.79  0.21 1.00 1.86  0.14 1.00 1.88  0.12
Final Sat.:  1805 1049   733 1805 1451   388 1805 3315   255 1805 3364   213
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.11  0.11 0.03 0.13  0.13 0.01 0.18  0.18 0.01 0.24  0.24
Crit Moves:        ****            ****        ****                ****
Green/Cycle: 0.18 0.18  0.18 0.21 0.21  0.21 0.08 0.33  0.33 0.14 0.40  0.40
Volume/Cap:  0.27 0.60  0.60 0.15 0.60  0.60 0.17 0.54  0.54 0.10 0.60  0.60
Delay/Veh:   32.3 37.3  37.3 28.9 34.6  34.6 39.4 25.1  25.1 33.7 22.3  22.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  32.3 37.3  37.3 28.9 34.6  34.6 39.4 25.1  25.1 33.7 22.3  22.3
LOS by Move:    C    D     D    C    C     C    D    C     C    C    C     C
HCM2kAvgQ:     55  145   145   34  169   169   15  179   179   15  242   242
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1019: 13th St / Martin Luther King Wy

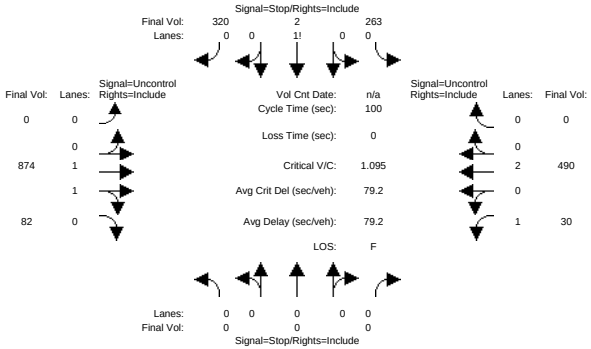



```
Street Name:            13th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     105  163   139  118  228    74   13  910    40   10  900    45
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  105  163   139  118  228    74   13  910    40   10  900    45
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  105  163   139  118  228    74   13  910    40   10  900    45
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  105  163   139  118  228    74   13  910    40   10  900    45
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  105  163   139  118  228    74   13  910    40   10  900    45
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  105  163   139  118  228    74   13  910    40   10  900    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.93  0.93 0.95 0.96  0.96 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.54  0.46 1.00 0.75  0.25 1.00 1.92  0.08 1.00 1.90  0.10
Final Sat.:  1805  955   814 1805 1381   448 1805 3437   151 1805 3414   171
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.17  0.17 0.07 0.17  0.17 0.01 0.26  0.26 0.01 0.26  0.26
Crit Moves:             ****        ****        ****                ****
Green/Cycle: 0.22 0.22  0.22 0.22 0.22  0.22 0.08 0.33  0.33 0.10 0.35  0.35
Volume/Cap:  0.26 0.76  0.76 0.30 0.76  0.76 0.09 0.81  0.81 0.06 0.76  0.76
Delay/Veh:   29.1 40.9  40.9 29.9 41.3  41.3 38.8 31.8  31.8 37.1 28.8  28.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  29.1 40.9  40.9 29.9 41.3  41.3 38.8 31.8  31.8 37.1 28.8  28.8
LOS by Move:    C    D     D    C    D     D    D    C     C    D    C     C
HCM2kAvgQ:     63  241   241   72  242   242    8  302   302    6  304   304
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   263    2   320     0  874    82    30  490     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   263    2   320     0  874    82    30  490     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   263    2   320     0  874    82    30  490     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   263    2   320     0  874    82    30  490     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   263    2   320     0  874    82    30  490     0
------------||---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------||---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   987 1506   245  xxxx xxxx xxxxx   956 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   248  122   762  xxxx xxxx xxxxx   727 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   240  117   762  xxxx xxxx xxxxx   727 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.10 0.02  0.42  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------||---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  382 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 32.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  279 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            278.6           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   263    2   320     0  874    82    30  490     0
ApproachDel:    xxxxxx            278.6           xxxxxx           xxxxxx
------------||---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=45.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=585]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2061]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

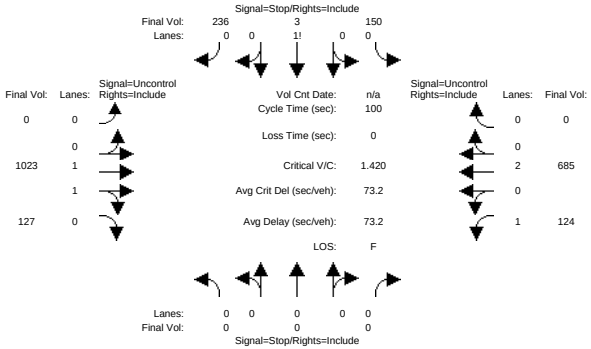
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   263    2   320     0  874    82    30  490     0
------------||---------------||---------------||---------------||---------------|
Major Street Volume:             1476
Minor Approach Volume:           585
Minor Approach Volume Threshold: 151
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   150    3   236     0 1023   127   124  685     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   150    3   236     0 1023   127   124  685     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   150    3   236     0 1023   127   124  685     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   150    3   236     0 1023   127   124  685     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   150    3   236     0 1023   127   124  685     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1445 2083   343  xxxx xxxx xxxxx  1150 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   125   54   659  xxxx xxxx xxxxx   615 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   106   43   659  xxxx xxxx xxxxx   615 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.42 0.07  0.36  xxxx xxxx  xxxx  0.20 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  18.7 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  12.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  211 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 27.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  438 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            437.7            xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   150    3   236     0 1023   127   124  685     0
ApproachDel:    xxxxxx            437.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=47.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=389]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2348]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

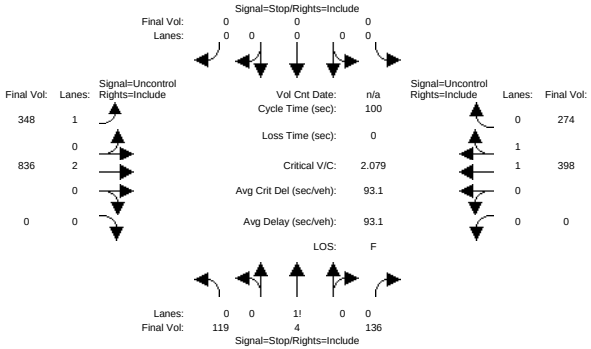
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   150    3   236     0 1023   127   124  685     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1959
Minor Approach Volume:           389
Minor Approach Volume Threshold: 53 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119    4   136     0    0     0   348  836     0     0  398   274
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  119    4   136     0    0     0   348  836     0     0  398   274
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  119    4   136     0    0     0   348  836     0     0  398   274
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   119    4   136     0    0     0   348  836     0     0  398   274
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  119    4   136     0    0     0   348  836     0     0  398   274
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1731 2204   418  xxxx xxxx xxxxx   672 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   81   45   589  xxxx xxxx xxxxx   928 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     57   28   589  xxxx xxxx xxxxx   928 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  2.08 0.14  0.23  xxxx xxxx  xxxx  0.37 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  43.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  106 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 23.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  745 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     745.4           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:  119    4   136     0    0     0   348  836     0     0  398   274
ApproachDel:     745.4           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=53.6]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=259]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2115]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

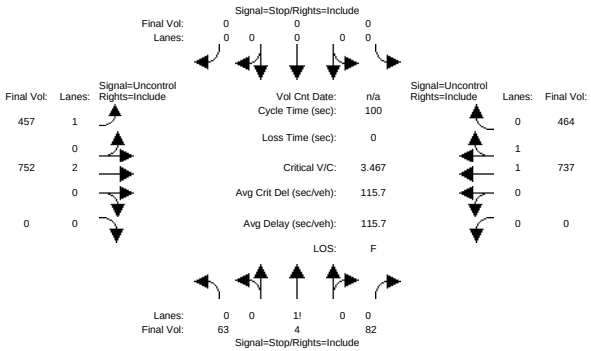
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:  119    4   136     0    0     0   348  836     0     0  398   274
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1856
Minor Approach Volume:           259
Minor Approach Volume Threshold: 72 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63    4    82     0    0     0   457  752     0     0  737   464
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   63    4    82     0    0     0   457  752     0     0  737   464
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   63    4    82     0    0     0   457  752     0     0  737   464
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    63    4    82     0    0     0   457  752     0     0  737   464
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   63    4    82     0    0     0   457  752     0     0  737   464
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2035 2867   376  xxxx xxxx xxxxx  1201 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   51   17   627  xxxx xxxx xxxxx   588 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     18    4   627  xxxx xxxx xxxxx   588 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  3.47 1.06  0.13  xxxx xxxx  xxxx  0.78 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   181 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  29.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     D    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   32 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 17.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 1897 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:    1896.9           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   63    4    82     0    0     0   457  752     0     0  737   464
ApproachDel:    1896.9           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=78.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=149]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2559]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   63    4    82     0    0     0   457  752     0     0  737   464
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2410
Minor Approach Volume:           149
Minor Approach Volume Threshold: -18 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
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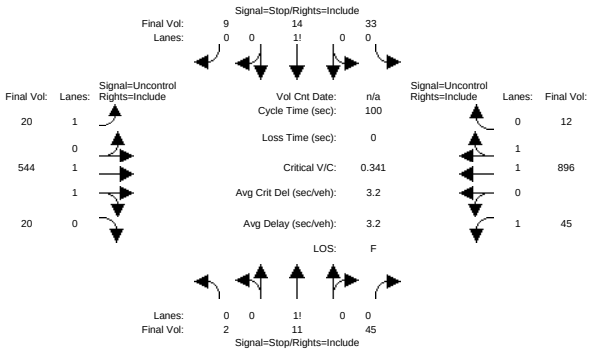
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   11    45    33   14     9    20  544    20    45  896    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   11    45    33   14     9    20  544    20    45  896    12
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   11    45    33   14     9    20  544    20    45  896    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2   11    45    33   14     9    20  544    20    45  896    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2   11    45    33   14     9    20  544    20    45  896    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1139 1592   282  1310 1596   454   908 xxxx xxxxx   564 xxxx xxxxx
Potent Cap.:  159  108   721   119  108   559   758 xxxx xxxxx  1018 xxxx xxxxx
Move Cap.:    132  101   721    97  100   559   758 xxxx xxxxx  1018 xxxx xxxxx
Volume/Cap:  0.02 0.11  0.06  0.34 0.14  0.02  0.03 xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.0 xxxx xxxxx   3.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.9 xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  311 xxxxx  xxxx  113 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.7 xxxxx xxxxx  2.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 19.2 xxxxx xxxxx 65.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    F     *     *    *     *     *    *     *
ApproachDel:      19.2             65.0            xxxxxx            xxxxxx
ApproachLOS:         C                F                 *                 *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2   11    45    33   14     9    20  544    20    45  896    12
ApproachDel:      19.2             65.0            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=58]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1651]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1651]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2   11    45    33   14     9    20  544    20    45  896    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1537
Minor Approach Volume:           58
Minor Approach Volume Threshold: 137
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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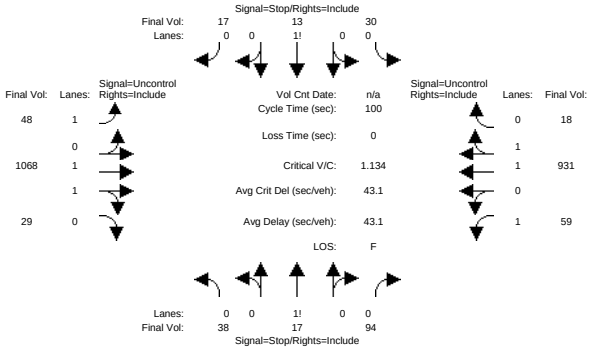
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      38   17    94    30   13    17    48 1068    29    59  931    18
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   38   17    94    30   13    17    48 1068    29    59  931    18
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   38   17    94    30   13    17    48 1068    29    59  931    18
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    38   17    94    30   13    17    48 1068    29    59  931    18
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   38   17    94    30   13    17    48 1068    29    59  931    18
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1769 2246   549  1697 2251   475   949 xxxx xxxxx  1097 xxxx xxxxx
Potent Cap.:   54   42   485    61   42   542   732 xxxx xxxxx   644 xxxx xxxxx
Move Cap.:     34   36   485    28   36   542   732 xxxx xxxxx   644 xxxx xxxxx
Volume/Cap:  1.13 0.47  0.19  1.08 0.36  0.03  0.07 xxxx  xxxx  0.09 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.3 xxxx xxxxx   7.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.3 xxxx xxxxx  11.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   83 xxxxx  xxxx   41 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 12.7 xxxxx xxxxx  6.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  488 xxxxx xxxxx  464 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     *    *     *     *    *     *
ApproachDel:     488.3            464.4           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   38   17    94    30   13    17    48 1068    29    59  931    18
ApproachDel:     488.3            464.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=20.2]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=149]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2362]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=7.7]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=60]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2362]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

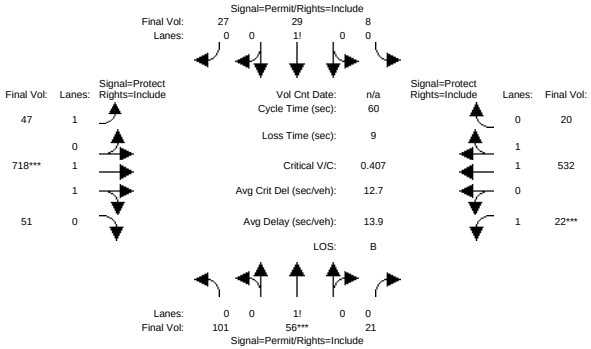
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   38   17    94    30   13    17    48 1068    29    59  931    18
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2153
Minor Approach Volume:           149
Minor Approach Volume Threshold: 21 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1023: 15th St / Martin Luther King Wy



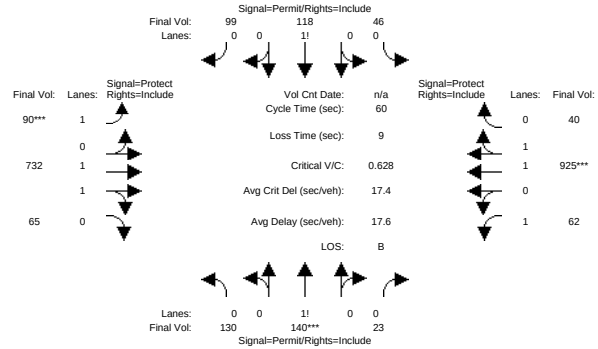
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	101	56	21	8	29	27	47	718	51	22	532	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	56	21	8	29	27	47	718	51	22	532	20
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	101	56	21	8	29	27	47	718	51	22	532	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	56	21	8	29	27	47	718	51	22	532	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	56	21	8	29	27	47	718	51	22	532	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	56	21	8	29	27	47	718	51	22	532	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.79	0.79	0.79	0.91	0.91	0.91	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.57	0.31	0.12	0.13	0.45	0.42	1.00	1.87	0.13	1.00	1.93	0.07
Final Sat.:	850	471	177	216	783	729	1805	3337	237	1805	3462	130
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.12	0.04	0.04	0.04	0.03	0.22	0.22	0.01	0.15	0.15
Crit Moves:		****						****		****		
Green/Cycle:	0.26	0.26	0.26	0.26	0.26	0.26	0.24	0.47	0.47	0.12	0.35	0.35
Volume/Cap:	0.46	0.46	0.46	0.14	0.14	0.14	0.11	0.46	0.46	0.10	0.44	0.44
Delay/Veh:	19.4	19.4	19.4	17.2	17.2	17.2	17.8	10.8	10.8	23.9	15.4	15.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.4	19.4	19.4	17.2	17.2	17.2	17.8	10.8	10.8	23.9	15.4	15.4
LOS by Move:	B	B	B	B	B	B	B	B	B	C	B	B
HCM2kAvgQ:	83	83	83	25	25	25	16	122	122	9	99	99

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1023: 15th St / Martin Luther King Wy



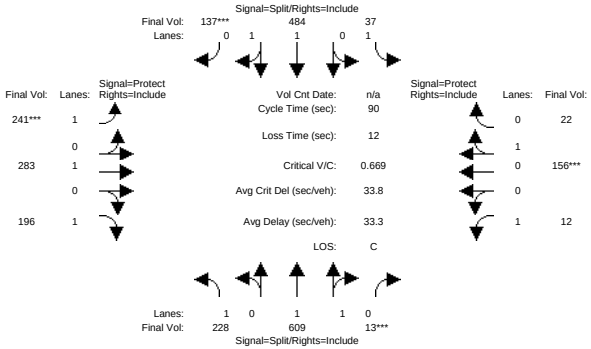
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	130	140	23	46	118	99	90	732	65	62	925	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	130	140	23	46	118	99	90	732	65	62	925	40
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	130	140	23	46	118	99	90	732	65	62	925	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	130	140	23	46	118	99	90	732	65	62	925	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	140	23	46	118	99	90	732	65	62	925	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	130	140	23	46	118	99	90	732	65	62	925	40
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.72	0.72	0.87	0.87	0.87	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	0.44	0.48	0.08	0.17	0.45	0.38	1.00	1.84	0.16	1.00	1.92	0.08
Final Sat.:	604	651	107	290	744	624	1805	3276	291	1805	3440	149
Capacity Analysis Module:												
Vol/Sat:	0.22	0.22	0.22	0.16	0.16	0.16	0.05	0.22	0.22	0.03	0.27	0.27
Crit Moves:		****					****				****	
Green/Cycle:	0.33	0.33	0.33	0.33	0.33	0.33	0.12	0.34	0.34	0.18	0.41	0.41
Volume/Cap:	0.66	0.66	0.66	0.49	0.49	0.49	0.43	0.65	0.65	0.19	0.66	0.66
Delay/Veh:	21.0	21.0	21.0	16.9	16.9	16.9	26.0	17.8	17.8	21.2	15.5	15.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.0	21.0	21.0	16.9	16.9	16.9	26.0	17.8	17.8	21.2	15.5	15.5
LOS by Move:	C	C	C	B	B	B	C	B	B	C	B	B
HCM2kAvgQ:	149	149	149	111	111	111	37	157	157	22	174	174

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1024: 16th St / Martin Luther King Wy

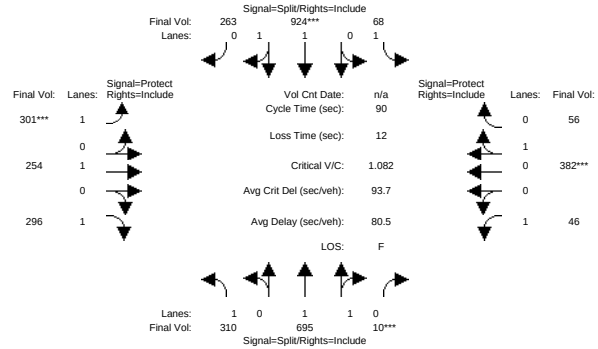



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     228  609    13   37  484   137  241  283   196   12  156    22
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  228  609    13   37  484   137  241  283   196   12  156    22
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  228  609    13   37  484   137  241  283   196   12  156    22
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   228  609    13   37  484   137  241  283   196   12  156    22
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  228  609    13   37  484   137  241  283   196   12  156    22
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  228  609    13   37  484   137  241  283   196   12  156    22
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.92  0.92 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.96  0.04 1.00 1.56  0.44 1.00 1.00  1.00 1.00 0.88  0.12
Final Sat.:  1805 3524    75 1805 2721   770 1805 1900  1615 1805 1634   230
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.17  0.17 0.02 0.18  0.18 0.13 0.15  0.12 0.01 0.10  0.10
Crit Moves:             ****            ****  ****            ****
Green/Cycle: 0.26 0.26  0.26 0.27 0.27  0.27 0.20 0.22  0.22 0.12 0.14  0.14
Volume/Cap:  0.49 0.67  0.67 0.08 0.67  0.67 0.67 0.66  0.54 0.06 0.67  0.67
Delay/Veh:   29.1 31.8  31.8 24.8 31.4  31.4 38.1 35.6  32.4 35.4 43.0  43.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  29.1 31.8  31.8 24.8 31.4  31.4 38.1 35.6  32.4 35.4 43.0  43.0
LOS by Move:    C    C     C    C    C     C    D    D     C    D    D     D
HCM2kAvgQ:    144  230   230   18  200   200  155  178   118    7  120   120
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1024: 16th St / Martin Luther King Wy




```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     310  695    10   68  924   263  301  254   296   46  382    56
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  310  695    10   68  924   263  301  254   296   46  382    56
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  310  695    10   68  924   263  301  254   296   46  382    56
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   310  695    10   68  924   263  301  254   296   46  382    56
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  310  695    10   68  924   263  301  254   296   46  382    56
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  310  695    10   68  924   263  301  254   296   46  382    56
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.92  0.92 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.97  0.03 1.00 1.56  0.44 1.00 1.00  1.00 1.00 0.87  0.13
Final Sat.:  1805 3552    51 1805 2717   773 1805 1900  1615 1805 1626   238
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.20  0.20 0.04 0.34  0.34 0.17 0.13  0.18 0.03 0.23  0.23
Crit Moves:             ****       ****        ****            ****
Green/Cycle: 0.18 0.18  0.18 0.31 0.31  0.31 0.15 0.26  0.26 0.11 0.22  0.22
Volume/Cap:  0.95 1.08  1.08 0.12 1.08  1.08 1.08 0.51  0.70 0.23 1.08  1.08
Delay/Veh:   73.0 96.3  96.3 22.1 82.9  82.9 115.5 29.3  35.4 37.1  104 103.6
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  73.0 96.3  96.3 22.1 82.9  82.9 115.5 29.3  35.4 37.1  104 103.6
LOS by Move:    E    F     F    C    F     F    F    C     D    D    F     F
HCM2kAvgQ:    324  451   451   31  608   608  305  144   184   28  452   452
Note: Queue reported is the distance per lane in feet.
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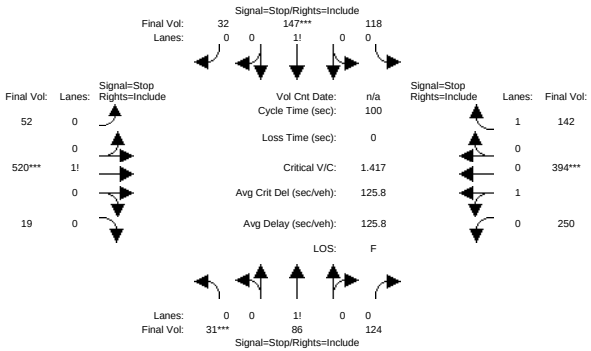
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #1025: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      31    86   124   118   147    32    52   520    19   250   394   142
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   31    86   124   118   147    32    52   520    19   250   394   142
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   31    86   124   118   147    32    52   520    19   250   394   142
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    31    86   124   118   147    32    52   520    19   250   394   142
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   31    86   124   118   147    32    52   520    19   250   394   142
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   31    86   124   118   147    32    52   520    19   250   394   142
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.13  0.36  0.51  0.40  0.49  0.11  0.09  0.88  0.03  0.39  0.61  1.00
Final Sat.:    56   155   224   174   217    47    43   426    16   176   278   512
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.55  0.55  0.55  0.68  0.68  0.68  1.22  1.22  1.22  1.42  1.42  0.28
Crit Moves:  ****                  ****                ****                ****
Delay/Veh:   20.2  20.2  20.2  25.9  25.9  25.9 141.3   141 141.3 222.2   222  12.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  20.2  20.2  20.2  25.9  25.9  25.9 141.3   141 141.3 222.2   222  12.4
LOS by Move:    C     C     C     D     D     D     F     F     F     F     F     B
ApproachDel:      20.2              25.9             141.3             184.3
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       20.2              25.9             141.3             184.3
LOS by Appr:         C                 D                 F                 F
AllWayAvgQ:  27.6  27.6  27.6  45.1  45.1  45.1   440   440 439.7   668   668   9.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1025 13th St / G St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   31   86   124   118  147    32    52  520    19   250  394   142
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1377
Minor Approach Volume:           297
Minor Approach Volume Threshold: 175
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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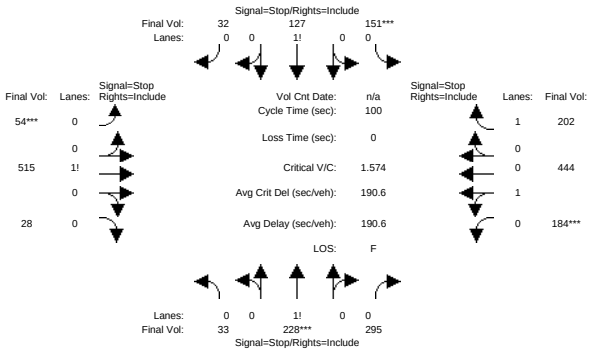
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #1025: 13th St / G St



Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	33	228	295	151	127	32	54	515	28	184	444	202
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	228	295	151	127	32	54	515	28	184	444	202
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	228	295	151	127	32	54	515	28	184	444	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	33	228	295	151	127	32	54	515	28	184	444	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	228	295	151	127	32	54	515	28	184	444	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	33	228	295	151	127	32	54	515	28	184	444	202
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.06	0.41	0.53	0.49	0.41	0.10	0.09	0.86	0.05	0.29	0.71	1.00
Final Sat.:	26	177	229	191	161	41	37	356	19	117	282	440
Capacity Analysis Module:												
Vol/Sat:	1.29	1.29	1.29	0.79	0.79	0.79	1.45	1.45	1.45	1.57	1.57	0.46
Crit Moves:		****		****			****			****		
Delay/Veh:	170.9	171	170.9	38.8	38.8	38.8	238.5	238	238.5	293.0	293	17.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	170.9	171	170.9	38.8	38.8	38.8	238.5	238	238.5	293.0	293	17.6
LOS by Move:	F	F	F	E	E	E	F	F	F	F	F	C
ApproachDel:	170.9			38.8			238.5			226.0		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	170.9			38.8			238.5			226.0		
LOS by Appr:	F			E			F			F		
AllWayAvgQ:	479	479	478.7	72.8	72.8	72.8	649	649	649.2	779	779	20.6

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1025 13th St / G St

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 1	0 0	1
Initial Vol:	33	228	295	151	127	32	54	515	28	184	444	202

Major Street Volume: 1427
Minor Approach Volume: 556
Minor Approach Volume Threshold: 162

SIGNAL WARRANT DISCLAIMER

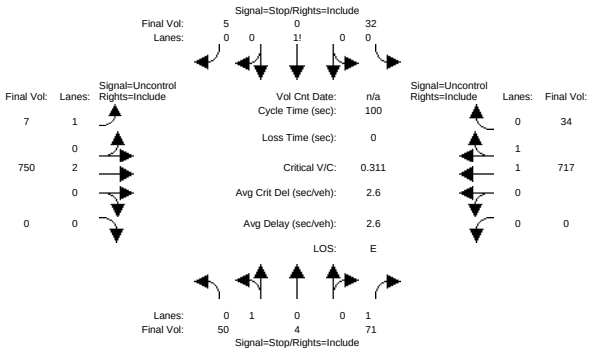
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street              G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      50    4    71    32    0     5     7  750     0     0  717    34
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   50    4    71    32    0     5     7  750     0     0  717    34
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   50    4    71    32    0     5     7  750     0     0  717    34
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    50    4    71    32    0     5     7  750     0     0  717    34
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   50    4    71    32    0     5     7  750     0     0  717    34
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1123 1515   375  1125 1498   376   751 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  163  121   628   162  124   628   868 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    161  120   628   139  123   628   868 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.31 0.03  0.11  0.23 0.00  0.01  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   9.5  xxxx xxxx xxxxx   0.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  11.5 xxxxx xxxx xxxxx   9.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  157 xxxx xxxxx  xxxx  156 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  1.4 xxxx xxxxx xxxxx  0.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 39.6 xxxx xxxxx xxxxx 35.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     E    *     *     *    E     *     *    *     *     *    *     *
ApproachDel:      23.6             35.1           xxxxxx           xxxxxx
ApproachLOS:         C               E                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   50    4    71    32    0     5     7  750     0     0  717    34
ApproachDel:      23.6             35.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=125]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1670]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=37]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1670]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

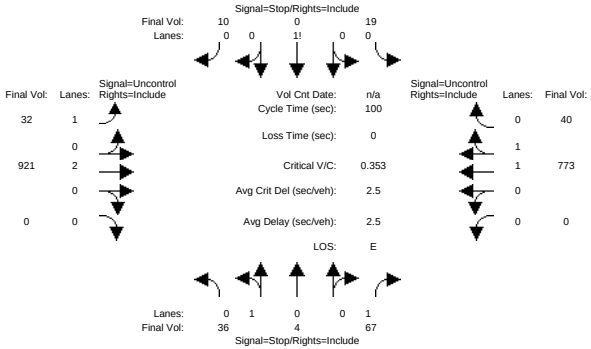
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   50    4    71    32    0     5     7  750     0     0  717    34
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1508
Minor Approach Volume:           125
Minor Approach Volume Threshold: 197
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36    4    67    19    0    10    32  921     0     0  773    40
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36    4    67    19    0    10    32  921     0     0  773    40
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   36    4    67    19    0    10    32  921     0     0  773    40
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    36    4    67    19    0    10    32  921     0     0  773    40
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   36    4    67    19    0    10    32  921     0     0  773    40
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1372 1798   461  1320 1778   407   813 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  107   81   553   117   83   600   823 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    102   78   553    96   80   600   823 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.35 0.05  0.12  0.20 0.00  0.02  0.04 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  10.3  xxxx xxxx xxxxx   3.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  12.4 xxxxx xxxx xxxxx   9.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:   99 xxxx xxxxx  xxxx  135 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  1.7 xxxx xxxxx xxxxx  0.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 64.1 xxxx xxxxx xxxxx 38.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     F    *     *     *    E     *     *    *     *     *    *     *
ApproachDel:      31.7             38.9           xxxxxx           xxxxxx
ApproachLOS:         D                E                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   36    4    67    19    0    10    32  921     0     0  773    40
ApproachDel:      31.7             38.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=107]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1902]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=29]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1902]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

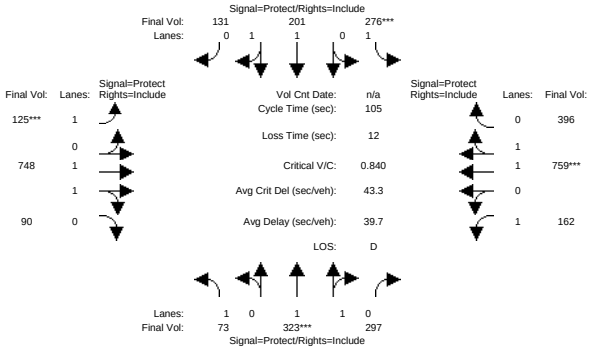
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   36    4    67    19    0    10    32  921     0     0  773    40
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1766
Minor Approach Volume:           107
Minor Approach Volume Threshold: 130 [less than minimum of 150]
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1027: 16th St / G Street

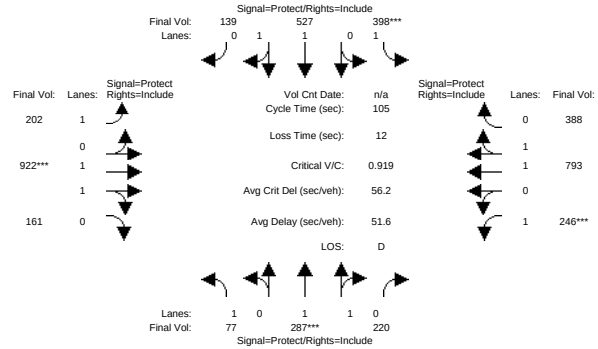



```
Street Name:            16th Street                     G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      73 323 297   276 201 131   125 748  90   162 759 396
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   73 323 297   276 201 131   125 748  90   162 759 396
Added Vol:      0   0   0     0   0   0     0   0   0     0   0   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:   73 323 297   276 201 131   125 748  90   162 759 396
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:    73 323 297   276 201 131   125 748  90   162 759 396
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:   73 323 297   276 201 131   125 748  90   162 759 396
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   73 323 297   276 201 131   125 748  90   162 759 396
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.88 0.88 0.95 0.89 0.89 0.95 0.93 0.93 0.95 0.90 0.90
Lanes:       1.00 1.04 0.96 1.00 1.21 0.79 1.00 1.79 0.21 1.00 1.31 0.69
Final Sat.:  1805 1745 1605 1805 2057 1340 1805 3171  382 1805 2251 1175
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.19 0.19 0.15 0.10 0.10 0.07 0.24 0.24 0.09 0.34 0.34
Crit Moves:       ****      ****           ****           ****
Green/Cycle: 0.16 0.22 0.22 0.18 0.24 0.24 0.08 0.35 0.35 0.13 0.40 0.40
Volume/Cap:  0.25 0.84 0.84 0.84 0.41 0.41 0.84 0.67 0.67 0.67 0.84 0.84
Delay/Veh:   38.8 47.7 47.7 58.8 34.0 34.0 80.1 30.5 30.5 50.6 33.2 33.2
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  38.8 47.7 47.7 58.8 34.0 34.0 80.1 30.5 30.5 50.6 33.2 33.2
LOS by Move:    D    D    D    E    C    C    F    C    C    D    C    C
HCM2kAvgQ:     55  318  318  281  124  124  158  322  322  156  503  503
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1027: 16th St / G Street

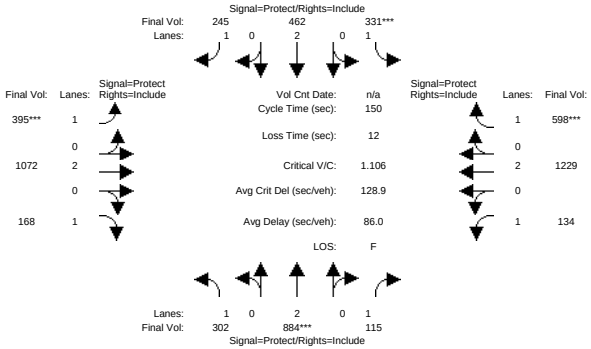



```
Street Name:            16th Street                     G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      77 287 220   398 527 139   202 922 161   246 793 388
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   77 287 220   398 527 139   202 922 161   246 793 388
Added Vol:      0   0   0     0   0   0     0   0   0     0   0   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:   77 287 220   398 527 139   202 922 161   246 793 388
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:    77 287 220   398 527 139   202 922 161   246 793 388
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:   77 287 220   398 527 139   202 922 161   246 793 388
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   77 287 220   398 527 139   202 922 161   246 793 388
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.89 0.89 0.95 0.92 0.92 0.95 0.93 0.93 0.95 0.90 0.90
Lanes:       1.00 1.13 0.87 1.00 1.58 0.42 1.00 1.70 0.30 1.00 1.34 0.66
Final Sat.:  1805 1911 1465 1805 2768  730 1805 3006  525 1805 2305 1128
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.15 0.15 0.22 0.19 0.19 0.11 0.31 0.31 0.14 0.34 0.34
Crit Moves:       ****      ****           ****           ****
Green/Cycle: 0.10 0.16 0.16 0.24 0.30 0.30 0.12 0.33 0.33 0.15 0.36 0.36
Volume/Cap:  0.41 0.92 0.92 0.92 0.64 0.64 0.95 0.92 0.92 0.92 0.95 0.95
Delay/Veh:   45.4 63.8 63.8 63.4 33.2 33.2 92.2 45.0 45.0 78.3 46.8 46.8
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  45.4 63.8 63.8 63.4 33.2 33.2 92.2 45.0 45.0 78.3 46.8 46.8
LOS by Move:    D    E    E    E    C    C    F    D    D    E    D    D
HCM2kAvgQ:     69  304  304  413  263  263  255  546  546  286  611  611
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1028: Olive Ave / G St

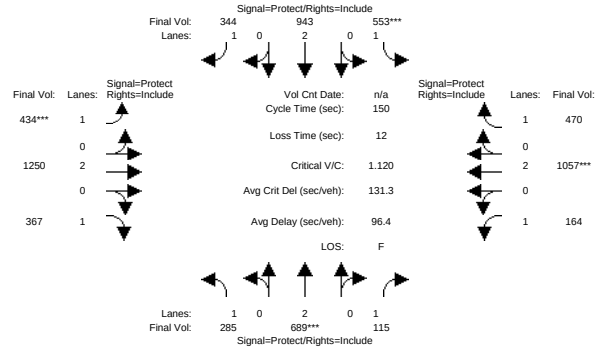



```
Street Name:            Olive Avenue                    G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     302  884   115   331  462   245   395 1072   168   134 1229   598
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  302  884   115   331  462   245   395 1072   168   134 1229   598
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  302  884   115   331  462   245   395 1072   168   134 1229   598
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   302  884   115   331  462   245   395 1072   168   134 1229   598
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  302  884   115   331  462   245   395 1072   168   134 1229   598
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  302  884   115   331  462   245   395 1072   168   134 1229   598
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 0.95  0.85  0.95 0.95  0.85
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 3610  1615  1805 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.24  0.07  0.18 0.13  0.15  0.22 0.30  0.10  0.07 0.34  0.37
Crit Moves:        ****        ****             ****                    ****
Green/Cycle: 0.20 0.22  0.22  0.17 0.18  0.18  0.20 0.43  0.43  0.11 0.33  0.33
Volume/Cap:  0.82 1.11  0.32  1.11 0.69  0.82  1.11 0.70  0.24  0.70 1.02  1.11
Delay/Veh:   71.2  123  49.5 146.0 60.5  75.6 139.4 36.5  27.7  75.3 80.0 120.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  71.2  123  49.5 146.0 60.5  75.6 139.4 36.5  27.7  75.3 80.0 120.9
LOS by Move:    E    F     D     F    E     E     F    D     C     E    F     F
HCM2kAvgQ:    384  757   112   454  240   250   656  533   120   181  916   946
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1028: Olive Ave / G St

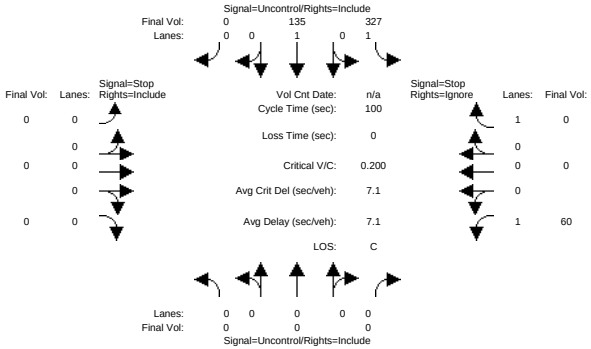



```
Street Name:            Olive Avenue                    G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     285  689   115   553  943   344   434 1250   367   164 1057   470
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  285  689   115   553  943   344   434 1250   367   164 1057   470
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  285  689   115   553  943   344   434 1250   367   164 1057   470
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   285  689   115   553  943   344   434 1250   367   164 1057   470
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  285  689   115   553  943   344   434 1250   367   164 1057   470
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  285  689   115   553  943   344   434 1250   367   164 1057   470
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 0.95  0.85  0.95 0.95  0.85
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 3610  1615  1805 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.19  0.07  0.31 0.26  0.21  0.24 0.35  0.23  0.09 0.29  0.29
Crit Moves:        ****        ****             ****                    ****
Green/Cycle: 0.17 0.17  0.17  0.27 0.28  0.28  0.21 0.38  0.38  0.10 0.26  0.26
Volume/Cap:  0.94 1.12  0.42  1.12 0.94  0.77  1.12 0.92  0.60  0.92 1.12  1.11
Delay/Veh:   98.8  136  56.6 132.2 69.8  57.8 141.3 54.6  39.4 111.5  124 133.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  98.8  136  56.6 132.2 69.8  57.8 141.3 54.6  39.4 111.5  124 133.7
LOS by Move:    F    F     E     F    E     E     F    D     D     F    F     F
HCM2kAvgQ:    419  617   124   773  526   334   723  806   344   262  901   770
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   327  135     0     0    0     0    60    0   979
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   327  135     0     0    0     0    60    0   979
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   327  135     0     0    0     0    60    0   979
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   327  135     0     0    0     0    60    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   327  135     0     0    0     0    60    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   789 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   362 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   307 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.20 xxxx  xxxx  xxxx xxxx  xxxx  0.20 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  18.6 xxxx xxxxx  xxxx xxxx xxxxx  17.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.7 xxxx xxxxx xxxxx xxxx xxxxx  19.6 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             19.6
ApproachLOS:         *                *                *                C
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   327  135     0     0    0     0    60    0   979
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             19.6
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1039]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=1501]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

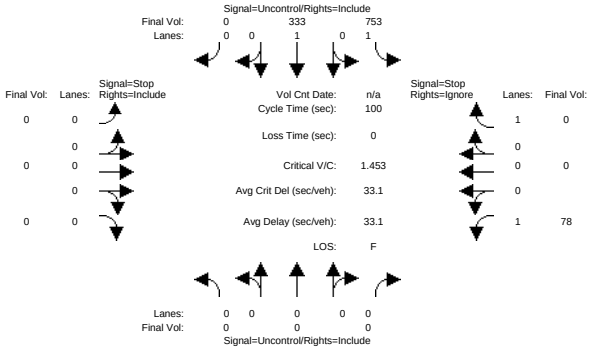
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   327  135     0     0    0     0    60    0   979
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             462
Minor Approach Volume:           1039
Minor Approach Volume Threshold: 706
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   753  333     0     0    0     0    78    0   564
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   753  333     0     0    0     0    78    0   564
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   753  333     0     0    0     0    78    0   564
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   753  333     0     0    0     0    78    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   753  333     0     0    0     0    78    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx  1839 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx    84 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx    54 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.46 xxxx  xxxx  xxxx xxxx  xxxx  1.45 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  62.5 xxxx xxxxx  xxxx xxxx xxxxx   178 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   9.1 xxxx xxxxx xxxxx xxxx xxxxx 406.8 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     F    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           406.8
ApproachLOS:         *                *                *                F
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   753  333     0     0    0     0    78    0   564
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             406.8
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=72.5]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=642]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=1728]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

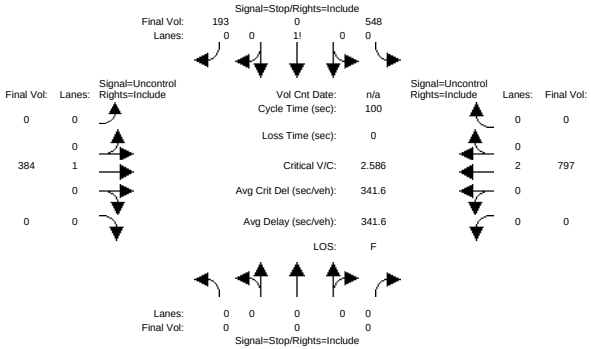
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   753  333     0     0    0     0    78    0   564
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1086
Minor Approach Volume:           642
Minor Approach Volume Threshold: 339
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   548    0   193     0  384     0     0  797     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   548    0   193     0  384     0     0  797     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   548    0   193     0  384     0     0  797     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   548    0   193     0  384     0     0  797     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   548    0   193     0  384     0     0  797     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1181 1181   399  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   212  192   656  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   212  192   656  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  2.59 0.00  0.29  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  257 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 64.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  886 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            886.1           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0   193     0  384     0     0  797     0
ApproachDel:    xxxxxx            886.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=182.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=741]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1922]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

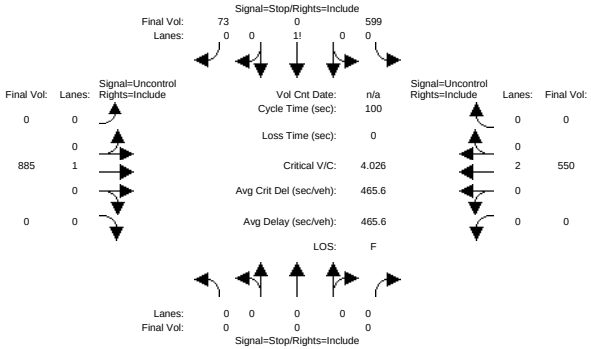
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0   193     0  384     0     0  797     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1181
Minor Approach Volume:           741
Minor Approach Volume Threshold: 228
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   599    0    73     0  885     0     0  550     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   599    0    73     0  885     0     0  550     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   599    0    73     0  885     0     0  550     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   599    0    73     0  885     0     0  550     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   599    0    73     0  885     0     0  550     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1435 1435   275  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   149  135   769  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   149  135   769  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  4.03 0.00  0.09  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  163 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 67.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 1460 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           1460.0           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    73     0  885     0     0  550     0
ApproachDel:    xxxxxx           1460.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=272.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=672]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2107]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

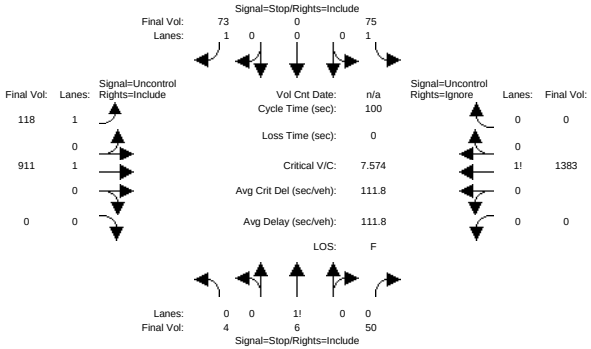
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    73     0  885     0     0  550     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1435
Minor Approach Volume:           672
Minor Approach Volume Threshold: 160
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    6    50    75    0    73   118  911     0     0 1383   340
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4    6    50    75    0    73   118  911     0     0 1383   340
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4    6    50    75    0    73   118  911     0     0 1383   340
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     4    6    50    75    0    73   118  911     0     0 1383     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4    6    50    75    0    73   118  911     0     0 1383     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2567 2530   911  2558 xxxx  1383  1383 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   18   28   335    18 xxxx   178   502 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:      9   21   335    10 xxxx   178   502 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.47 0.28  0.15  7.57 xxxx  0.41  0.24 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   269 xxxx  45.8  22.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  3699 xxxx  38.7  14.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     E     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   67 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  4.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  185 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     185.2           1893.5           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    4    6    50    75    0    73   118  911     0     0 1383   340
ApproachDel:     185.2           1893.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=60]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2960]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=77.8]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=148]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2960]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

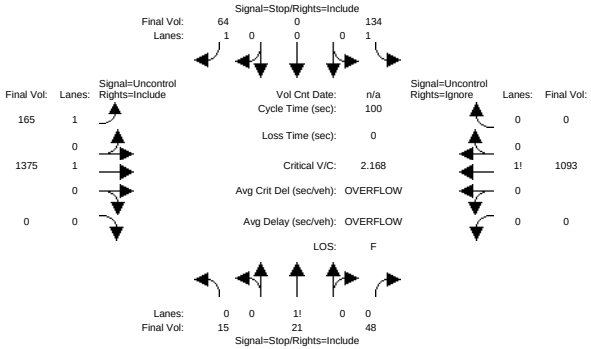
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    4    6    50    75    0    73   118  911     0     0 1383   340
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2752
Minor Approach Volume:           148
Minor Approach Volume Threshold: -61 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   21    48   134    0    64   165 1375     0     0 1093   302
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15   21    48   134    0    64   165 1375     0     0 1093   302
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   15   21    48   134    0    64   165 1375     0     0 1093   302
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:    15   21    48   134    0    64   165 1375     0     0 1093     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   15   21    48   134    0    64   165 1375     0     0 1093     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2830 2798  1375  2833 xxxx  1093  1093 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   11   19   180    11 xxxx   263   646 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:      7   14   180     0 xxxx   263   646 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  2.17 1.51  0.27  xxxx xxxx  0.24  0.26 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx  23.3  25.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  23.0  12.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     C     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   21 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 10.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 1694 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:    1694.2             +Inf            xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:   15   21    48   134    0    64   165 1375     0     0 1093   302
ApproachDel:    1694.2             +Inf            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=39.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=84]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3217]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=198]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3217]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:   15   21    48   134    0    64   165 1375     0     0 1093   302
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2935
Minor Approach Volume:           198
Minor Approach Volume Threshold: -89 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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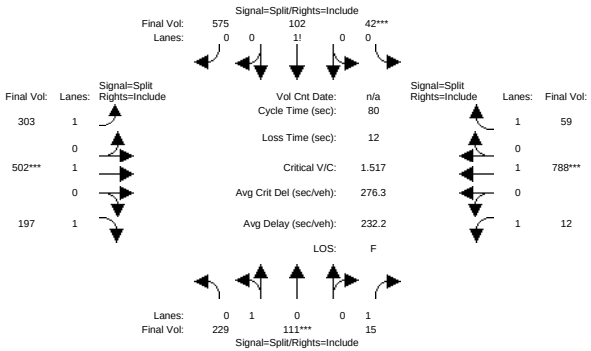
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)



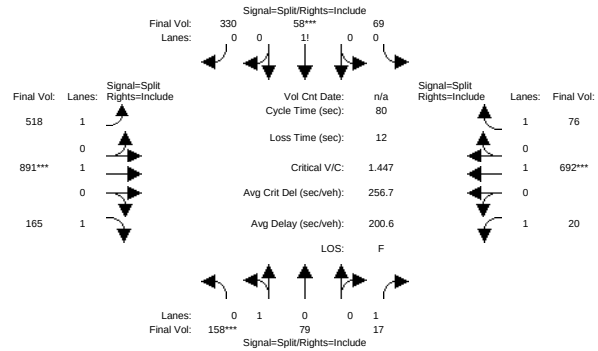
Street Name:	Motel Drive - Glen Avenue						Yosemite Parkway (SR-140)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	229	111	15	42	102	575	303	502	197	12	788	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	229	111	15	42	102	575	303	502	197	12	788	59
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	229	111	15	42	102	575	303	502	197	12	788	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	229	111	15	42	102	575	303	502	197	12	788	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	229	111	15	42	102	575	303	502	197	12	788	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	229	111	15	42	102	575	303	502	197	12	788	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.89	0.89	0.89	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	0.67	0.33	1.00	0.06	0.14	0.80	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1237	600	1615	99	240	1351	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.01	0.43	0.43	0.43	0.17	0.26	0.12	0.01	0.41	0.04
Crit Moves:		****		****				****			****	
Green/Cycle:	0.13	0.13	0.13	0.28	0.28	0.28	0.17	0.17	0.17	0.27	0.27	0.27
Volume/Cap:	1.48	1.48	0.07	1.52	1.52	1.52	0.97	1.52	0.70	0.02	1.52	0.13
Delay/Veh:	273.1	273	31.1	275.0	275	275.0	74.9	284	39.0	21.3	274	22.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	273.1	273	31.1	275.0	275	275.0	74.9	284	39.0	21.3	274	22.1
LOS by Move:	F	F	C	F	F	F	E	F	D	C	F	C
HCM2kAvgQ:	599	599	9	1238	1238	1238	306	883	153	6	1351	29

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)



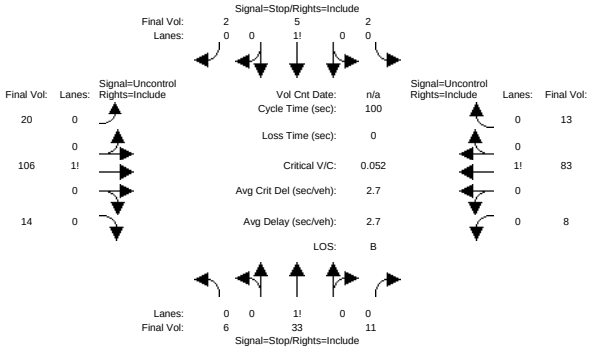
Street Name:	Motel Drive - Glen Avenue						Yosemite Parkway (SR-140)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	158	79	17	69	58	330	518	891	165	20	692	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	158	79	17	69	58	330	518	891	165	20	692	76
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	158	79	17	69	58	330	518	891	165	20	692	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	158	79	17	69	58	330	518	891	165	20	692	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	158	79	17	69	58	330	518	891	165	20	692	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	158	79	17	69	58	330	518	891	165	20	692	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.90	0.90	0.90	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	0.67	0.33	1.00	0.15	0.13	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1226	613	1615	257	216	1230	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.01	0.27	0.27	0.27	0.29	0.47	0.10	0.01	0.36	0.05
Crit Moves:	****				****			****			****	
Green/Cycle:	0.13	0.13	0.13	0.18	0.18	0.18	0.31	0.31	0.31	0.24	0.24	0.24
Volume/Cap:	1.03	1.03	0.08	1.52	1.52	1.52	0.93	1.52	0.33	0.05	1.52	0.20
Delay/Veh:	102.6	103	31.1	282.9	283	282.9	49.1	270	21.7	23.4	275	24.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	102.6	103	31.1	282.9	283	282.9	49.1	270	21.7	23.4	275	24.5
LOS by Move:	F	F	C	F	F	F	D	F	C	C	F	C
HCM2kAvgQ:	279	279	11	807	807	807	428	1515	83	10	1191	40

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   33    11     2    5     2    20  106    14     8   83    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   33    11     2    5     2    20  106    14     8   83    13
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6   33    11     2    5     2    20  106    14     8   83    13
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6   33    11     2    5     2    20  106    14     8   83    13
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6   33    11     2    5     2    20  106    14     8   83    13
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  262  265   113   281  266    90    96 xxxx xxxxx   120 xxxx xxxxx
Potent Cap.:  695  644   945   676  643   974  1510 xxxx xxxxx  1480 xxxx xxxxx
Move Cap.:    680  632   945   632  631   974  1510 xxxx xxxxx  1480 xxxx xxxxx
Volume/Cap:  0.01 0.05  0.01  0.00 0.01  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  688 xxxxx  xxxx  685 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.6 xxxxx xxxxx 10.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      10.6             10.3            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6   33    11     2    5     2    20  106    14     8   83    13
ApproachDel:      10.6             10.3            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=50]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=303]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=303]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

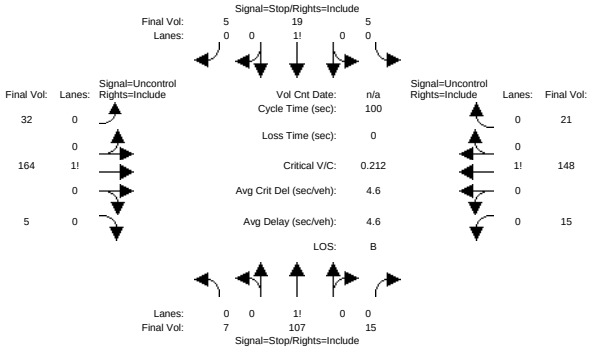
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6   33    11     2    5     2    20  106    14     8   83    13
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             244
Minor Approach Volume:           50
Minor Approach Volume Threshold: 596
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                         O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  107    15     5   19     5    32  164     5    15  148    21
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7  107    15     5   19     5    32  164     5    15  148    21
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7  107    15     5   19     5    32  164     5    15  148    21
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7  107    15     5   19     5    32  164     5    15  148    21
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7  107    15     5   19     5    32  164     5    15  148    21
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  431  430   167   480  422   159   169 xxxx xxxxx   169 xxxx xxxxx
Potent Cap.:  538  521   883   499  527   892  1421 xxxx xxxxx  1421 xxxx xxxxx
Move Cap.:    507  504   883   401  509   892  1421 xxxx xxxxx  1421 xxxx xxxxx
Volume/Cap:  0.01 0.21  0.02  0.01 0.04  0.01  0.02 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.7 xxxx xxxxx   0.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx   7.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  530 xxxxx  xxxx  523 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 14.0 xxxxx xxxxx 12.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      14.0             12.3            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  107    15     5   19     5    32  164     5    15  148    21
ApproachDel:      14.0             12.3            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=129]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=543]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=29]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=543]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  107    15     5   19     5    32  164     5    15  148    21
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             385
Minor Approach Volume:           129
Minor Approach Volume Threshold: 474
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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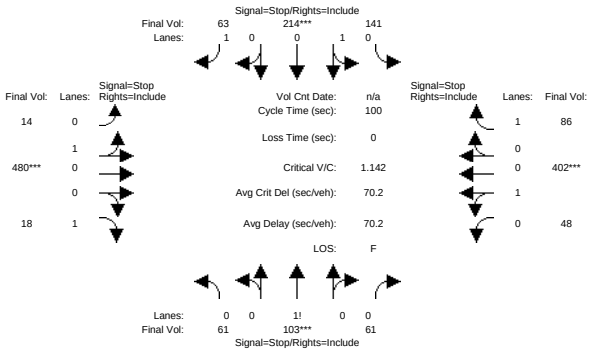
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61  103    61   141  214    63    14  480    18    48  402    86
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   61  103    61   141  214    63    14  480    18    48  402    86
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   61  103    61   141  214    63    14  480    18    48  402    86
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    61  103    61   141  214    63    14  480    18    48  402    86
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   61  103    61   141  214    63    14  480    18    48  402    86
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   61  103    61   141  214    63    14  480    18    48  402    86
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.27 0.46  0.27  0.40 0.60  1.00  0.03 0.97  1.00  0.11 0.89  1.00
Final Sat.:   103  174   103   163  248   458    12  420   470    46  386   473
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.59 0.59  0.59  0.86 0.86  0.14  1.14 1.14  0.04  1.04 1.04  0.18
Crit Moves:       ****              ****              ****              ****
Delay/Veh:   24.6 24.6  24.6  46.1 46.1  11.8 115.9  116  10.6  83.6 83.6  11.9
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.6 24.6  24.6  46.1 46.1  11.8 115.9  116  10.6  83.6 83.6  11.9
LOS by Move:    C    C     C     E    E     B     F    F     B     F    F     B
ApproachDel:      24.6             40.9            112.2             72.1
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       24.6             40.9            112.2             72.1
LOS by Appr:         C                E                F                F
AllWayAvgQ:  32.4 32.4  32.4  98.9 98.9   3.9   315  315   1.0   218  218   5.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



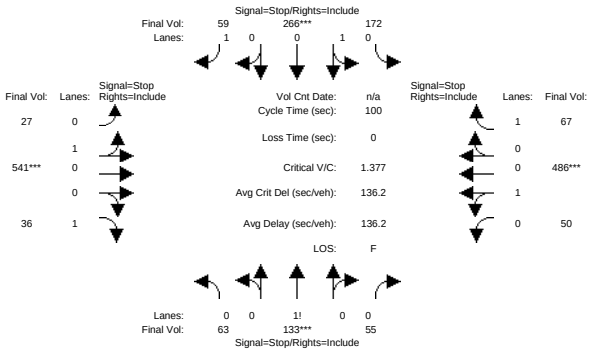
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   61  103    61   141  214    63    14  480    18    48  402    86
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1048
Minor Approach Volume:           418
Minor Approach Volume Threshold: 354
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63  133    55   172  266    59    27  541    36    50  486    67
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   63  133    55   172  266    59    27  541    36    50  486    67
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   63  133    55   172  266    59    27  541    36    50  486    67
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    63  133    55   172  266    59    27  541    36    50  486    67
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   63  133    55   172  266    59    27  541    36    50  486    67
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   63  133    55   172  266    59    27  541    36    50  486    67
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.25 0.53  0.22  0.39 0.61  1.00  0.05 0.95  1.00  0.09 0.91  1.00
Final Sat.:    94  198    82   159  246   451    20  393   450    38  373   450
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.67 0.67  0.67  1.08 1.08  0.13  1.38 1.38  0.08  1.30 1.30  0.15
Crit Moves:        ****               ****               ****               ****
Delay/Veh:   30.3 30.3  30.3  98.0 98.0  11.9 208.6  209  11.4 178.0  178  12.1
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  30.3 30.3  30.3  98.0 98.0  11.9 208.6  209  11.4 178.0  178  12.1
LOS by Move:    D    D     D     F    F     B     F    F     B     F    F     B
ApproachDel:      30.3              87.8             196.9             159.5
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       30.3              87.8             196.9             159.5
LOS by Appr:         D                 F                 F                 F
AllWayAvgQ:  45.8 45.8  45.8   243  243   3.8   565  565   2.2   476  476   4.4
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



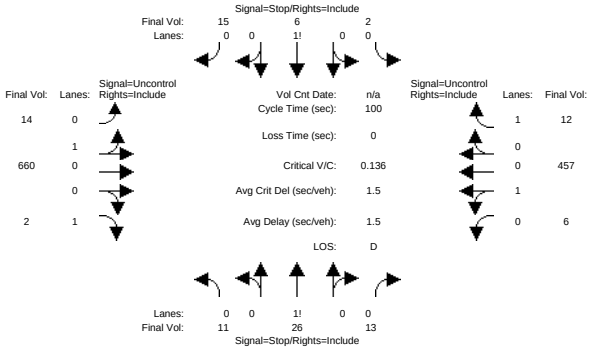
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   63  133    55   172  266    59    27  541    36    50  486    67
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1207
Minor Approach Volume:           497
Minor Approach Volume Threshold: 293
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      11   26    13     2    6    15    14  660     2     6  457    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   11   26    13     2    6    15    14  660     2     6  457    12
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   11   26    13     2    6    15    14  660     2     6  457    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    11   26    13     2    6    15    14  660     2     6  457    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   11   26    13     2    6    15    14  660     2     6  457    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1174 1169   660  1178 1159   457   469 xxxx xxxxx   662 xxxx xxxxx
Potent Cap.:  170  195   467   169  197   608  1103 xxxx xxxxx   936 xxxx xxxxx
Move Cap.:    160  191   467   145  194   608  1103 xxxx xxxxx   936 xxxx xxxxx
Volume/Cap:  0.07 0.14  0.03  0.01 0.03  0.02  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   0.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx   8.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  215 xxxxx  xxxx  331 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx  0.2 xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 26.8 xxxxx xxxxx 16.7 xxxxx   8.3 xxxx xxxxx   8.9 xxxx xxxxx
Shared LOS:     *    D     *     *    C     *     A    *     *     A    *     *
ApproachDel:      26.8             16.7           xxxxxx           xxxxxx
ApproachLOS:         D                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:   11   26    13     2    6    15    14  660     2     6  457    12
ApproachDel:      26.8             16.7           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=50]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1224]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1224]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

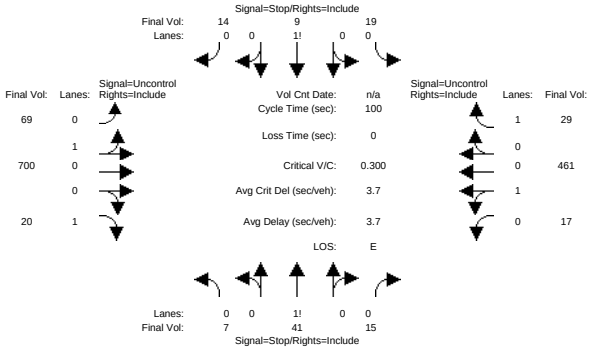
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:   11   26    13     2    6    15    14  660     2     6  457    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1151
Minor Approach Volume:           50
Minor Approach Volume Threshold: 236
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7   41    15    19    9    14    69  700    20    17  461    29
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7   41    15    19    9    14    69  700    20    17  461    29
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7   41    15    19    9    14    69  700    20    17  461    29
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7   41    15    19    9    14    69  700    20    17  461    29
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7   41    15    19    9    14    69  700    20    17  461    29
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1359 1362   700  1371 1353   461   490 xxxx xxxxx   720 xxxx xxxxx
Potent Cap.:  127  149   443   125  151   605  1084 xxxx xxxxx   891 xxxx xxxxx
Move Cap.:    110  137   443    87  138   605  1084 xxxx xxxxx   891 xxxx xxxxx
Volume/Cap:  0.06 0.30  0.03  0.22 0.06  0.02  0.06 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.1 xxxx xxxxx   1.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx   9.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  159 xxxxx  xxxx  137 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.7 xxxxx xxxxx  1.2 xxxxx   0.2 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 41.9 xxxxx xxxxx 42.6 xxxxx   8.5 xxxx xxxxx   9.1 xxxx xxxxx
Shared LOS:     *    E     *     *    E     *     A    *     *     A    *     *
ApproachDel:      41.9             42.6           xxxxxx           xxxxxx
ApproachLOS:         E                E                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    7   41    15    19    9    14    69  700    20    17  461    29
ApproachDel:      41.9             42.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=63]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1401]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=42]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1401]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

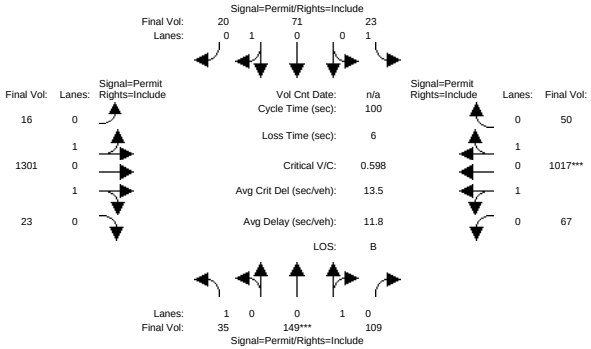
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    7   41    15    19    9    14    69  700    20    17  461    29
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1296
Minor Approach Volume:           63
Minor Approach Volume Threshold: 196
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1036: Main St / M St

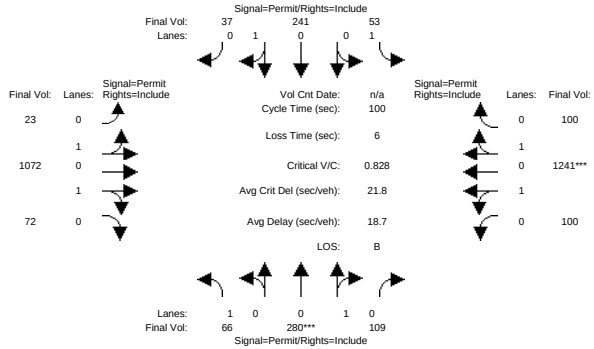



```
Street Name:            Main Street                     M Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      35  149   109   23   71    20   16 1301    23   67 1017    50
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   35  149   109   23   71    20   16 1301    23   67 1017    50
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   35  149   109   23   71    20   16 1301    23   67 1017    50
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    35  149   109   23   71    20   16 1301    23   67 1017    50
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   35  149   109   23   71    20   16 1301    23   67 1017    50
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   35  149   109   23   71    20   16 1301    23   67 1017    50
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.67 0.94  0.94 0.36 0.97  0.97 0.88 0.88  0.88 0.72 0.72  0.72
Lanes:       1.00 0.58  0.42 1.00 0.78  0.22 0.02 1.95  0.03 0.12 1.79  0.09
Final Sat.:  1267 1028   752  676 1433   404   40 3264    58  161 2440   120
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.14  0.14 0.03 0.05  0.05 0.40 0.40  0.40 0.42 0.42  0.42
Crit Moves:        ****                                    ****
Green/Cycle: 0.24 0.24  0.24 0.24 0.24  0.24 0.70 0.70  0.70 0.70 0.70  0.70
Volume/Cap:  0.11 0.60  0.60 0.14 0.20  0.20 0.57 0.57  0.57 0.60 0.60  0.60
Delay/Veh:   29.7 35.9  35.9 30.1 30.4  30.4  8.0  8.0   8.0  8.4  8.4   8.4
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  29.7 35.9  35.9 30.1 30.4  30.4  8.0  8.0   8.0  8.4  8.4   8.4
LOS by Move:    C    D     D    C    C     C    A    A     A    A    A     A
HCM2kAvgQ:     22  194   194   17   57    57  267  267   267  237  237   237
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1036: Main St / M St

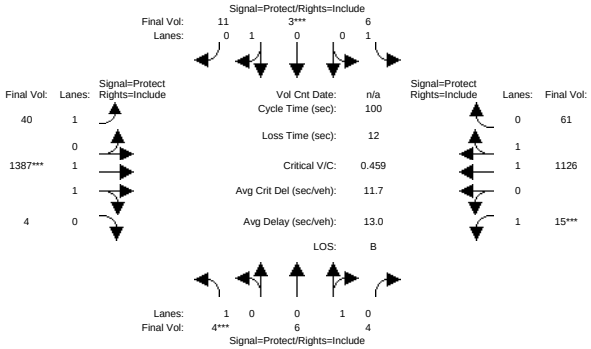



```
Street Name:            Main Street                     M Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      66  280   109   53  241    37   23 1072    72  100 1241   100
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   66  280   109   53  241    37   23 1072    72  100 1241   100
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   66  280   109   53  241    37   23 1072    72  100 1241   100
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    66  280   109   53  241    37   23 1072    72  100 1241   100
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   66  280   109   53  241    37   23 1072    72  100 1241   100
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   66  280   109   53  241    37   23 1072    72  100 1241   100
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.34 0.96  0.96 0.17 0.98  0.98 0.85 0.85  0.85 0.67 0.67  0.67
Lanes:       1.00 0.72  0.28 1.00 0.87  0.13 0.04 1.84  0.12 0.14 1.72  0.14
Final Sat.:   654 1310   510  327 1614   248   64 2964   199  177 2198   177
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.21  0.21 0.16 0.15  0.15 0.36 0.36  0.36 0.56 0.56  0.56
Crit Moves:        ****                                    ****
Green/Cycle: 0.26 0.26  0.26 0.26 0.26  0.26 0.68 0.68  0.68 0.68 0.68  0.68
Volume/Cap:  0.39 0.83  0.83 0.63 0.58  0.58 0.53 0.53  0.53 0.83 0.83  0.83
Delay/Veh:   32.1 46.6  46.6 47.0 34.1  34.1  8.2  8.2   8.2 15.1 15.1  15.1
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  32.1 46.6  46.6 47.0 34.1  34.1  8.2  8.2   8.2 15.1 15.1  15.1
LOS by Move:    C    D     D    D    C     C    A    A     A    B    B     B
HCM2kAvgQ:     53  344   344   64  201   201  221  221   221  441  441   441
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1037: 18th St / M St

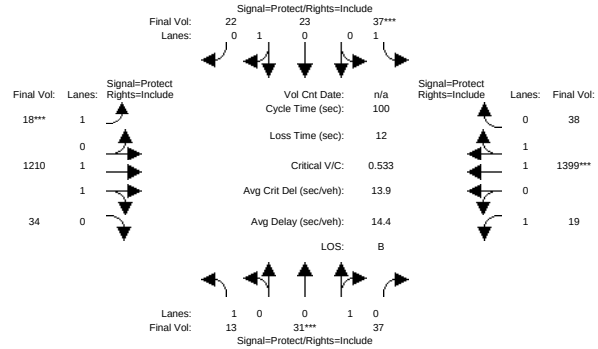



```
Street Name:            18th Street                     M Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   6   4     6   3  11    40 1387   4    15 1126   61
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    4   6   4     6   3  11    40 1387   4    15 1126   61
Added Vol:      0   0   0     0   0   0     0    0   0     0    0    0
PasserByVol:    0   0   0     0   0   0     0    0   0     0    0    0
Initial Fut:    4   6   4     6   3  11    40 1387   4    15 1126   61
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     4   6   4     6   3  11    40 1387   4    15 1126   61
Reduct Vol:     0   0   0     0   0   0     0    0   0     0    0    0
Reduced Vol:    4   6   4     6   3  11    40 1387   4    15 1126   61
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    4   6   4     6   3  11    40 1387   4    15 1126   61
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.95 0.94 0.94  0.95 0.88 0.88  0.95 0.95 0.95  0.95 0.94 0.94
Lanes:       1.00 0.60 0.40  1.00 0.21 0.79  1.00 1.99 0.01  1.00 1.90 0.10
Final Sat.:  1805 1072  714  1805  359 1317  1805 3600   10  1805 3397  184
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.01 0.01  0.00 0.01 0.01  0.02 0.39 0.39  0.01 0.33 0.33
Crit Moves:  ****            ****            ****            ****
Green/Cycle: 0.07 0.10 0.10  0.07 0.10 0.10  0.12 0.64 0.64  0.07 0.59 0.59
Volume/Cap:  0.03 0.06 0.06  0.05 0.08 0.08  0.18 0.60 0.60  0.12 0.57 0.57
Delay/Veh:   43.4 40.9 40.9  43.5 41.1 41.1  39.6 11.0 11.0  44.0 13.2 13.2
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  43.4 40.9 40.9  43.5 41.1 41.1  39.6 11.0 11.0  44.0 13.2 13.2
LOS by Move:    D    D    D     D    D    D     D    B    B     D    B    B
HCM2kAvgQ:      3    8    8     4    9    9    26  322  322    13  300  300
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1037: 18th St / M St

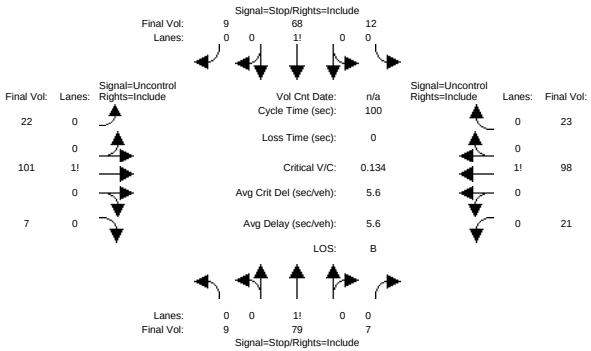



```
Street Name:            18th Street                     M Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      13  31  37    37  23  22    18 1210  34    19 1399   38
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   13  31  37    37  23  22    18 1210  34    19 1399   38
Added Vol:      0   0   0     0   0   0     0    0   0     0    0    0
PasserByVol:    0   0   0     0   0   0     0    0   0     0    0    0
Initial Fut:   13  31  37    37  23  22    18 1210  34    19 1399   38
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:    13  31  37    37  23  22    18 1210  34    19 1399   38
Reduct Vol:     0   0   0     0   0   0     0    0   0     0    0    0
Reduced Vol:   13  31  37    37  23  22    18 1210  34    19 1399   38
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:   13  31  37    37  23  22    18 1210  34    19 1399   38
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.95 0.92 0.92  0.95 0.93 0.93  0.95 0.95 0.95  0.95 0.95 0.95
Lanes:       1.00 0.46 0.54  1.00 0.51 0.49  1.00 1.95 0.05  1.00 1.95 0.05
Final Sat.:  1805  795  949  1805  900  861  1805 3497   98  1805 3500   95
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.04 0.04  0.02 0.03 0.03  0.01 0.35 0.35  0.01 0.40 0.40
Crit Moves:  ****            ****            ****            ****
Green/Cycle: 0.07 0.10 0.10  0.07 0.10 0.10  0.07 0.59 0.59  0.12 0.64 0.64
Volume/Cap:  0.10 0.39 0.39  0.29 0.26 0.26  0.14 0.59 0.59  0.09 0.62 0.62
Delay/Veh:   43.9 43.6 43.6  45.4 42.3 42.3  44.2 13.2 13.2  39.4 11.3 11.3
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  43.9 43.6 43.6  45.4 42.3 42.3  44.2 13.2 13.2  39.4 11.3 11.3
LOS by Move:    D    D    D     D    D    D     D    B    B     D    B    B
HCM2kAvgQ:     11   59   59    27   31   31    12  307  307    14  355  355
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9   79     7    12   68     9    22  101     7    21   98    23
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9   79     7    12   68     9    22  101     7    21   98    23
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    9   79     7    12   68     9    22  101     7    21   98    23
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9   79     7    12   68     9    22  101     7    21   98    23
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    9   79     7    12   68     9    22  101     7    21   98    23
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  339  312   105   343  304   110   121 xxxx xxxxx   108 xxxx xxxxx
Potent Cap.:  619  607   956   615  613   950  1479 xxxx xxxxx  1495 xxxx xxxxx
Move Cap.:    547  589   956   536  595   950  1479 xxxx xxxxx  1495 xxxx xxxxx
Volume/Cap:  0.02 0.13  0.01  0.02 0.11  0.01  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  602 xxxxx  xxxx  609 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  0.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.1 xxxxx xxxxx 11.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      12.1             11.9            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
******************************************************************************
Intersection #1038 15th St / Canal St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9   79     7    12   68     9    22  101     7    21   98    23
ApproachDel:      12.1             11.9            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=95]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=456]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=89]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=456]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

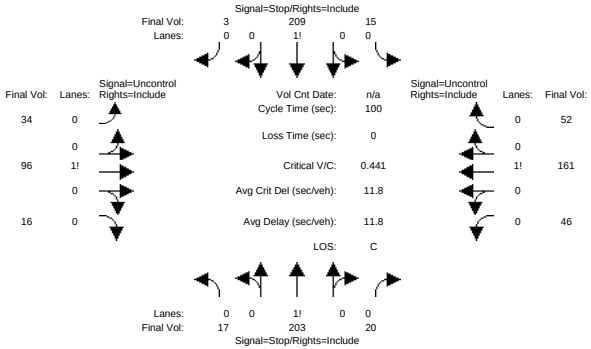
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
******************************************************************************
Intersection #1038 15th St / Canal St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9   79     7    12   68     9    22  101     7    21   98    23
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             272
Minor Approach Volume:           95
Minor Approach Volume Threshold: 567
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17  203    20    15  209     3    34   96    16    46  161    52
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   17  203    20    15  209     3    34   96    16    46  161    52
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   17  203    20    15  209     3    34   96    16    46  161    52
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    17  203    20    15  209     3    34   96    16    46  161    52
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   17  203    20    15  209     3    34   96    16    46  161    52
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  557  477   104   563  459   187   213 xxxx xxxxx   112 xxxx xxxxx
Potent Cap.:  444  490   956   440  502   860  1369 xxxx xxxxx  1490 xxxx xxxxx
Move Cap.:    278  462   956   272  473   860  1369 xxxx xxxxx  1490 xxxx xxxxx
Volume/Cap:  0.06 0.44  0.02  0.06 0.44  0.00  0.02 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.9 xxxx xxxxx   2.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx   7.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  461 xxxxx  xxxx  454 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.9 xxxxx xxxxx  2.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 21.0 xxxxx xxxxx 20.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     *    *     *     *    *     *
ApproachDel:      21.0             20.6            xxxxxx           xxxxxx
ApproachLOS:         C                C                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   17  203    20    15  209     3    34   96    16    46  161    52
ApproachDel:      21.0             20.6            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=240]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=872]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=227]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=872]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

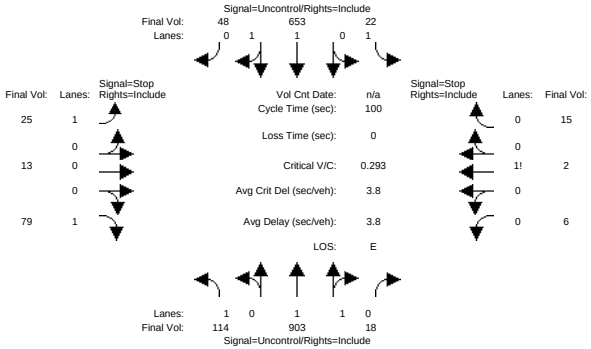
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   17  203    20    15  209     3    34   96    16    46  161    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             405
Minor Approach Volume:           240
Minor Approach Volume Threshold: 460
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     114  903    18    22  653    48    25   13    79     6    2    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  114  903    18    22  653    48    25   13    79     6    2    15
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  114  903    18    22  653    48    25   13    79     6    2    15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   114  903    18    22  653    48    25   13    79     6    2    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  114  903    18    22  653    48    25   13    79     6    2    15
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  701 xxxx xxxxx   921 xxxx xxxxx  1402 1870   351  1517 1885   461
Potent Cap.:  905 xxxx xxxxx   750 xxxx xxxxx   102   73   652    83   71   553
Move Cap.:    905 xxxx xxxxx   750 xxxx xxxxx    85   62   652    55   61   553
Volume/Cap:  0.13 xxxx  xxxx  0.03 xxxx  xxxx  0.29 0.21  0.12  0.11 0.03  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   10.8 xxxx xxxxx   2.3 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.5 xxxx xxxxx   9.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx    76 xxxx   278  xxxx  135 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.1 xxxx   1.4 xxxxx  0.6 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  93.5 xxxx  24.2 xxxxx 37.0 xxxxx
Shared LOS:     *    *     *     *    *     *     F    *     C     *    E     *
ApproachDel:    xxxxxx           xxxxxx             44.5            37.0
ApproachLOS:         *                *               E               E
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:  114  903    18    22  653    48    25   13    79     6    2    15
ApproachDel:    xxxxxx           xxxxxx              44.5            37.0
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=117]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1898]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1898]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:  114  903    18    22  653    48    25   13    79     6    2    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1758
Minor Approach Volume:           117
Minor Approach Volume Threshold: 131 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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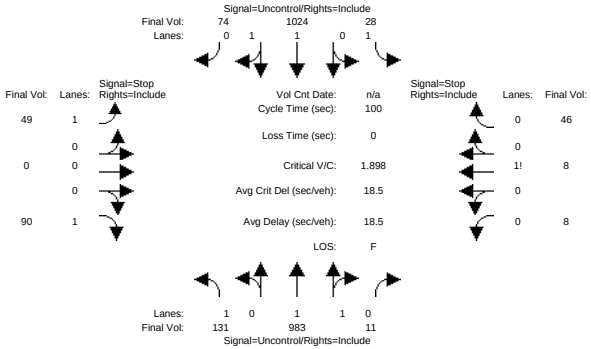
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     131  983    11    28 1024    74    49    0    90     8    8    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  131  983    11    28 1024    74    49    0    90     8    8    46
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  131  983    11    28 1024    74    49    0    90     8    8    46
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   131  983    11    28 1024    74    49    0    90     8    8    46
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  131  983    11    28 1024    74    49    0    90     8    8    46
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1098 xxxx xxxxx   994 xxxx xxxxx  1875 xxxx   549  1819 2405   497
Potent Cap.:  643 xxxx xxxxx   704 xxxx xxxxx    45 xxxx   485    50   34   524
Move Cap.:    643 xxxx xxxxx   704 xxxx xxxxx    26 xxxx   485    33   26   524
Volume/Cap:  0.20 xxxx  xxxx  0.04 xxxx  xxxx  1.90 xxxx  0.19  0.24 0.31  0.09
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   19.0 xxxx xxxxx   3.1 xxxx xxxxx   149 xxxx  16.9  xxxx xxxx xxxxx
Control Del: 12.0 xxxx xxxxx  10.3 xxxx xxxxx 746.6 xxxx  14.1 xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx   97 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  3.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 92.8 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    F     *
ApproachDel:    xxxxxx           xxxxxx            272.3            92.8
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:  131  983    11    28 1024    74    49    0    90     8    8    46
ApproachDel:    xxxxxx           xxxxxx            272.3            92.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=10.5]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=139]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2452]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2452]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:  131  983    11    28 1024    74    49    0    90     8    8    46
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2251
Minor Approach Volume:           139
Minor Approach Volume Threshold: 25 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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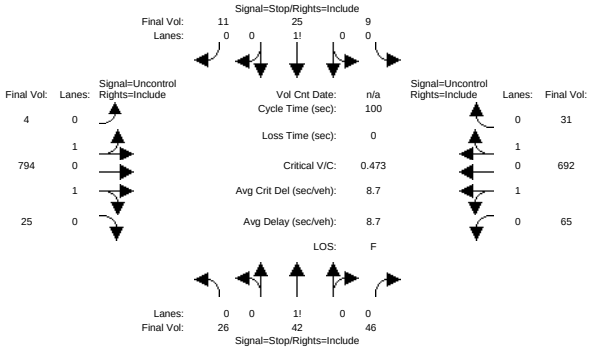
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26   42    46     9   25    11     4  794    25    65  692    31
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26   42    46     9   25    11     4  794    25    65  692    31
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26   42    46     9   25    11     4  794    25    65  692    31
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26   42    46     9   25    11     4  794    25    65  692    31
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26   42    46     9   25    11     4  794    25    65  692    31
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1303 1668   410  1264 1665   362   723 xxxx xxxxx   819 xxxx xxxxx
Potent Cap.:  120   97   597   128   98   641   889 xxxx xxxxx   818 xxxx xxxxx
Move Cap.:     87   89   597    70   89   641   889 xxxx xxxxx   818 xxxx xxxxx
Volume/Cap:  0.30 0.47  0.08  0.13 0.28  0.02  0.00 xxxx  xxxx  0.08 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.3 xxxx xxxxx   6.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.1 xxxx xxxxx   9.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  134 xxxxx  xxxx  106 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  5.4 xxxxx xxxxx  1.8 xxxxx   0.0 xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx  105 xxxxx xxxxx 62.3 xxxxx   9.1 xxxx xxxxx   9.8 xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     A    *     *     A    *     *
ApproachDel:     105.0             62.3           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   26   42    46     9   25    11     4  794    25    65  692    31
ApproachDel:     105.0             62.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=114]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1770]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=45]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1770]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   26   42    46     9   25    11     4  794    25    65  692    31
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1611
Minor Approach Volume:           114
Minor Approach Volume Threshold: 121
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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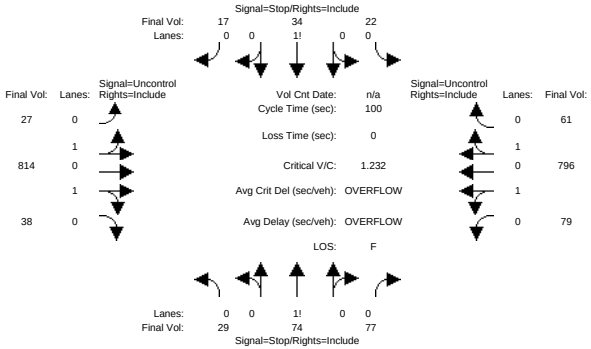
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      29   74    77    22   34    17    27  814    38    79  796    61
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   29   74    77    22   34    17    27  814    38    79  796    61
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   29   74    77    22   34    17    27  814    38    79  796    61
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    29   74    77    22   34    17    27  814    38    79  796    61
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   29   74    77    22   34    17    27  814    38    79  796    61
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1460 1902   426  1483 1891   429   857 xxxx xxxxx   852 xxxx xxxxx
Potent Cap.:   92   70   582    88   71   580   792 xxxx xxxxx   795 xxxx xxxxx
Move Cap.:     45   60   582     0   61   580   792 xxxx xxxxx   795 xxxx xxxxx
Volume/Cap:  0.64 1.23  0.13  xxxx 0.56  0.03  0.03 xxxx  xxxx  0.10 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.6 xxxx xxxxx   8.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.7 xxxx xxxxx  10.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   90 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 15.6 xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx  568 xxxxx xxxxx xxxx xxxxx   9.7 xxxx xxxxx  10.0 xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     A    *     *     B    *     *
ApproachDel:     567.5           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         F                 F                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   29   74    77    22   34    17    27  814    38    79  796    61
ApproachDel:     567.5           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=28.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=180]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2068]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=73]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2068]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   29   74    77    22   34    17    27  814    38    79  796    61
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1815
Minor Approach Volume:           180
Minor Approach Volume Threshold: 79 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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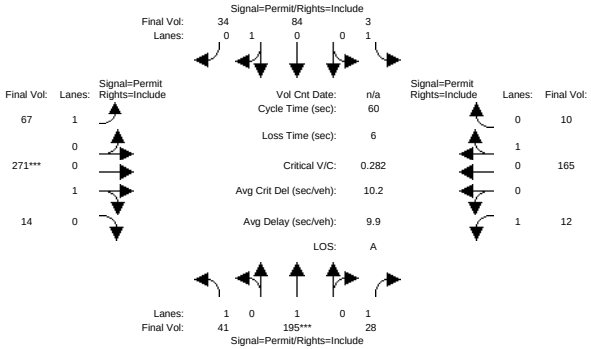
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1041: Main St / Martin Luther King Wy



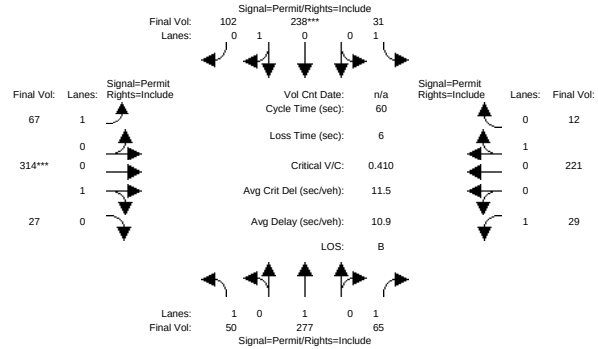
Street Name:	Main Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	41		195		28	3		84		34	67		271		14	12		165		10
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	41		195		28	3		84		34	67		271		14	12		165		10
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	41		195		28	3		84		34	67		271		14	12		165		10
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	41		195		28	3		84		34	67		271		14	12		165		10
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	41		195		28	3		84		34	67		271		14	12		165		10
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	41		195		28	3		84		34	67		271		14	12		165		10
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.68		1.00		0.85	0.58		0.96		0.96	0.64		0.99		0.99	0.54		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.71		0.29	1.00		0.95		0.05	1.00		0.94		0.06
Final Sat.:	1286		1900		1615	1104		1294		524	1216		1794		93	1024		1775		108
Capacity Analysis Module:																				
Vol/Sat:	0.03		0.10		0.02	0.00		0.06		0.06	0.06		0.15		0.15	0.01		0.09		0.09
Crit Moves:			****										****							
Green/Cycle:	0.36		0.36		0.36	0.36		0.36		0.36	0.54		0.54		0.54	0.54		0.54		0.54
Volume/Cap:	0.09		0.28		0.05	0.01		0.18		0.18	0.10		0.28		0.28	0.02		0.17		0.17
Delay/Veh:	12.6		13.7		12.4	12.2		13.1		13.1	6.9		7.8		7.8	6.6		7.2		7.2
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	12.6		13.7		12.4	12.2		13.1		13.1	6.9		7.8		7.8	6.6		7.2		7.2
LOS by Move:	B		B		B	B		B		B	A		A		A	A		A		A
HCM2kAvgQ:	14		67		9	1		39		39	15		69		69	3		43		43

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1041: Main St / Martin Luther King Wy



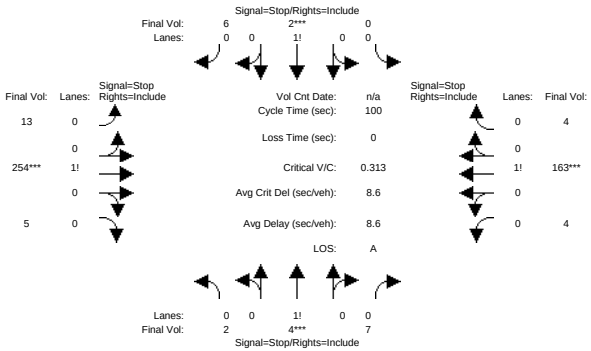
Street Name:	Main Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	50		277		65	31		238		102	67		314		27	29		221		12
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	50		277		65	31		238		102	67		314		27	29		221		12
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	50		277		65	31		238		102	67		314		27	29		221		12
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	50		277		65	31		238		102	67		314		27	29		221		12
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	50		277		65	31		238		102	67		314		27	29		221		12
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	50		277		65	31		238		102	67		314		27	29		221		12
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.46		1.00		0.85	0.52		0.96		0.96	0.56		0.99		0.99	0.45		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.70		0.30	1.00		0.92		0.08	1.00		0.95		0.05
Final Sat.:	874		1900		1615	990		1270		544	1066		1729		149	859		1788		97
Capacity Analysis Module:																				
Vol/Sat:	0.06		0.15		0.04	0.03		0.19		0.19	0.06		0.18		0.18	0.03		0.12		0.12
Crit Moves:								****					****							
Green/Cycle:	0.46		0.46		0.46	0.46		0.46		0.46	0.44		0.44		0.44	0.44		0.44		0.44
Volume/Cap:	0.13		0.32		0.09	0.07		0.41		0.41	0.14		0.41		0.41	0.08		0.28		0.28
Delay/Veh:	9.5		10.6		9.3	9.2		11.2		11.2	10.1		11.7		11.7	9.7		10.8		10.8
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	9.5		10.6		9.3	9.2		11.2		11.2	10.1		11.7		11.7	9.7		10.8		10.8
LOS by Move:	A		B		A	A		B		B	B		B		B	A		B		B
HCM2kAvgQ:	16		85		18	9		112		112	18		104		104	9		71		71

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    4     7     0    2     6    13  254     5     4  163     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    4     7     0    2     6    13  254     5     4  163     4
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    4     7     0    2     6    13  254     5     4  163     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    4     7     0    2     6    13  254     5     4  163     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2    4     7     0    2     6    13  254     5     4  163     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    2    4     7     0    2     6    13  254     5     4  163     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.15 0.31  0.54  0.00 0.25  0.75  0.05 0.93  0.02  0.02 0.96  0.02
Final Sat.:   113  225   394     0  188   565    42  812    16    20  809    20
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.02  0.02  xxxx 0.01  0.01  0.31 0.31  0.31  0.20 0.20  0.20
Crit Moves:        ****              ****              ****              ****
Delay/Veh:    7.6  7.6   7.6   0.0  7.4   7.4   8.9  8.9   8.9   8.2  8.2   8.2
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.6  7.6   7.6   0.0  7.4   7.4   8.9  8.9   8.9   8.2  8.2   8.2
LOS by Move:    A    A     A     *    A     A     A    A     A     A    A     A
ApproachDel:       7.6              7.4              8.9              8.2
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.6              7.4              8.9              8.2
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.4  0.4   0.4   0.2  0.2   0.2  11.1 11.1  11.1   6.1  6.1   6.1
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



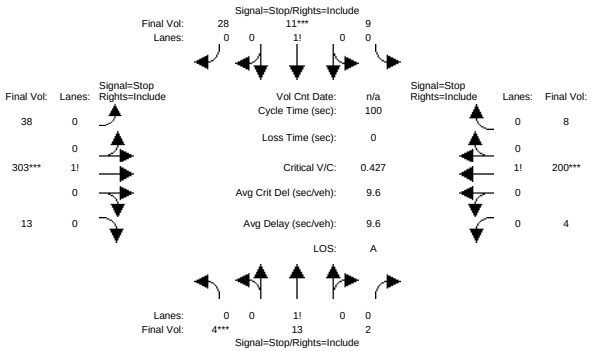
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2    4     7     0    2     6    13  254     5     4  163     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             443
Minor Approach Volume:           13
Minor Approach Volume Threshold: 437
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   13     2     9   11    28    38  303    13     4  200     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   13     2     9   11    28    38  303    13     4  200     8
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4   13     2     9   11    28    38  303    13     4  200     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4   13     2     9   11    28    38  303    13     4  200     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    4   13     2     9   11    28    38  303    13     4  200     8
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    4   13     2     9   11    28    38  303    13     4  200     8
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.21 0.68  0.11  0.19 0.23  0.58  0.11 0.85  0.04  0.02 0.94  0.04
Final Sat.:   134  434    67   127  156   397    89  710    30    15  756    30
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.03  0.03  0.07 0.07  0.07  0.43 0.43  0.43  0.26 0.26  0.26
Crit Moves:  ****                ****             ****             ****
Delay/Veh:    8.3  8.3   8.3   8.1  8.1   8.1  10.4 10.4  10.4   8.9  8.9   8.9
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.3  8.3   8.3   8.1  8.1   8.1  10.4 10.4  10.4   8.9  8.9   8.9
LOS by Move:    A    A     A     A    A     A     B    B     B     A    A     A
ApproachDel:       8.3              8.1             10.4              8.9
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.3              8.1             10.4              8.9
LOS by Appr:         A                A                B                A
AllWayAvgQ:   0.6  0.6   0.6   1.5  1.5   1.5  17.7 17.7  17.7   8.5  8.5   8.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



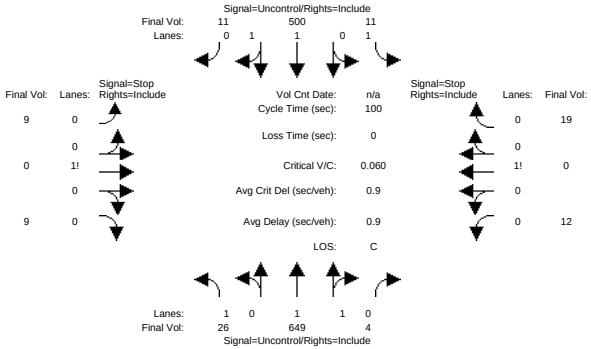
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4   13     2     9   11    28    38  303    13     4  200     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             566
Minor Approach Volume:           48
Minor Approach Volume Threshold: 371
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1043: 16th St / H St




```
Street Name:            16th Street                     H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26  649     4    11  500    11     9    0     9    12    0    19
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26  649     4    11  500    11     9    0     9    12    0    19
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26  649     4    11  500    11     9    0     9    12    0    19
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26  649     4    11  500    11     9    0     9    12    0    19
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26  649     4    11  500    11     9    0     9    12    0    19
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  511 xxxx xxxxx   653 xxxx xxxxx   904 1233   256   975 1236   327
Potent Cap.: 1065 xxxx xxxxx   943 xxxx xxxxx   235  179   750   209  178   675
Move Cap.:   1065 xxxx xxxxx   943 xxxx xxxxx   222  172   750   201  171   675
Volume/Cap:  0.02 xxxx  xxxx  0.01 xxxx  xxxx  0.04 0.00  0.01  0.06 0.00  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.9 xxxx xxxxx   0.9 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.5 xxxx xxxxx   8.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  343 xxxxx  xxxx  353 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.2 xxxxx xxxxx  0.3 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 16.1 xxxxx xxxxx 16.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             16.1            16.2
ApproachLOS:         *                *                C               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1043 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   26  649     4    11  500    11     9    0     9    12    0    19
ApproachDel:    xxxxxx           xxxxxx             16.1            16.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1250]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1250]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1043 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   26  649     4    11  500    11     9    0     9    12    0    19
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1201
Minor Approach Volume:           31
Minor Approach Volume Threshold: 222
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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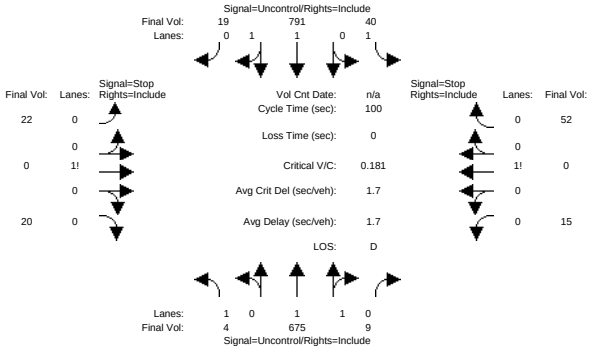
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1043: 16th St / H St




```
Street Name:            16th Street                     H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4  675     9    40  791    19    22    0    20    15    0    52
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4  675     9    40  791    19    22    0    20    15    0    52
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4  675     9    40  791    19    22    0    20    15    0    52
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4  675     9    40  791    19    22    0    20    15    0    52
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4  675     9    40  791    19    22    0    20    15    0    52
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  810 xxxx xxxxx   684 xxxx xxxxx  1226 1573   405  1163 1578   342
Potent Cap.:  825 xxxx xxxxx   919 xxxx xxxxx   137  111   601   152  111   660
Move Cap.:    825 xxxx xxxxx   919 xxxx xxxxx   121  106   601   142  105   660
Volume/Cap:  0.00 xxxx  xxxx  0.04 xxxx  xxxx  0.18 0.00  0.03  0.11 0.00  0.08
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.4 xxxx xxxxx   3.4 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.4 xxxx xxxxx   9.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  196 xxxxx  xxxx  363 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.8 xxxxx xxxxx  0.7 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 28.3 xxxxx xxxxx 17.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    D     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             28.3            17.2
ApproachLOS:         *                *               D               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1043 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  675     9    40  791    19    22    0    20    15    0    52
ApproachDel:    xxxxxx           xxxxxx             28.3            17.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=42]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1647]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=67]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1647]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1043 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  675     9    40  791    19    22    0    20    15    0    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1538
Minor Approach Volume:           67
Minor Approach Volume Threshold: 137
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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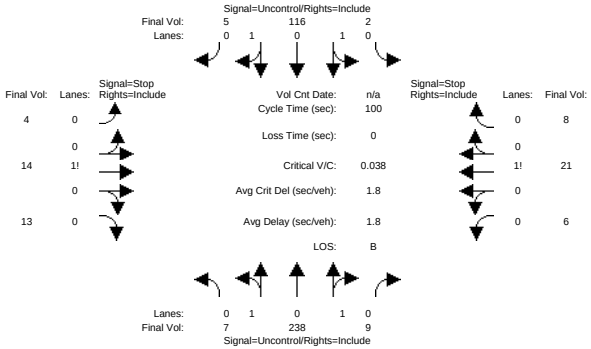
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  238     9     2  116     5     4   14    13     6   21     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7  238     9     2  116     5     4   14    13     6   21     8
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7  238     9     2  116     5     4   14    13     6   21     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7  238     9     2  116     5     4   14    13     6   21     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7  238     9     2  116     5     4   14    13     6   21     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  121 xxxx xxxxx   247 xxxx xxxxx   266  384    61   326  382   124
Potent Cap.: 1479 xxxx xxxxx  1331 xxxx xxxxx   671  553   999   609  554   911
Move Cap.:   1479 xxxx xxxxx  1331 xxxx xxxxx   642  550   999   587  551   911
Volume/Cap:  0.00 xxxx  xxxx  0.00 xxxx  xxxx  0.01 0.03  0.01  0.01 0.04  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.4 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.4 xxxx xxxxx   7.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  693 xxxxx  xxxx  613 xxxxx
SharedQueue:  0.0 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  0.1 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:  7.4 xxxx xxxxx   7.7 xxxx xxxxx xxxxx 10.4 xxxxx xxxxx 11.2 xxxxx
Shared LOS:     A    *     *     A    *     *     *    B     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             10.4            11.2
ApproachLOS:         *                *                B               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  238     9     2  116     5     4   14    13     6   21     8
ApproachDel:    xxxxxx           xxxxxx             10.4            11.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=443]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=443]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

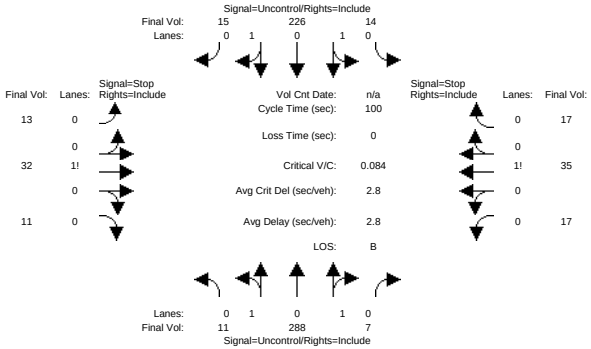
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  238     9     2  116     5     4   14    13     6   21     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             377
Minor Approach Volume:           35
Minor Approach Volume Threshold: 621
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      11  288     7    14  226    15    13   32    11    17   35    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   11  288     7    14  226    15    13   32    11    17   35    17
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   11  288     7    14  226    15    13   32    11    17   35    17
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    11  288     7    14  226    15    13   32    11    17   35    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   11  288     7    14  226    15    13   32    11    17   35    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  241 xxxx xxxxx   295 xxxx xxxxx   445  579   121   471  583   148
Potent Cap.: 1337 xxxx xxxxx  1278 xxxx xxxxx   501  429   915   481  427   879
Move Cap.:   1337 xxxx xxxxx  1278 xxxx xxxxx   454  421   915   441  419   879
Volume/Cap:  0.01 xxxx  xxxx  0.01 xxxx  xxxx  0.03 0.08  0.01  0.04 0.08  0.02
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.6 xxxx xxxxx   0.8 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.7 xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  480 xxxxx  xxxx  488 xxxxx
SharedQueue:  0.0 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  0.4 xxxxx xxxxx  0.5 xxxxx
Shrd ConDel:  7.7 xxxx xxxxx   7.8 xxxx xxxxx xxxxx 13.5 xxxxx xxxxx 13.6 xxxxx
Shared LOS:     A    *     *     A    *     *     *    B     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             13.5            13.6
ApproachLOS:         *                *                B               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   11  288     7    14  226    15    13   32    11    17   35    17
ApproachDel:    xxxxxx           xxxxxx             13.5            13.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=686]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=69]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=686]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

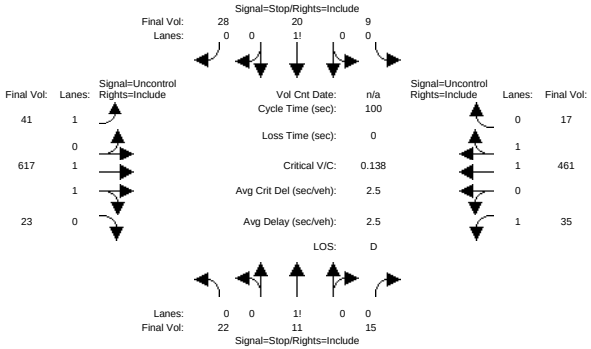
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   11  288     7    14  226    15    13   32    11    17   35    17
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             561
Minor Approach Volume:           69
Minor Approach Volume Threshold: 484
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1045: 15th St / G St




```
Street Name:            15th Street                     G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      22   11    15     9   20    28    41  617    23    35  461    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   22   11    15     9   20    28    41  617    23    35  461    17
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   22   11    15     9   20    28    41  617    23    35  461    17
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    22   11    15     9   20    28    41  617    23    35  461    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   22   11    15     9   20    28    41  617    23    35  461    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1021 1259   320   936 1262   239   478 xxxx xxxxx   640 xxxx xxxxx
Potent Cap.:  193  172   682   223  172   768  1095 xxxx xxxxx   954 xxxx xxxxx
Move Cap.:    159  160   682   195  159   768  1095 xxxx xxxxx   954 xxxx xxxxx
Volume/Cap:  0.14 0.07  0.02  0.05 0.13  0.04  0.04 xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.9 xxxx xxxxx   2.9 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx   8.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  210 xxxxx  xxxx  274 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx  0.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 27.2 xxxxx xxxxx 21.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    C     *     *    *     *     *    *     *
ApproachDel:      27.2             21.6            xxxxxx           xxxxxx
ApproachLOS:         D                C                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1045 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   22   11    15     9   20    28    41  617    23    35  461    17
ApproachDel:      27.2             21.6            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=48]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1299]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=57]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1299]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1045 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   22   11    15     9   20    28    41  617    23    35  461    17
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1194
Minor Approach Volume:           57
Minor Approach Volume Threshold: 224
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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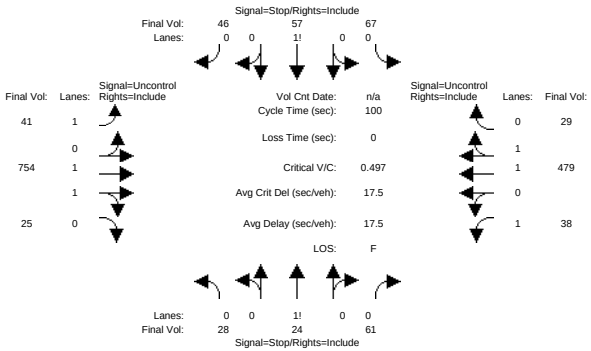
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1045: 15th St / G St




```
Street Name:            15th Street                     G Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      28   24    61    67   57    46    41  754    25    38  479    29
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   28   24    61    67   57    46    41  754    25    38  479    29
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   28   24    61    67   57    46    41  754    25    38  479    29
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    28   24    61    67   57    46    41  754    25    38  479    29
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   28   24    61    67   57    46    41  754    25    38  479    29
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1193 1433   390  1041 1431   254   508 xxxx xxxxx   779 xxxx xxxxx
Potent Cap.:  145  135   615   187  136   752  1067 xxxx xxxxx   847 xxxx xxxxx
Move Cap.:     82  124   615   135  125   752  1067 xxxx xxxxx   847 xxxx xxxxx
Volume/Cap:  0.34 0.19  0.10  0.50 0.46  0.06  0.04 xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.0 xxxx xxxxx   3.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx   9.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  179 xxxxx  xxxx  167 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.6 xxxxx xxxxx  8.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 54.6 xxxxx xxxxx  129 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     *    *     *     *    *     *
ApproachDel:      54.6            129.0           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1045 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   28   24    61    67   57    46    41  754    25    38  479    29
ApproachDel:      54.6            129.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=113]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1649]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=6.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=170]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1649]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1045 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   28   24    61    67   57    46    41  754    25    38  479    29
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1366
Minor Approach Volume:           170
Minor Approach Volume Threshold: 177
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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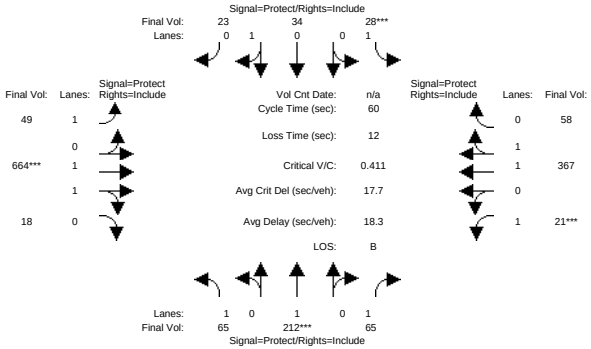
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1046: Main St / G St



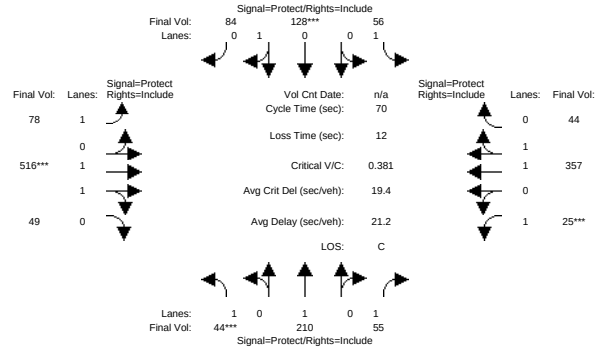
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	65	212	65	28	34	23	49	664	18	21	367	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	65	212	65	28	34	23	49	664	18	21	367	58
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	65	212	65	28	34	23	49	664	18	21	367	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	65	212	65	28	34	23	49	664	18	21	367	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	212	65	28	34	23	49	664	18	21	367	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	65	212	65	28	34	23	49	664	18	21	367	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.95	0.95	0.95	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	0.60	0.40	1.00	1.95	0.05	1.00	1.73	0.27
Final Sat.:	1805	1900	1615	1805	1064	720	1805	3501	95	1805	3055	483
Capacity Analysis Module:												
Vol/Sat:	0.04	0.11	0.04	0.02	0.03	0.03	0.03	0.19	0.19	0.01	0.12	0.12
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.21	0.21	0.12	0.19	0.19	0.19	0.36	0.36	0.12	0.28	0.28
Volume/Cap:	0.27	0.53	0.19	0.13	0.17	0.17	0.14	0.53	0.53	0.10	0.43	0.43
Delay/Veh:	23.9	22.5	19.8	24.1	20.5	20.5	20.2	15.7	15.7	23.9	18.1	18.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.9	22.5	19.8	24.1	20.5	20.5	20.2	15.7	15.7	23.9	18.1	18.1
LOS by Move:	C	C	B	C	C	C	C	B	B	C	B	B
HCM2kAvgQ:	33	106	28	14	25	25	21	146	146	8	83	83

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1046: Main St / G St



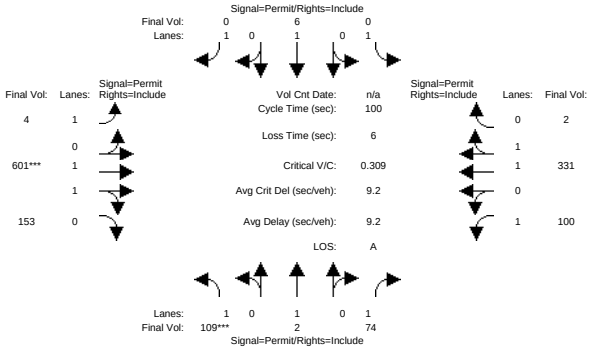
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	44	210	55	56	128	84	78	516	49	25	357	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	210	55	56	128	84	78	516	49	25	357	44
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	210	55	56	128	84	78	516	49	25	357	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	210	55	56	128	84	78	516	49	25	357	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	210	55	56	128	84	78	516	49	25	357	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	210	55	56	128	84	78	516	49	25	357	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	0.60	0.40	1.00	1.83	0.17	1.00	1.78	0.22
Final Sat.:	1805	1900	1615	1805	1079	708	1805	3254	309	1805	3162	390
Capacity Analysis Module:												
Vol/Sat:	0.02	0.11	0.03	0.03	0.12	0.12	0.04	0.16	0.16	0.01	0.11	0.11
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.22	0.22	0.15	0.27	0.27	0.19	0.36	0.36	0.10	0.27	0.27
Volume/Cap:	0.24	0.51	0.16	0.20	0.44	0.44	0.23	0.44	0.44	0.14	0.42	0.42
Delay/Veh:	29.8	25.2	22.4	26.4	21.9	21.9	24.4	17.3	17.3	29.1	21.3	21.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.8	25.2	22.4	26.4	21.9	21.9	24.4	17.3	17.3	29.1	21.3	21.3
LOS by Move:	C	C	C	C	C	C	C	B	B	C	C	C
HCM2kAvgQ:	28	115	26	30	105	105	39	129	129	12	91	91

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #1047: 18th St / G St

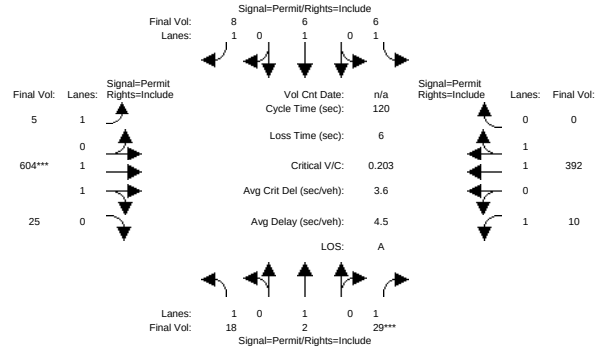



```
Street Name:            18th Street                     G Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     109    2    74    0    6     0    4  601   153  100  331     2
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  109    2    74    0    6     0    4  601   153  100  331     2
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  109    2    74    0    6     0    4  601   153  100  331     2
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   109    2    74    0    6     0    4  601   153  100  331     2
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  109    2    74    0    6     0    4  601   153  100  331     2
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  109    2    74    0    6     0    4  601   153  100  331     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.76 1.00  0.85 1.00 1.00  1.00 0.55 0.92  0.92 0.33 0.95  0.95
Lanes:       1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.59  0.41 1.00 1.99  0.01
Final Sat.:  1452 1900  1615 1900 1900  1900 1036 2791   711  627 3585    22
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.00  0.05 0.00 0.00  0.00 0.00 0.22  0.22 0.16 0.09  0.09
Crit Moves:  ****                            ****
Green/Cycle: 0.24 0.24  0.24 0.00 0.24  0.00 0.70 0.70  0.70 0.70 0.70  0.70
Volume/Cap:  0.31 0.00  0.19 0.00 0.01  0.00 0.01 0.31  0.31 0.23 0.13  0.13
Delay/Veh:   31.5 28.7  30.3  0.0 28.8   0.0  4.6  5.9   5.9  5.7  5.1   5.1
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  31.5 28.7  30.3  0.0 28.8   0.0  4.6  5.9   5.9  5.7  5.1   5.1
LOS by Move:    C    C     C    A    C     A    A    A     A    A    A     A
HCM2kAvgQ:     73    1    47    0    3     0    1  114   114   32   44    44
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #1047: 18th St / G St

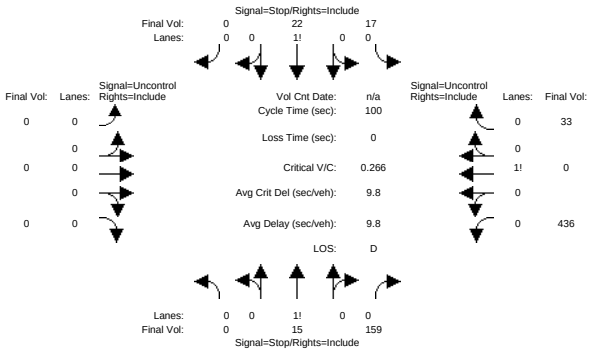



```
Street Name:            18th Street                     G Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      18    2    29    6    6     8    5  604    25   10  392     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   18    2    29    6    6     8    5  604    25   10  392     0
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   18    2    29    6    6     8    5  604    25   10  392     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    18    2    29    6    6     8    5  604    25   10  392     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   18    2    29    6    6     8    5  604    25   10  392     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   18    2    29    6    6     8    5  604    25   10  392     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.76 1.00  0.85 0.77 1.00  0.85 0.52 0.94  0.94 0.40 0.95  0.95
Lanes:       1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.92  0.08 1.00 2.00  0.00
Final Sat.:  1452 1900  1615 1457 1900  1615  986 3446   143  768 3610     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.00  0.02 0.00 0.00  0.00 0.01 0.18  0.18 0.01 0.11  0.00
Crit Moves:             ****                 ****
Green/Cycle: 0.09 0.09  0.09 0.09 0.09  0.09 0.86 0.86  0.86 0.86 0.86  0.00
Volume/Cap:  0.14 0.01  0.20 0.05 0.04  0.06 0.01 0.20  0.20 0.02 0.13  0.00
Delay/Veh:   51.0 50.0  51.5 50.2 50.1  50.3  1.2  1.4   1.4  1.2  1.3   0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  51.0 50.0  51.5 50.2 50.1  50.3  1.2  1.4   1.4  1.2  1.3   0.0
LOS by Move:    D    D     D    D    D     D    A    A     A    A    A     A
HCM2kAvgQ:     18    2    29    6    5     8    1   53    53    2   30     0
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1048: 15th St / D St




```
Street Name:            15th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   15   159    17   22     0     0    0     0   436    0    33
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   15   159    17   22     0     0    0     0   436    0    33
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   15   159    17   22     0     0    0     0   436    0    33
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   15   159    17   22     0     0    0     0   436    0    33
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   15   159    17   22     0     0    0     0   436    0    33
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  6.5   6.2   7.1  6.5 xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx  4.0   3.3   3.5  4.0 xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx  905     0   896  889 xxxxx  xxxx xxxx xxxxx     0 xxxx xxxxx
Potent Cap.: xxxx  278  1091   263  285 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Move Cap.:   xxxx  181  1091   154  185 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Volume/Cap:  xxxx 0.08  0.15  0.11 0.12  xxxx  xxxx xxxx  xxxx  0.27 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  27.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx   760   170 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx   0.9   0.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx  11.1  32.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     B     D    *     *     *    *     *     *    *     *
ApproachDel:      11.1             32.4           xxxxxx           xxxxxx
ApproachLOS:         B               D                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1048 15th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   15   159    17   22     0     0    0     0   436    0    33
ApproachDel:      11.1             32.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=174]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=682]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=39]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=682]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

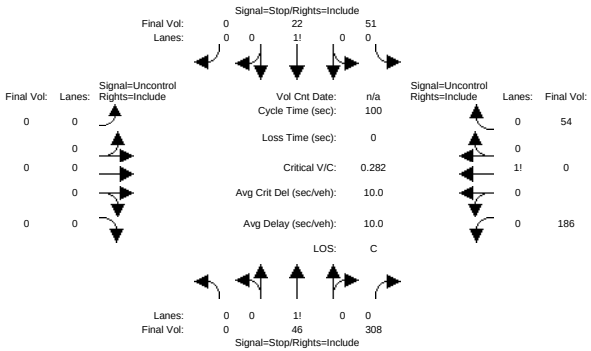
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1048 15th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   15   159    17   22     0     0    0     0   436    0    33
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             469
Minor Approach Volume:           174
Minor Approach Volume Threshold: 421
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1048: 15th St / D St




```
Street Name:            15th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   46   308    51   22     0     0    0     0   186    0    54
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   46   308    51   22     0     0    0     0   186    0    54
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   46   308    51   22     0     0    0     0   186    0    54
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   46   308    51   22     0     0    0     0   186    0    54
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   46   308    51   22     0     0    0     0   186    0    54
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  6.5   6.2   7.1  6.5 xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx  4.0   3.3   3.5  4.0 xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx  426     0   422  399 xxxxx  xxxx xxxx xxxxx     0 xxxx xxxxx
Potent Cap.: xxxx  524  1091   546  542 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Move Cap.:   xxxx  457  1091   327  473 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Volume/Cap:  xxxx 0.10  0.28  0.16 0.05  xxxx  xxxx xxxx  xxxx  0.11 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   9.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx   924   360 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx   1.8   0.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx  11.3  17.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     B     C    *     *     *    *     *     *    *     *
ApproachDel:      11.3             17.5           xxxxxx           xxxxxx
ApproachLOS:         B                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
******************************************************************************
Intersection #1048 15th St / D St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   46   308    51   22     0     0    0     0   186    0    54
ApproachDel:      11.3             17.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=354]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=667]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=73]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=667]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

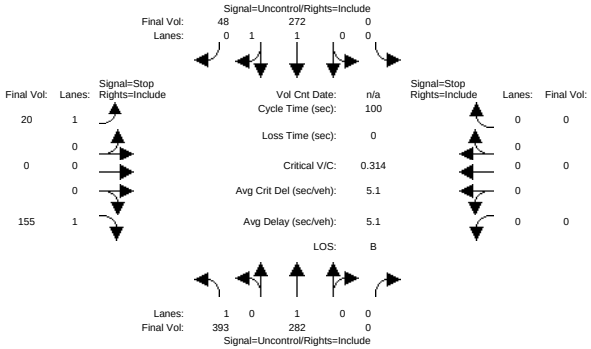
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
******************************************************************************
Intersection #1048 15th St / D St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   46   308    51   22     0     0    0     0   186    0    54
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             240
Minor Approach Volume:           354
Minor Approach Volume Threshold: 600
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #1049: 16th St / D St




```
Street Name:            16th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     393  282     0     0  272    48    20    0   155     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  393  282     0     0  272    48    20    0   155     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  393  282     0     0  272    48    20    0   155     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   393  282     0     0  272    48    20    0   155     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  393  282     0     0  272    48    20    0   155     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  320 xxxx xxxxx  xxxx xxxx xxxxx  1364 xxxx   160  xxxx xxxx xxxxx
Potent Cap.: 1251 xxxx xxxxx  xxxx xxxx xxxxx   164 xxxx   890  xxxx xxxx xxxxx
Move Cap.:   1251 xxxx xxxxx  xxxx xxxx xxxxx   124 xxxx   890  xxxx xxxx xxxxx
Volume/Cap:  0.31 xxxx  xxxx  xxxx xxxx  xxxx  0.16 xxxx  0.17  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   33.9 xxxx xxxxx  xxxx xxxx xxxxx  13.8 xxxx  15.7  xxxx xxxx xxxxx
Control Del:  9.2 xxxx xxxxx xxxxx xxxx xxxxx  39.4 xxxx   9.9 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     E    *     A     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             13.3           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1049 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:  393  282     0     0  272    48    20    0   155     0    0     0
ApproachDel:    xxxxxx           xxxxxx             13.3           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=175]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1170]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

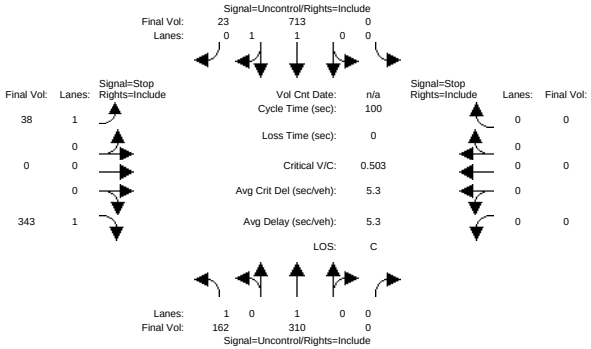
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1049 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:  393  282     0     0  272    48    20    0   155     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             995
Minor Approach Volume:           175
Minor Approach Volume Threshold: 376
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #1049: 16th St / D St




```
Street Name:            16th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     162  310     0     0  713    23    38    0   343     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  162  310     0     0  713    23    38    0   343     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  162  310     0     0  713    23    38    0   343     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   162  310     0     0  713    23    38    0   343     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  162  310     0     0  713    23    38    0   343     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  736 xxxx xxxxx  xxxx xxxx xxxxx  1359 xxxx   368  xxxx xxxx xxxxx
Potent Cap.:  879 xxxx xxxxx  xxxx xxxx xxxxx   166 xxxx   682  xxxx xxxx xxxxx
Move Cap.:    879 xxxx xxxxx  xxxx xxxx xxxxx   142 xxxx   682  xxxx xxxx xxxxx
Volume/Cap:  0.18 xxxx  xxxx  xxxx xxxx  xxxx  0.27 xxxx  0.50  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   16.8 xxxx xxxxx  xxxx xxxx xxxxx  25.4 xxxx  71.1  xxxx xxxx xxxxx
Control Del: 10.0 xxxx xxxxx xxxxx xxxx xxxxx  39.3 xxxx  15.5 xxxxx xxxx xxxxx
LOS by Move:    B    *     *     *    *     *     E    *     C     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             17.9           xxxxxx
ApproachLOS:         *                *                C                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1049 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:  162  310     0     0  713    23    38    0   343     0    0     0
ApproachDel:    xxxxxx           xxxxxx             17.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=381]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1589]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1049 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:  162  310     0     0  713    23    38    0   343     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1208
Minor Approach Volume:           381
Minor Approach Volume Threshold: 293
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

MERCED STATION ANALYSIS

INTERSECTION

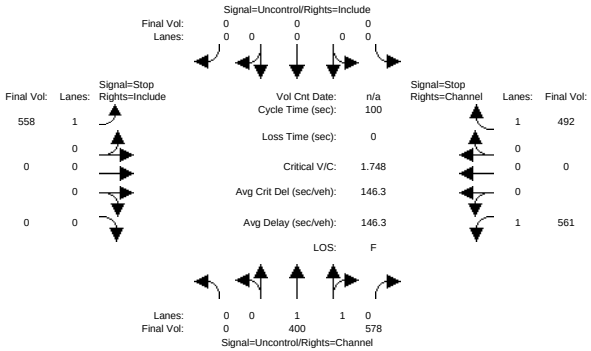
2035 BUILD_OPTION-A CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1001: 16th St / SR-59




```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  371   570     0    0     0   558    0     0   544    0   492
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  371   570     0    0     0   558    0     0   544    0   492
Added Vol:      0   29     8     0    0     0     0    0     0    17    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  400   578     0    0     0   558    0     0   561    0   492
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  400   578     0    0     0   558    0     0   561    0   492
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  400   578     0    0     0   558    0     0   561    0   492
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   200 xxxx xxxxx   689 xxxx   200
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   763 xxxx xxxxx   363 xxxx   846
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   319 xxxx xxxxx   363 xxxx   846
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  1.75 xxxx  xxxx  1.55 xxxx  0.58
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   893 xxxx xxxxx   787 xxxx  95.9
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 377.3 xxxx xxxxx 286.5 xxxx  15.0
LOS by Move:    *    *     *     *    *     *     F    *     *     F    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            377.3           159.7
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  400   578     0    0     0   558    0     0   561    0   492
ApproachDel:    xxxxxx           xxxxxx            377.3           159.7
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=58.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=558]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2589]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=46.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1053]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2589]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

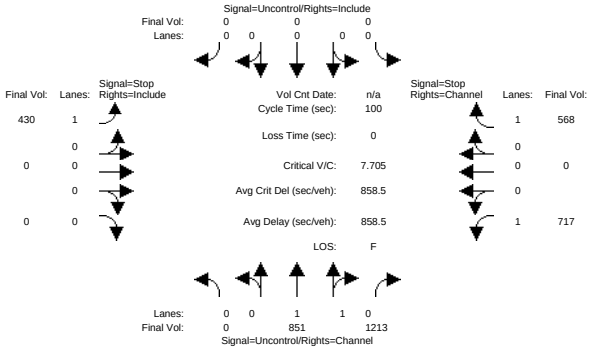
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  400   578     0    0     0   558    0     0   561    0   492
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             978
Minor Approach Volume:           1053
Minor Approach Volume Threshold: 384
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1001: 16th St / SR-59




```
Street Name:            16th Street                     SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  817  1196     0    0     0   430    0     0   709    0   568
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  817  1196     0    0     0   430    0     0   709    0   568
Added Vol:      0   34    17     0    0     0     0    0     0     8    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  851  1213     0    0     0   430    0     0   717    0   568
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  851  1213     0    0     0   430    0     0   717    0   568
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  851  1213     0    0     0   430    0     0   717    0   568
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   426 xxxx xxxxx  1458 xxxx   426
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   543 xxxx xxxxx   109 xxxx   633
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx    56 xxxx xxxxx   109 xxxx   633
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  7.70 xxxx  xxxx  6.60 xxxx  0.90
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  1250 xxxx xxxxx  1986 xxxx 277.0
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  3159 xxxx xxxxx  2598 xxxx  40.8
LOS by Move:    *    *     *     *    *     *     F    *     *     F    *     E
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           3159.0           1467.5
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  851  1213     0    0     0   430    0     0   717    0   568
ApproachDel:    xxxxxx           xxxxxx           3159.0           1467.5
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=377.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=430]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3779]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=523.8]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1285]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3779]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

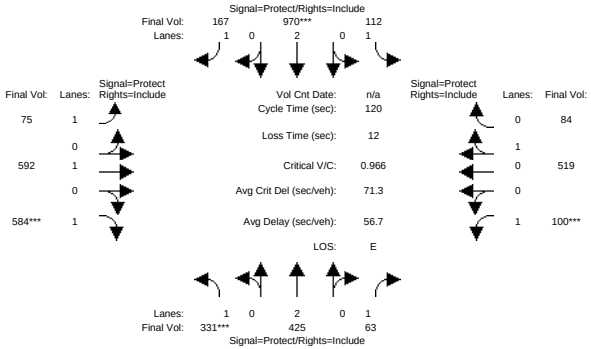
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  851  1213     0    0     0   430    0     0   717    0   568
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2064
Minor Approach Volume:           1285
Minor Approach Volume Threshold: 62 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

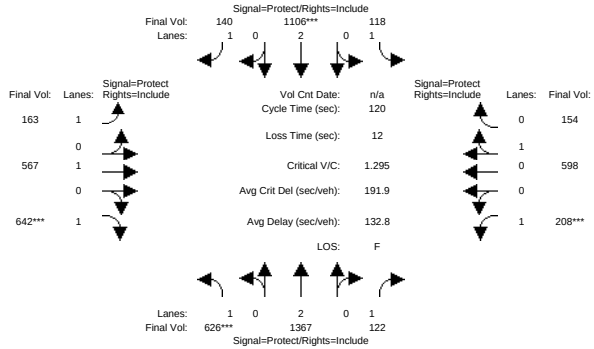



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     331  425    63   112  970   167    75  584   584   100  502    84
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  331  425    63   112  970   167    75  584   584   100  502    84
Added Vol:      0    0     0     0    0     0     0    8     0     0   17     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  331  425    63   112  970   167    75  592   584   100  519    84
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   331  425    63   112  970   167    75  592   584   100  519    84
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  331  425    63   112  970   167    75  592   584   100  519    84
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  331  425    63   112  970   167    75  592   584   100  519    84
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.98  0.98
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.86  0.14
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1601   259
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.12  0.04  0.06 0.27  0.10  0.04 0.31  0.36  0.06 0.32  0.32
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.19 0.31  0.31  0.16 0.28  0.28  0.07 0.37  0.37  0.06 0.37  0.37
Volume/Cap:  0.97 0.38  0.13  0.38 0.97  0.37  0.63 0.83  0.97  0.95 0.88  0.88
Delay/Veh:   87.9 33.0  30.2  45.8 63.5  35.4  65.0 42.5  65.2 127.8 48.8  48.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  87.9 33.0  30.2  45.8 63.5  35.4  65.0 42.5  65.2 127.8 48.8  48.8
LOS by Move:    F    C     C     D    E     D     E    D     E     F    D     D
HCM2kAvgQ:    359  155    40    99  594   127    95  547   662   164  598   598
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

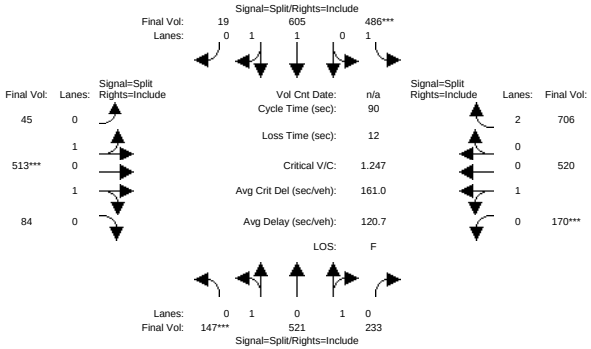



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     626 1367   122   118 1106   140   163  550   642   208  590   154
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  626 1367   122   118 1106   140   163  550   642   208  590   154
Added Vol:      0    0     0     0    0     0     0   17     0     0    8     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  626 1367   122   118 1106   140   163  567   642   208  598   154
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   626 1367   122   118 1106   140   163  567   642   208  598   154
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  626 1367   122   118 1106   140   163  567   642   208  598   154
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  626 1367   122   118 1106   140   163  567   642   208  598   154
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.97  0.97
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.80  0.20
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1464   377
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35 0.38  0.08  0.07 0.31  0.09  0.09 0.30  0.40  0.12 0.41  0.41
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.27 0.43  0.43  0.07 0.24  0.24  0.07 0.31  0.31  0.09 0.32  0.32
Volume/Cap:  1.30 0.88  0.18  0.88 1.30  0.37  1.26 0.97  1.30  1.30 1.26  1.26
Delay/Veh:  191.6 37.6  21.2  99.1  187  38.9 220.6 71.4 188.9 225.8  171 170.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 191.6 37.6  21.2  99.1  187  38.9 220.6 71.4 188.9 225.8  171 170.7
LOS by Move:    F    D     C     F    F     D     F    E     F     F    F     F
HCM2kAvgQ:    973  562    63   172  990   112   313  654  1084   395 1212  1212
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

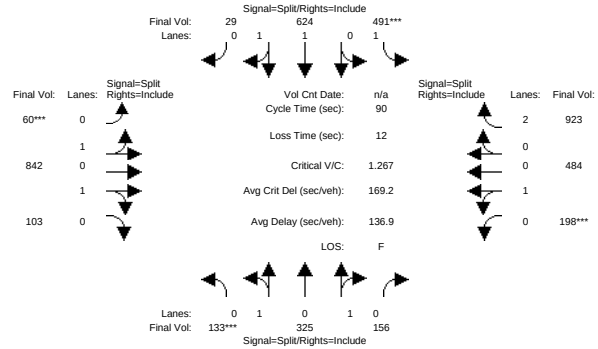



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     113  229   233  484  585    19   45  513    84  170  520   695
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  113  229   233  484  585    19   45  513    84  170  520   695
Added Vol:     34  292     0    2   20     0    0    0     0    0    0    11
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  147  521   233  486  605    19   45  513    84  170  520   706
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   147  521   233  486  605    19   45  513    84  170  520   706
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  147  521   233  486  605    19   45  513    84  170  520   706
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  147  521   233  486  605    19   45  513    84  170  520   706
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.91 0.91  0.91 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.32 1.16  0.52 1.00 1.94  0.06 0.14 1.60  0.26 0.25 0.75  2.00
Final Sat.:   561 1990   890 1805 3486   109  247 2818   462  462 1415  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.26 0.26  0.26 0.27 0.17  0.17 0.18 0.18  0.18 0.37 0.37  0.25
Crit Moves:  ****            ****                 ****        ****
Green/Cycle: 0.21 0.21  0.21 0.22 0.22  0.22 0.15 0.15  0.15 0.29 0.29  0.29
Volume/Cap:  1.25 1.25  1.25 1.25 0.80  0.80 1.25 1.25  1.25 1.25 1.25  0.84
Delay/Veh:  158.1  158 158.1 166.2 39.6  39.6 165.0  165 165.0 157.4  157  37.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 158.1  158 158.1 166.2 39.6  39.6 165.0  165 165.0 157.4  157  37.5
LOS by Move:    F    F     F     F    D     D    F    F     F    F    F     D
HCM2kAvgQ:    685  685   685   700  273   273  509  509   509  960  960   330
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

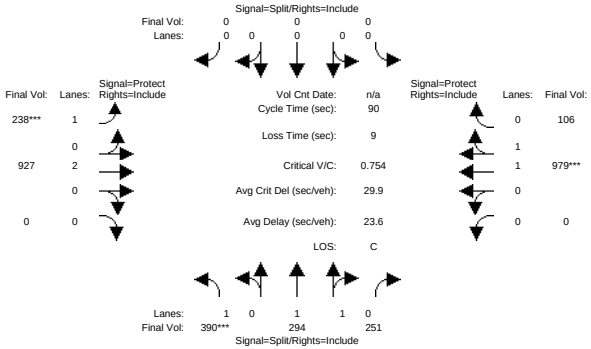



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     104  172   156  489  615    29   60  842   103  198  484   901
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  104  172   156  489  615    29   60  842   103  198  484   901
Added Vol:     29  153     0    2    9     0    0    0     0    0    0    22
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  133  325   156  491  624    29   60  842   103  198  484   923
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   133  325   156  491  624    29   60  842   103  198  484   923
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  133  325   156  491  624    29   60  842   103  198  484   923
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  133  325   156  491  624    29   60  842   103  198  484   923
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.90 0.90  0.90 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.43 1.06  0.51 1.00 1.91  0.09 0.12 1.68  0.20 0.29 0.71  2.00
Final Sat.:   744 1818   873 1805 3426   159  212 2970   363  544 1330  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18  0.18 0.27 0.18  0.18 0.28 0.28  0.28 0.36 0.36  0.32
Crit Moves:  ****            ****                 ****        ****
Green/Cycle: 0.14 0.14  0.14 0.21 0.21  0.21 0.22 0.22  0.22 0.29 0.29  0.29
Volume/Cap:  1.27 1.27  1.27 1.27 0.85  0.85 1.27 1.27  1.27 1.27 1.27  1.13
Delay/Veh:  174.5  175 174.5 174.6 42.7  42.7 165.2  165 165.2 166.5  167 105.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 174.5  175 174.5 174.6 42.7  42.7 165.2  165 165.2 166.5  167 105.9
LOS by Move:    F    F     F     F    D     D    F    F     F    F    F     F
HCM2kAvgQ:    500  500   500   723  300   300  773  773   773  973  973   646
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

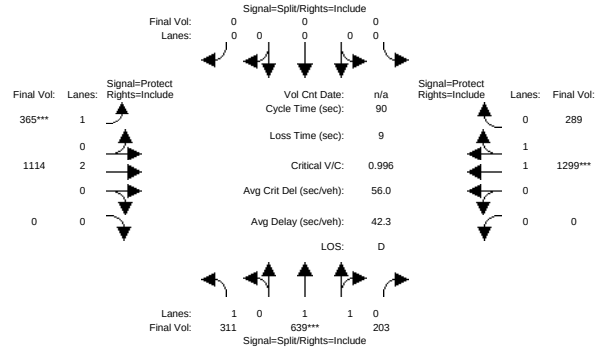



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     387  147   251     0    0     0   238  891     0     0  971    92
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  387  147   251     0    0     0   238  891     0     0  971    92
Added Vol:      3  147     0     0    0     0     0   36     0     0    8    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  390  294   251     0    0     0   238  927     0     0  979   106
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   390  294   251     0    0     0   238  927     0     0  979   106
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  390  294   251     0    0     0   238  927     0     0  979   106
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  390  294   251     0    0     0   238  927     0     0  979   106
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.88  0.88  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       1.00 1.08  0.92  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.80  0.20
Final Sat.:  1615 1813  1548     0    0     0  1805 3610     0     0 3208   347
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24 0.16  0.16  0.00 0.00  0.00  0.13 0.26  0.00  0.00 0.31  0.31
Crit Moves:  ****                             ****                    ****
Green/Cycle: 0.32 0.32  0.32  0.00 0.00  0.00  0.17 0.58  0.00  0.00 0.40  0.40
Volume/Cap:  0.75 0.51  0.51  0.00 0.00  0.00  0.75 0.44  0.00  0.00 0.75  0.75
Delay/Veh:   33.6 25.2  25.2   0.0  0.0   0.0  45.2 10.8   0.0   0.0 25.3  25.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  33.6 25.2  25.2   0.0  0.0   0.0  45.2 10.8   0.0   0.0 25.3  25.3
LOS by Move:    C    C     C     A    A     A     D    B     A     A    C     C
HCM2kAvgQ:    284  170   170     0    0     0   203  192     0     0  342   342
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

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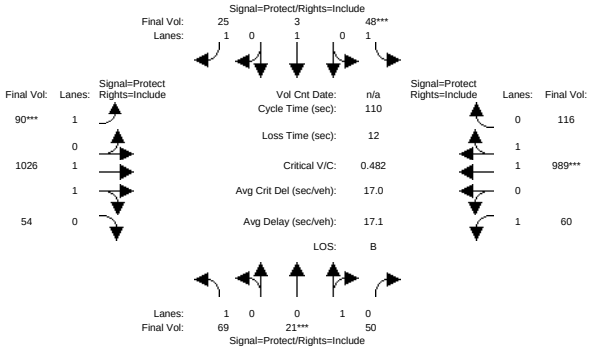
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     299  331   203     0    0     0   365 1083     0     0 1289   272
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  299  331   203     0    0     0   365 1083     0     0 1289   272
Added Vol:     12  308     0     0    0     0     0   31     0     0   10    17
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  311  639   203     0    0     0   365 1114     0     0 1299   289
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   311  639   203     0    0     0   365 1114     0     0 1299   289
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  311  639   203     0    0     0   365 1114     0     0 1299   289
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  311  639   203     0    0     0   365 1114     0     0 1299   289
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.92  0.92  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.92  0.92
Lanes:       1.00 1.52  0.48  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.64  0.36
Final Sat.:  1615 2641   839     0    0     0  1805 3610     0     0 2873   639
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.24  0.24  0.00 0.00  0.00  0.20 0.31  0.00  0.00 0.45  0.45
Crit Moves:       ****                             ****                    ****
Green/Cycle: 0.24 0.24  0.24  0.00 0.00  0.00  0.20 0.66  0.00  0.00 0.45  0.45
Volume/Cap:  0.79 1.00  1.00  0.00 0.00  0.00  1.00 0.47  0.00  0.00 1.00  1.00
Delay/Veh:   42.5 63.9  63.9   0.0  0.0   0.0  81.7  7.8   0.0   0.0 46.0  46.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  42.5 63.9  63.9   0.0  0.0   0.0  81.7  7.8   0.0   0.0 46.0  46.0
LOS by Move:    D    E     E     A    A     A     F    A     A     A    D     D
HCM2kAvgQ:    256  460   460     0    0     0   394  204     0     0  680   680
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1005: 15th St / V St



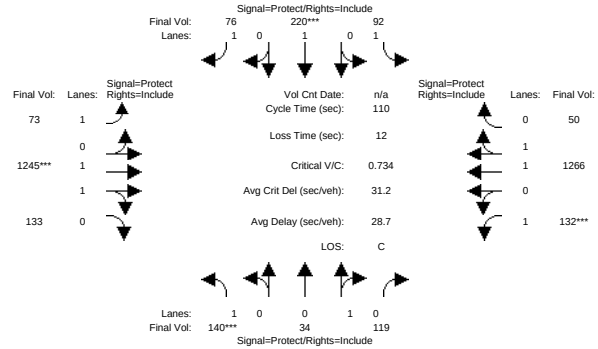
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	69	21	50	48	3	25	90	990	54	60	967	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	21	50	48	3	25	90	990	54	60	967	116
Added Vol:	0	0	0	0	0	0	0	36	0	0	22	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	21	50	48	3	25	90	1026	54	60	989	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	69	21	50	48	3	25	90	1026	54	60	989	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	21	50	48	3	25	90	1026	54	60	989	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	21	50	48	3	25	90	1026	54	60	989	116
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.79	0.21
Final Sat.:	1805	502	1196	1805	1900	1615	1805	3405	179	1805	3179	373
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.03	0.00	0.02	0.05	0.30	0.30	0.03	0.31	0.31
Crit Moves:		****		****			****				****	
Green/Cycle:	0.06	0.09	0.09	0.06	0.09	0.09	0.10	0.61	0.61	0.13	0.63	0.63
Volume/Cap:	0.60	0.46	0.46	0.42	0.02	0.17	0.49	0.50	0.50	0.26	0.49	0.49
Delay/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.8	12.3	12.3	43.8	10.8	10.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.8	12.3	12.3	43.8	10.8	10.8
LOS by Move:	E	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	82	71	71	52	3	23	71	262	262	42	237	237

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1005: 15th St / V St



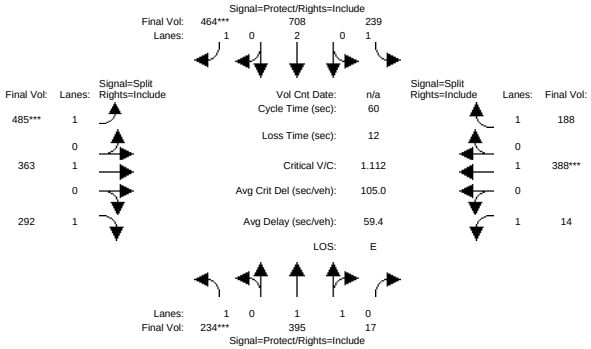
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	140	34	119	92	220	76	73	1214	133	132	1239	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	34	119	92	220	76	73	1214	133	132	1239	50
Added Vol:	0	0	0	0	0	0	0	31	0	0	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	34	119	92	220	76	73	1245	133	132	1266	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	34	119	92	220	76	73	1245	133	132	1266	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	34	119	92	220	76	73	1245	133	132	1266	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	34	119	92	220	76	73	1245	133	132	1266	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.22	0.78	1.00	1.00	1.00	1.00	1.81	0.19	1.00	1.92	0.08
Final Sat.:	1805	373	1305	1805	1900	1615	1805	3213	343	1805	3452	136
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.05	0.12	0.05	0.04	0.39	0.39	0.07	0.37	0.37
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.16	0.16	0.11	0.16	0.16	0.09	0.53	0.53	0.10	0.53	0.53
Volume/Cap:	0.73	0.59	0.59	0.47	0.73	0.30	0.44	0.73	0.73	0.73	0.69	0.69
Delay/Veh:	61.4	46.7	46.7	47.9	53.2	41.6	49.0	21.6	21.6	62.6	19.9	19.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.4	46.7	46.7	47.9	53.2	41.6	49.0	21.6	21.6	62.6	19.9	19.9
LOS by Move:	E	D	D	D	D	D	D	C	C	E	B	B
HCM2kAvgQ:	156	141	141	87	216	62	57	472	472	100	393	393

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1006: 16th St / V St

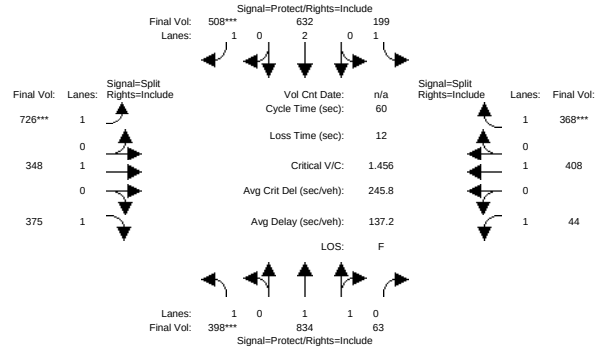



```
Street Name:            16th Street                     V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10    10   10    10    10   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     212  358    17   239  691   464   485  363   256    14  388   188
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  212  358    17   239  691   464   485  363   256    14  388   188
Added Vol:     22   37     0     0   17     0     0    0    36     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  234  395    17   239  708   464   485  363   292    14  388   188
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   234  395    17   239  708   464   485  363   292    14  388   188
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  234  395    17   239  708   464   485  363   292    14  388   188
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  234  395    17   239  708   464   485  363   292    14  388   188
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.94  0.94  0.95 0.95  0.85  0.95 1.00  0.85  0.95 1.00  0.85
Lanes:       1.00 1.92  0.08  1.00 2.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1805 3440   148  1805 3610  1615  1805 1900  1615  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.11  0.11  0.13 0.20  0.29  0.27 0.19  0.18  0.01 0.20  0.12
Crit Moves:  ****                      ****  ****                  ****
Green/Cycle: 0.12 0.21  0.21  0.17 0.26  0.26  0.24 0.24  0.24  0.18 0.18  0.18
Volume/Cap:  1.11 0.55  0.55  0.80 0.76  1.11  1.11 0.79  0.75  0.04 1.11  0.63
Delay/Veh:  121.5 22.1  22.1  38.0 24.2 100.5 100.1 30.4  28.9  20.2  107  27.1
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 121.5 22.1  22.1  38.0 24.2 100.5 100.1 30.4  28.9  20.2  107  27.1
LOS by Move:    F    C     C     D    C     F     F    C     C     C    F     C
HCM2kAvgQ:    203   89    89   167  210   471   408  167   131     6  408   111
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1006: 16th St / V St

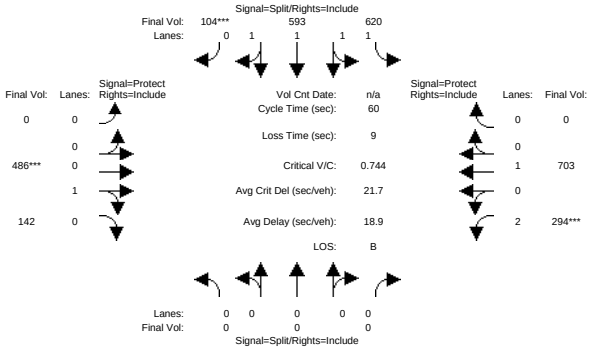



```
Street Name:            16th Street                     V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10    10   10    10    10   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     371  783    63   199  624   508   726  348   344    44  408   368
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  371  783    63   199  624   508   726  348   344    44  408   368
Added Vol:     27   51     0     0    8     0     0    0    31     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  398  834    63   199  632   508   726  348   375    44  408   368
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   398  834    63   199  632   508   726  348   375    44  408   368
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  398  834    63   199  632   508   726  348   375    44  408   368
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  398  834    63   199  632   508   726  348   375    44  408   368
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.94  0.94  0.95 0.95  0.85  0.95 1.00  0.85  0.95 1.00  0.85
Lanes:       1.00 1.86  0.14  1.00 2.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1805 3323   251  1805 3610  1615  1805 1900  1615  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.22 0.25  0.25  0.11 0.18  0.31  0.40 0.18  0.23  0.02 0.21  0.23
Crit Moves:  ****                      ****  ****                  ****
Green/Cycle: 0.15 0.24  0.24  0.12 0.21  0.21  0.27 0.27  0.27  0.17 0.17  0.17
Volume/Cap:  1.48 1.02  1.02  0.94 0.82  1.48  1.48 0.67  0.85  0.15 1.29  1.37
Delay/Veh:  260.5 59.6  59.6  72.8 29.8 254.7 248.6 23.0  35.7  21.6  177 212.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 260.5 59.6  59.6  72.8 29.8 254.7 248.6 23.0  35.7  21.6  177 212.2
LOS by Move:    F    E     E     E    C     F     F    C     D     C    F     F
HCM2kAvgQ:    578  295   295   190  217   795  1054  140   174    20  541   537
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1007: 13th St / R St

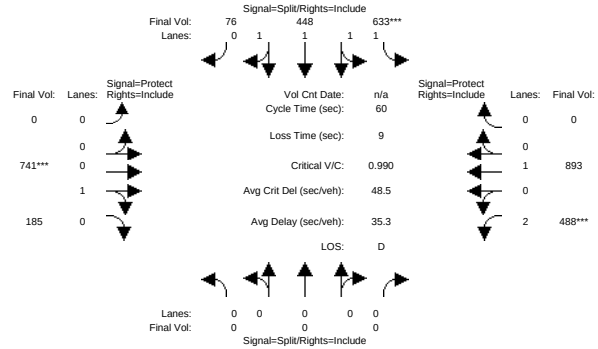



```
Street Name:            13th Street                     R Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0   10   10   10    0   10   10    7   10    0
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  537  365  104    0  486  142  294  703    0
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:    0    0     0  537  365  104    0  486  142  294  703    0
Added Vol:      0    0     0   83  228    0    0    0    0    0    0    0
PasserByVol:    0    0     0    0    0    0    0    0    0    0    0    0
Initial Fut:    0    0     0  620  593  104    0  486  142  294  703    0
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:     0    0     0  620  593  104    0  486  142  294  703    0
Reduct Vol:     0    0     0    0    0    0    0    0    0    0    0    0
Reduced Vol:    0    0     0  620  593  104    0  486  142  294  703    0
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:    0    0     0  620  593  104    0  486  142  294  703    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  1.00 1.00  1.00 0.84 0.84 0.84 1.00 0.97 0.97 0.92 1.00 1.00
Lanes:       0.00 0.00  0.00 1.88 1.80 0.32 0.00 0.77 0.23 2.00 1.00 0.00
Final Sat.:     0    0     0 2988 2858  501    0 1425  416 3502 1900    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.21 0.21 0.21 0.00 0.34 0.34 0.08 0.37 0.00
Crit Moves:                              ****      ****      ****
Green/Cycle: 0.00 0.00  0.00 0.28 0.28 0.28 0.00 0.46 0.46 0.12 0.57 0.00
Volume/Cap:  0.00 0.00  0.00 0.75 0.75 0.75 0.00 0.75 0.75 0.72 0.65 0.00
Delay/Veh:    0.0  0.0   0.0 21.6 21.6 21.6  0.0 17.2 17.2 31.7 10.1  0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:   0.0  0.0   0.0 21.6 21.6 21.6  0.0 17.2 17.2 31.7 10.1  0.0
LOS by Move:    A    A     A    C    C    C    A    B    B    C    B    A
HCM2kAvgQ:      0    0     0  201  201  201    0  283  283   72  221    0
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1007: 13th St / R St

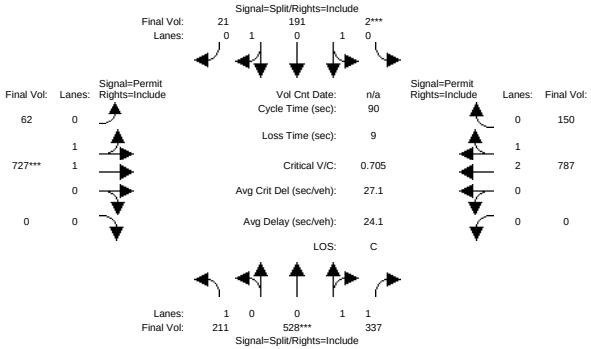



```
Street Name:            13th Street                     R Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0   10   10   10    0   10   10    7   10    0
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  591  328   76    0  741  185  488  893    0
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:    0    0     0  591  328   76    0  741  185  488  893    0
Added Vol:      0    0     0   42  120    0    0    0    0    0    0    0
PasserByVol:    0    0     0    0    0    0    0    0    0    0    0    0
Initial Fut:    0    0     0  633  448   76    0  741  185  488  893    0
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:     0    0     0  633  448   76    0  741  185  488  893    0
Reduct Vol:     0    0     0    0    0    0    0    0    0    0    0    0
Reduced Vol:    0    0     0  633  448   76    0  741  185  488  893    0
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:    0    0     0  633  448   76    0  741  185  488  893    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  1.00 1.00  1.00 0.83 0.83 0.83 1.00 0.97 0.97 0.92 1.00 1.00
Lanes:       0.00 0.00  0.00 2.00 1.71 0.29 0.00 0.80 0.20 2.00 1.00 0.00
Final Sat.:     0    0     0 3143 2687  456    0 1479  369 3502 1900    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.20 0.17 0.17 0.00 0.50 0.50 0.14 0.47 0.00
Crit Moves:                              ****      ****      ****
Green/Cycle: 0.00 0.00  0.00 0.20 0.20 0.20 0.00 0.51 0.51 0.14 0.65 0.00
Volume/Cap:  0.00 0.00  0.00 0.99 0.82 0.82 0.00 0.99 0.99 0.99 0.73 0.00
Delay/Veh:    0.0  0.0   0.0 47.7 26.8 26.8  0.0 41.6 41.6 63.6  9.3  0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:   0.0  0.0   0.0 47.7 26.8 26.8  0.0 41.6 41.6 63.6  9.3  0.0
LOS by Move:    A    A     A    D    C    C    A    D    D    E    A    A
HCM2kAvgQ:      0    0     0  304  195  195    0  637  637  162  280    0
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

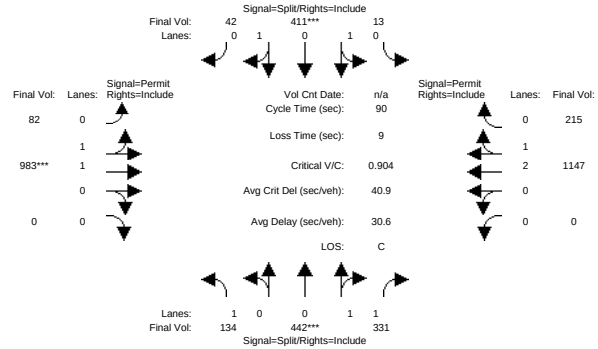



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     211  528   337    2   69    21   62  644     0    0  787   136
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  211  528   337    2   69    21   62  644     0    0  787   136
Added Vol:      0    0     0    0  122     0    0   83     0    0    0    14
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  211  528   337    2  191    21   62  727     0    0  787   150
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   211  528   337    2  191    21   62  727     0    0  787   150
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  211  528   337    2  191    21   62  727     0    0  787   150
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  211  528   337    2  191    21   62  727     0    0  787   150
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.74 0.74  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.02 1.78  0.20 0.16 1.84  0.00 0.00 2.52  0.48
Final Sat.:  1805 1790  1790   33 3174   349  222 2601     0    0 4252   810
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.30  0.19 0.06 0.06  0.06 0.28 0.28  0.00 0.00 0.19  0.19
Crit Moves:        ****        ****                ****
Green/Cycle: 0.41 0.41  0.41 0.11 0.11  0.11 0.38 0.38  0.00 0.00 0.38  0.38
Volume/Cap:  0.29 0.73  0.46 0.54 0.54  0.54 0.73 0.73  0.00 0.00 0.48  0.48
Delay/Veh:   18.3 24.9  19.8 39.4 39.4  39.4 26.2 26.2   0.0  0.0 21.2  21.2
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  18.3 24.9  19.8 39.4 39.4  39.4 26.2 26.2   0.0  0.0 21.2  21.2
LOS by Move:    B    C     B    D    D     D    C    C     A    A    C     C
HCM2kAvgQ:     99  339   176   94   94    94  240  240     0    0  174   174
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

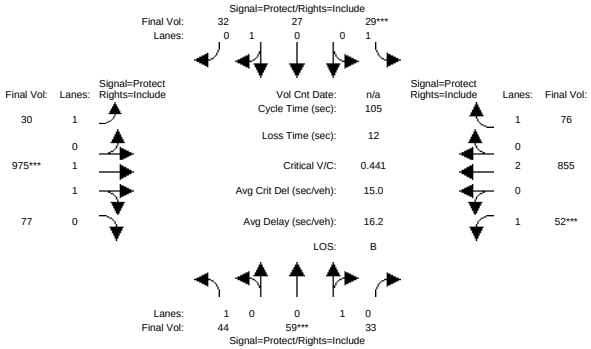



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     134  442   331   13  165    42   82  941     0    0 1147   198
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  134  442   331   13  165    42   82  941     0    0 1147   198
Added Vol:      0    0     0    0  246     0    0   42     0    0    0    17
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  134  442   331   13  411    42   82  983     0    0 1147   215
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   134  442   331   13  411    42   82  983     0    0 1147   215
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  134  442   331   13  411    42   82  983     0    0 1147   215
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  134  442   331   13  411    42   82  983     0    0 1147   215
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.65 0.65  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.06 1.76  0.18 0.15 1.85  0.00 0.00 2.53  0.47
Final Sat.:  1805 1778  1778   99 3139   321  189 2266     0    0 4263   799
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.25  0.19 0.13 0.13  0.13 0.43 0.43  0.00 0.00 0.27  0.27
Crit Moves:        ****        ****                ****
Green/Cycle: 0.28 0.28  0.28 0.14 0.14  0.14 0.48 0.48  0.00 0.00 0.48  0.48
Volume/Cap:  0.27 0.90  0.68 0.90 0.90  0.90 0.90 0.90  0.00 0.00 0.56  0.56
Delay/Veh:   25.8 44.3  30.7 57.1 57.1  57.1 31.4 31.4   0.0  0.0 16.9  16.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  25.8 44.3  30.7 57.1 57.1  57.1 31.4 31.4   0.0  0.0 16.9  16.9
LOS by Move:    C    D     C    E    E     E    C    C     A    A    B     B
HCM2kAvgQ:     75  393   232  254  254   254  335  335     0    0  236   236
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1009: 15th St / R St



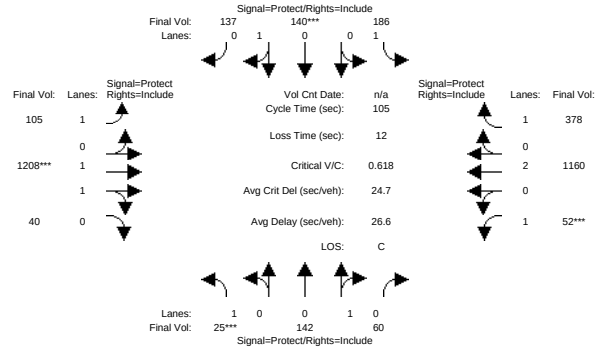
Street Name:	15th Street									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	44		59	31	29		27	32	30		939	30	46		841	76
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	44		59	31	29		27	32	30		939	30	46		841	76
Added Vol:	0		0	2	0		0	0	0		36	47	6		14	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	44		59	33	29		27	32	30		975	77	52		855	76
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	44		59	33	29		27	32	30		975	77	52		855	76
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	44		59	33	29		27	32	30		975	77	52		855	76
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	44		59	33	29		27	32	30		975	77	52		855	76
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	0.95	0.95		0.92	0.92	0.95		0.94	0.94	0.95		0.95	0.85
Lanes:	1.00		0.64	0.36	1.00		0.46	0.54	1.00		1.85	0.15	1.00		2.00	1.00
Final Sat.:	1805		1153	645	1805		799	947	1805		3309	261	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.02		0.05	0.05	0.02		0.03	0.03	0.02		0.29	0.29	0.03		0.24	0.05
Crit Moves:			****		****						****		****			
Green/Cycle:	0.07		0.11	0.11	0.07		0.10	0.10	0.16		0.64	0.64	0.07		0.55	0.55
Volume/Cap:	0.33		0.46	0.46	0.24		0.32	0.32	0.11		0.46	0.46	0.43		0.43	0.09
Delay/Veh:	47.7		45.4	45.4	47.5		44.6	44.6	38.2		9.7	9.7	49.6		13.9	11.1
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	47.7		45.4	45.4	47.5		44.6	44.6	38.2		9.7	9.7	49.6		13.9	11.1
LOS by Move:	D		D	D	D		D	D	D		A	A	D		B	B
HCM2kAvgQ:	42		83	83	28		51	51	19		216	216	40		204	27

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1009: 15th St / R St



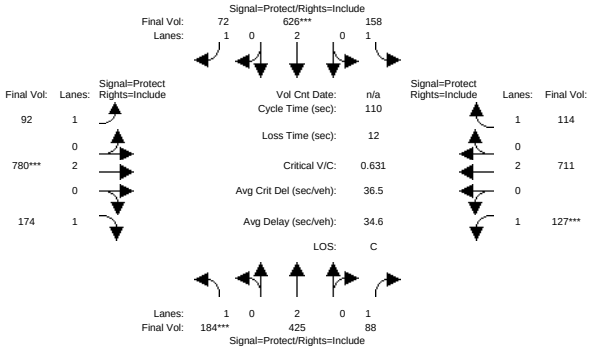
Street Name:	15th Street									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	25		142	54	186		140	137	105		1177	28	50		1143	378
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	25		142	54	186		140	137	105		1177	28	50		1143	378
Added Vol:	0		0	6	0		0	0	0		31	12	2		17	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	25		142	60	186		140	137	105		1208	40	52		1160	378
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	25		142	60	186		140	137	105		1208	40	52		1160	378
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	25		142	60	186		140	137	105		1208	40	52		1160	378
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	25		142	60	186		140	137	105		1208	40	52		1160	378
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.96	0.96	0.95		0.93	0.93	0.95		0.95	0.95	0.95		0.95	0.85
Lanes:	1.00		0.70	0.30	1.00		0.51	0.49	1.00		1.94	0.06	1.00		2.00	1.00
Final Sat.:	1805		1276	539	1805		889	870	1805		3477	115	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.01		0.11	0.11	0.10		0.16	0.16	0.06		0.35	0.35	0.03		0.32	0.23
Crit Moves:	****						****				****		****			
Green/Cycle:	0.07		0.16	0.16	0.14		0.23	0.23	0.10		0.52	0.52	0.07		0.48	0.48
Volume/Cap:	0.21		0.71	0.71	0.71		0.67	0.67	0.58		0.67	0.67	0.43		0.66	0.48
Delay/Veh:	47.2		50.2	50.2	51.6		40.8	40.8	49.7		19.7	19.7	49.6		21.6	18.7
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	47.2		50.2	50.2	51.6		40.8	40.8	49.7		19.7	19.7	49.6		21.6	18.7
LOS by Move:	D		D	D	D		D	D	D		B	B	D		C	B
HCM2kAvgQ:	24		191	191	180		229	229	76		365	365	38		354	192

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1010: 16th St / R St



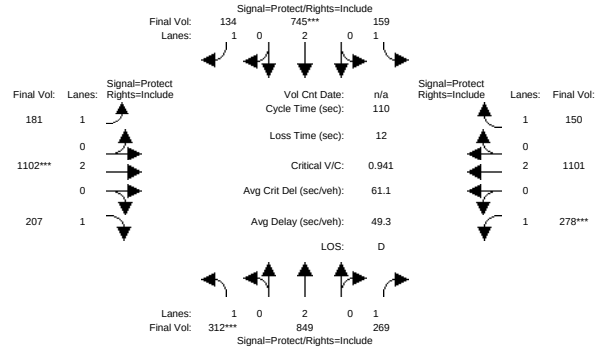
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	170	366	84	158	573	72	92	778	138	122	705	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	170	366	84	158	573	72	92	778	138	122	705	114
Added Vol:	14	59	4	0	53	0	0	2	36	5	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	184	425	88	158	626	72	92	780	174	127	711	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	184	425	88	158	626	72	92	780	174	127	711	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	425	88	158	626	72	92	780	174	127	711	114
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	184	425	88	158	626	72	92	780	174	127	711	114
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.12	0.05	0.09	0.17	0.04	0.05	0.22	0.11	0.07	0.20	0.07
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.25	0.25	0.19	0.28	0.28	0.11	0.34	0.34	0.11	0.34	0.34
Volume/Cap:	0.63	0.47	0.22	0.47	0.63	0.16	0.46	0.63	0.31	0.63	0.57	0.21
Delay/Veh:	47.4	35.4	33.0	41.0	36.3	30.4	47.5	31.4	27.0	53.0	30.2	25.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.4	35.4	33.0	41.0	36.3	30.4	47.5	31.4	27.0	53.0	30.2	25.7
LOS by Move:	D	D	C	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	170	167	60	113	233	43	71	285	103	105	254	65

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1010: 16th St / R St



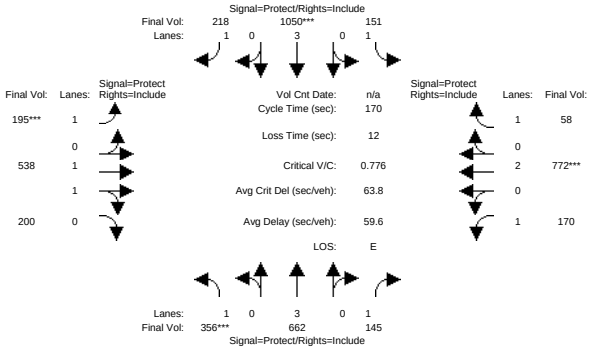
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	295	771	264	159	706	134	181	1096	176	274	1099	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	295	771	264	159	706	134	181	1096	176	274	1099	150
Added Vol:	17	78	5	0	39	0	0	6	31	4	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	312	849	269	159	745	134	181	1102	207	278	1101	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	312	849	269	159	745	134	181	1102	207	278	1101	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	312	849	269	159	745	134	181	1102	207	278	1101	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	312	849	269	159	745	134	181	1102	207	278	1101	150
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.17	0.24	0.17	0.09	0.21	0.08	0.10	0.31	0.13	0.15	0.30	0.09
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.29	0.29	0.11	0.22	0.22	0.12	0.32	0.32	0.16	0.37	0.37
Volume/Cap:	0.94	0.80	0.57	0.80	0.94	0.38	0.83	0.94	0.40	0.94	0.83	0.25
Delay/Veh:	78.6	40.4	34.6	68.3	61.4	37.2	70.0	50.6	29.3	82.4	36.3	24.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.6	40.4	34.6	68.3	61.4	37.2	70.0	50.6	29.3	82.4	36.3	24.5
LOS by Move:	E	D	C	E	E	D	E	D	C	F	D	C
HCM2kAvgQ:	364	397	206	131	345	90	157	520	128	277	468	85

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1011: Olive Ave / R St



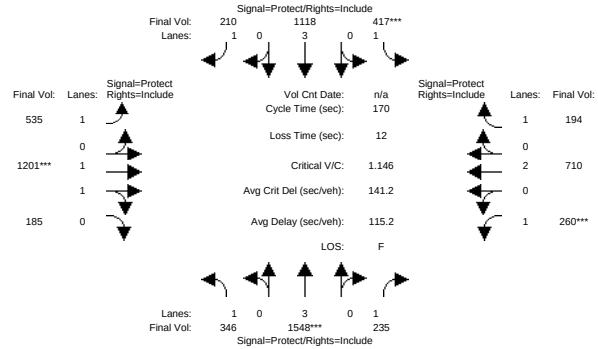
Street Name:	Olive Avenue									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	356	662	145		151	1050	218		195	533	200		170	761	58	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	356	662	145		151	1050	218		195	533	200		170	761	58	
Added Vol:	0	0	0		0	0	0		0	5	0		0	11	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	356	662	145		151	1050	218		195	538	200		170	772	58	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	356	662	145		151	1050	218		195	538	200		170	772	58	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	356	662	145		151	1050	218		195	538	200		170	772	58	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	356	662	145		151	1050	218		195	538	200		170	772	58	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.91	0.85		0.95	0.91	0.85		0.95	0.91	0.91		0.95	0.95	0.85	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	1.46	0.54		1.00	2.00	1.00	
Final Sat.:	1805	5187	1615		1805	5187	1615		1805	2524	938		1805	3610	1615	
Capacity Analysis Module:																
Vol/Sat:	0.20	0.13	0.09		0.08	0.20	0.13		0.11	0.21	0.21		0.09	0.21	0.04	
Crit Moves:	****					****			****					****		
Green/Cycle:	0.25	0.31	0.31		0.20	0.26	0.26		0.14	0.29	0.29		0.13	0.28	0.28	
Volume/Cap:	0.78	0.41	0.29		0.41	0.78	0.52		0.78	0.74	0.74		0.74	0.78	0.13	
Delay/Veh:	67.1	46.4	44.7		59.5	61.1	54.8		84.7	57.9	57.9		83.7	60.7	46.4	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	67.1	46.4	44.7		59.5	61.1	54.8		84.7	57.9	57.9		83.7	60.7	46.4	
LOS by Move:	E	D	D		E	E	D		F	E	E		F	E	D	
HCM2kAvgQ:	413	232	133		157	430	223		286	478	478		249	515	55	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1011: Olive Ave / R St



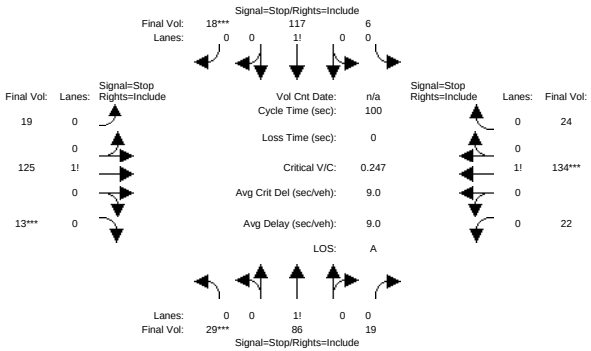
Street Name:	Olive Avenue									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	346	1548	235		417	1118	210		535	1190	185		260	705	194	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	346	1548	235		417	1118	210		535	1190	185		260	705	194	
Added Vol:	0	0	0		0	0	0		0	11	0		0	5	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	346	1548	235		417	1118	210		535	1201	185		260	710	194	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	346	1548	235		417	1118	210		535	1201	185		260	710	194	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	346	1548	235		417	1118	210		535	1201	185		260	710	194	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	346	1548	235		417	1118	210		535	1201	185		260	710	194	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.91	0.85		0.95	0.91	0.85		0.95	0.93	0.93		0.95	0.95	0.85	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	1.73	0.27		1.00	2.00	1.00	
Final Sat.:	1805	5187	1615		1805	5187	1615		1805	3066	472		1805	3610	1615	
Capacity Analysis Module:																
Vol/Sat:	0.19	0.30	0.15		0.23	0.22	0.13		0.30	0.39	0.39		0.14	0.20	0.12	
Crit Moves:		****			****					****				****		
Green/Cycle:	0.22	0.26	0.26		0.20	0.24	0.24		0.28	0.34	0.34		0.13	0.19	0.19	
Volume/Cap:	0.88	1.15	0.56		1.15	0.88	0.53		1.05	1.15	1.15		1.15	1.05	0.64	
Delay/Veh:	84.5	138	56.1		161.0	69.4	57.2		116.3	132	131.8		179.1	119	68.7	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	84.5	138	56.1		161.0	69.4	57.2		116.3	132	131.8		179.1	119	68.7	
LOS by Move:	F	F	E		F	E	E		F	F	F		F	F	E	
HCM2kAvgQ:	405	907	242		668	476	217		884	1286	1286		510	645	252	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #1012: 15th St / O St

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Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15    84    19     6    64    18    19   125    13    22   134    24
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   15    84    19     6    64    18    19   125    13    22   134    24
Added Vol:     14     2     0     0    53     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   29    86    19     6   117    18    19   125    13    22   134    24
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    29    86    19     6   117    18    19   125    13    22   134    24
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   29    86    19     6   117    18    19   125    13    22   134    24
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   29    86    19     6   117    18    19   125    13    22   134    24
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.22  0.64  0.14  0.04  0.83  0.13  0.12  0.80  0.08  0.12  0.75  0.13
Final Sat.:   152   450    99    30   586    90    87   572    60    89   542    97
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19  0.19  0.19  0.20  0.20  0.20  0.22  0.22  0.22  0.25  0.25  0.25
Crit Moves:  ****                          ****                ****        ****
Delay/Veh:    8.9   8.9   8.9   8.9   8.9   8.9   9.0   9.0   9.0   9.1   9.1   9.1
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.9   8.9   8.9   8.9   8.9   8.9   9.0   9.0   9.0   9.1   9.1   9.1
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        8.9               8.9               9.0               9.1
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         8.9               8.9               9.0               9.1
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   5.1   5.1   5.1   5.4   5.4   5.4   6.2   6.2   6.2   7.2   7.2   7.2
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   29   86    19     6  117    18    19  125    13    22  134    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             337
Minor Approach Volume:           141
Minor Approach Volume Threshold: 509
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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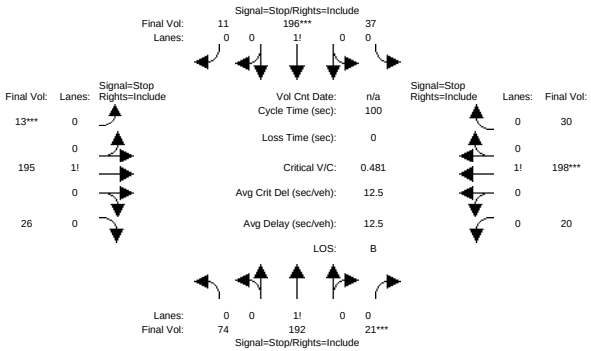
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #1012: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17   186    21    37   183    11    13   195    26    20   198    30
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   17   186    21    37   183    11    13   195    26    20   198    30
Added Vol:     57     6     0     0    13     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   74   192    21    37   196    11    13   195    26    20   198    30
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    74   192    21    37   196    11    13   195    26    20   198    30
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   74   192    21    37   196    11    13   195    26    20   198    30
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   74   192    21    37   196    11    13   195    26    20   198    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.26  0.67  0.07  0.15  0.80  0.05  0.06  0.83  0.11  0.08  0.80  0.12
Final Sat.:   154   399    44    88   468    26    32   481    64    47   465    70
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.48  0.48  0.48  0.42  0.42  0.42  0.41  0.41  0.41  0.43  0.43  0.43
Crit Moves:              ****        ****        ****                    ****
Delay/Veh:   13.2  13.2  13.2  12.3  12.3  12.3  12.1  12.1  12.1  12.4  12.4  12.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  13.2  13.2  13.2  12.3  12.3  12.3  12.1  12.1  12.1  12.4  12.4  12.4
LOS by Move:    B     B     B     B     B     B     B     B     B     B     B     B
ApproachDel:       13.2              12.3              12.1              12.4
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        13.2              12.3              12.1              12.4
LOS by Appr:          B                 B                 B                 B
AllWayAvgQ:  18.9  18.9  18.9  14.5  14.5  14.5  13.5  13.5  13.5  14.8  14.8  14.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   74  192    21    37  196    11    13  195    26    20  198    30
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             531
Minor Approach Volume:           248
Minor Approach Volume Threshold: 388
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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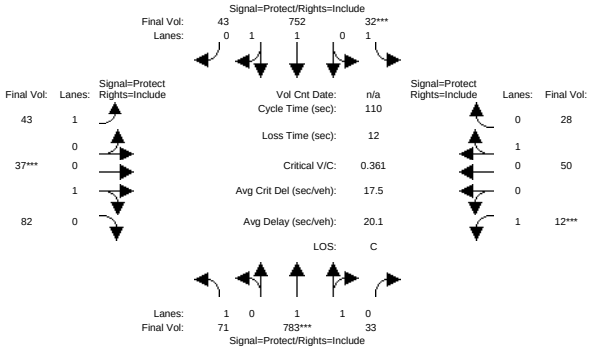
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1013: 16th St / O St



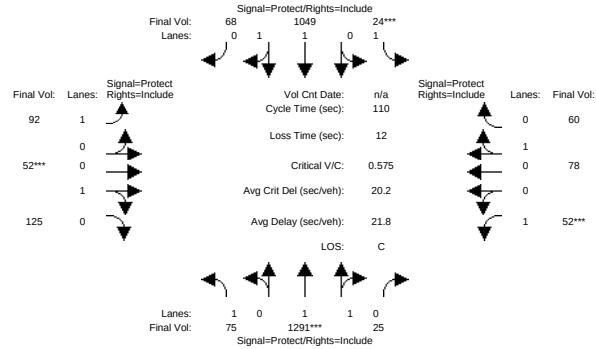
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	71	706	33	32	658	43	43	37	82	12	50	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	706	33	32	658	43	43	37	82	12	50	28
Added Vol:	0	77	0	0	94	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	783	33	32	752	43	43	37	82	12	50	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	783	33	32	752	43	43	37	82	12	50	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	783	33	32	752	43	43	37	82	12	50	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	71	783	33	32	752	43	43	37	82	12	50	28
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.92	0.08	1.00	1.89	0.11	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3443	145	1805	3387	194	1805	530	1174	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.23	0.02	0.22	0.22	0.02	0.07	0.07	0.01	0.04	0.04
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.58	0.58	0.06	0.50	0.50	0.10	0.18	0.18	0.06	0.14	0.14
Volume/Cap:	0.27	0.39	0.39	0.28	0.44	0.44	0.24	0.39	0.39	0.10	0.30	0.30
Delay/Veh:	42.5	12.4	12.4	50.4	17.6	17.6	46.3	40.6	40.6	48.9	42.9	42.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	12.4	12.4	50.4	17.6	17.6	46.3	40.6	40.6	48.9	42.9	42.9
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	58	192	192	33	223	223	38	96	96	12	64	64

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1013: 16th St / O St



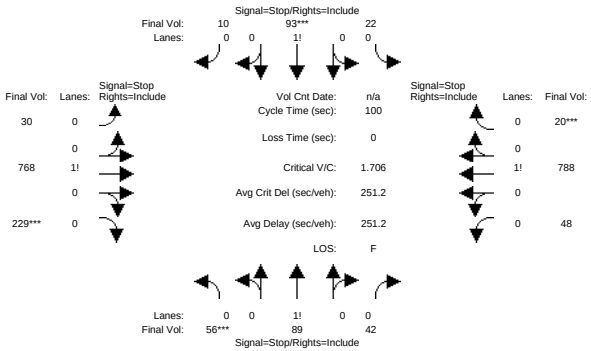
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	75	1192	25	24	976	68	92	52	125	52	78	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	1192	25	24	976	68	92	52	125	52	78	60
Added Vol:	0	99	0	0	73	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	1291	25	24	1049	68	92	52	125	52	78	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	1291	25	24	1049	68	92	52	125	52	78	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	1291	25	24	1049	68	92	52	125	52	78	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	1291	25	24	1049	68	92	52	125	52	78	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.88	0.12	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3531	68	1805	3360	218	1805	499	1200	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.04	0.37	0.37	0.01	0.31	0.31	0.05	0.10	0.10	0.03	0.08	0.08
Crit Moves:		****		****				****		****		
Green/Cycle:	0.11	0.59	0.59	0.06	0.55	0.55	0.10	0.17	0.17	0.06	0.14	0.14
Volume/Cap:	0.37	0.62	0.62	0.21	0.57	0.57	0.53	0.62	0.62	0.45	0.57	0.57
Delay/Veh:	46.5	14.8	14.8	49.8	16.9	16.9	50.5	46.3	46.3	52.5	47.5	47.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.5	14.8	14.8	49.8	16.9	16.9	50.5	46.3	46.3	52.5	47.5	47.5
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	67	377	377	24	329	329	93	162	162	57	129	129

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #1014: 15th St / M St



Street Name:	15th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Volume Module:																
Base Vol:	4	73	34		22	40	10		30	631	11		14	685	20	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	4	73	34		22	40	10		30	631	11		14	685	20	
Added Vol:	52	16	8		0	53	0		0	137	218		34	103	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	56	89	42		22	93	10		30	768	229		48	788	20	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	56	89	42		22	93	10		30	768	229		48	788	20	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	56	89	42		22	93	10		30	768	229		48	788	20	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	56	89	42		22	93	10		30	768	229		48	788	20	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.30	0.48	0.22		0.18	0.74	0.08		0.03	0.75	0.22		0.06	0.92	0.02	
Final Sat.:	144	229	108		80	339	36		18	450	134		33	543	14	
Capacity Analysis Module:																
Vol/Sat:	0.39	0.39	0.39		0.27	0.27	0.27		1.71	1.71	1.71		1.45	1.45	1.45	
Crit Moves:	****				****						****				****	
Delay/Veh:	14.9	14.9	14.9		13.5	13.5	13.5		340.6	341	340.6		230.4	230	230.4	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	14.9	14.9	14.9		13.5	13.5	13.5		340.6	341	340.6		230.4	230	230.4	
LOS by Move:	B	B	B		B	B	B		F	F	F		F	F	F	
ApproachDel:	14.9				13.5				340.6				230.4			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	14.9				13.5				340.6				230.4			
LOS by Appr:	B				B				F				F			
AllWayAvgQ:	15.1	15.1	15.1		8.8	8.8	8.8		1386	1386	1386		906	906	906.2	

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1014 15th St / M St

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0
Initial Vol:	56	89		42	22	93		10	30	768		229	48	788		20

Major Street Volume: 1883
Minor Approach Volume: 187
Minor Approach Volume Threshold: 51 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER

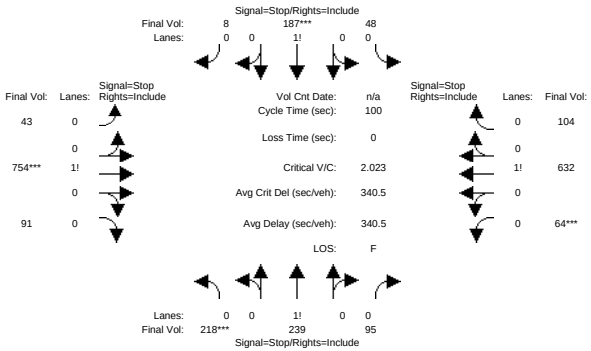
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #1014: 15th St / M St

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Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10  176    61    48  174     8    43  647    37    56  500   104
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   10  176    61    48  174     8    43  647    37    56  500   104
Added Vol:    208   63    34     0   13     0     0  107    54     8  132     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  218  239    95    48  187     8    43  754    91    64  632   104
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   218  239    95    48  187     8    43  754    91    64  632   104
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  218  239    95    48  187     8    43  754    91    64  632   104
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  218  239    95    48  187     8    43  754    91    64  632   104
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.39 0.44  0.17  0.20 0.77  0.03  0.05 0.85  0.10  0.08 0.79  0.13
Final Sat.:   173  189    75    78  303    13    21  373    45    35  347    57
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.26 1.26  1.26  0.62 0.62  0.62  2.02 2.02  2.02  1.82 1.82  1.82
Crit Moves:  ****                 ****               ****        ****
Delay/Veh:  160.3  160 160.3  25.8 25.8  25.8 487.1  487 487.1 397.6  398 397.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 160.3  160 160.3  25.8 25.8  25.8 487.1  487 487.1 397.6  398 397.6
LOS by Move:    F    F     F     D    D     D     F    F     F     F    F     F
ApproachDel:     160.3             25.8            487.1            397.6
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:      160.3             25.8            487.1            397.6
LOS by Appr:         F                D                F                F
AllWayAvgQ:   453  453 452.9  37.4 37.4  37.4  1451 1451  1451  1179 1179  1179
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
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Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  218  239    95    48  187     8    43  754    91    64  632   104
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1688
Minor Approach Volume:           552
Minor Approach Volume Threshold: 80 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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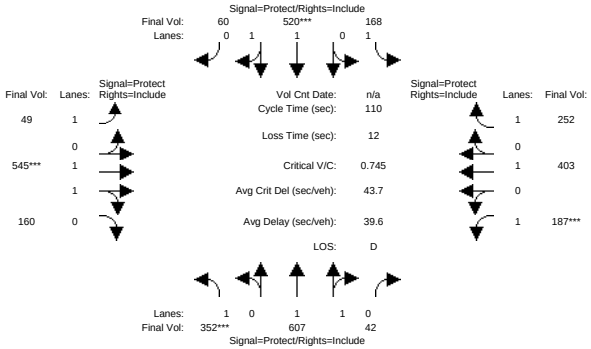
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1015: 16th St / M St



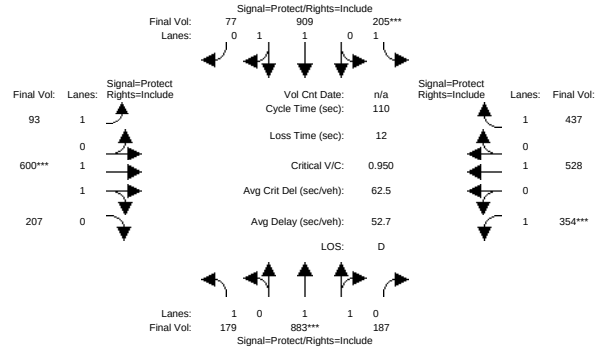
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	237	532	38	167	436	51	47	528	34	182	390	252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	237	532	38	167	436	51	47	528	34	182	390	252
Added Vol:	115	75	4	1	84	9	2	17	126	5	13	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	352	607	42	168	520	60	49	545	160	187	403	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	352	607	42	168	520	60	49	545	160	187	403	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	352	607	42	168	520	60	49	545	160	187	403	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	352	607	42	168	520	60	49	545	160	187	403	252
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.92	0.92	0.95	1.00	0.85
Lanes:	1.00	1.87	0.13	1.00	1.79	0.21	1.00	1.55	0.45	1.00	1.00	1.00
Final Sat.:	1805	3343	231	1805	3188	368	1805	2696	791	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.20	0.18	0.18	0.09	0.16	0.16	0.03	0.20	0.20	0.10	0.21	0.16
Crit Moves:	****				****			****		****		
Green/Cycle:	0.26	0.32	0.32	0.16	0.22	0.22	0.09	0.27	0.27	0.14	0.32	0.32
Volume/Cap:	0.75	0.57	0.57	0.57	0.75	0.75	0.29	0.75	0.75	0.75	0.67	0.49
Delay/Veh:	43.6	32.0	32.0	45.2	44.0	44.0	47.3	39.9	39.9	57.0	35.7	31.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.6	32.0	32.0	45.2	44.0	44.0	47.3	39.9	39.9	57.0	35.7	31.3
LOS by Move:	D	C	C	D	D	D	D	D	D	E	D	C
HCM2kAvgQ:	264	227	227	149	279	279	45	322	322	155	289	166

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1015: 16th St / M St



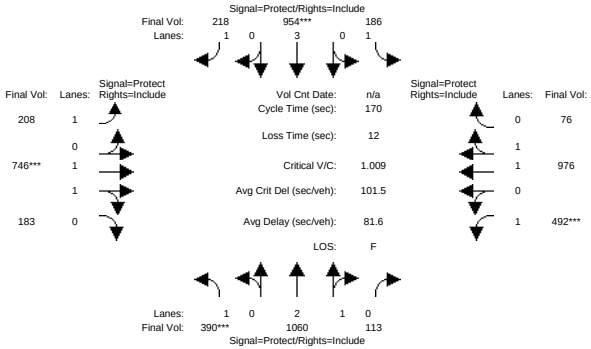
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	57	794	182	205	838	75	84	587	88	350	512	436
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	57	794	182	205	838	75	84	587	88	350	512	436
Added Vol:	122	89	5	0	71	2	9	13	119	4	16	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	179	883	187	205	909	77	93	600	207	354	528	437
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	179	883	187	205	909	77	93	600	207	354	528	437
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	179	883	187	205	909	77	93	600	207	354	528	437
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	179	883	187	205	909	77	93	600	207	354	528	437
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	0.95	0.94	0.94	0.95	0.91	0.91	0.95	1.00	0.85
Lanes:	1.00	1.65	0.35	1.00	1.84	0.16	1.00	1.49	0.51	1.00	1.00	1.00
Final Sat.:	1805	2902	615	1805	3288	279	1805	2579	890	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.30	0.30	0.11	0.28	0.28	0.05	0.23	0.23	0.20	0.28	0.27
Crit Moves:		****		****				****		****		
Green/Cycle:	0.12	0.32	0.32	0.12	0.32	0.32	0.08	0.24	0.24	0.21	0.37	0.37
Volume/Cap:	0.85	0.95	0.95	0.95	0.85	0.85	0.61	0.95	0.95	0.95	0.76	0.74
Delay/Veh:	75.0	52.8	52.8	95.3	41.2	41.2	55.9	60.7	60.7	76.9	35.3	35.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	75.0	52.8	52.8	95.3	41.2	41.2	55.9	60.7	60.7	76.9	35.3	35.0
LOS by Move:	E	D	D	F	D	D	E	E	E	E	D	D
HCM2kAvgQ:	138	440	440	266	476	476	102	470	470	315	374	306

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1016: Olive Ave / M St



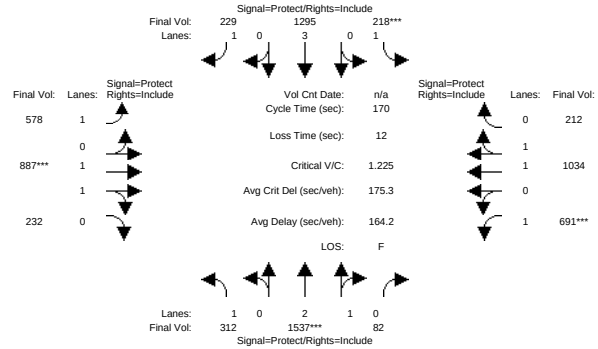
Street Name:	Olive Avenue									M Street								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	390	1060		113		186	954		218		208	741		183		492	965		76	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Initial Bse:	390	1060		113		186	954		218		208	741		183		492	965		76	
Added Vol:	0	0		0		0	0		0		0	5		0		0	11		0	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	390	1060		113		186	954		218		208	746		183		492	976		76	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Volume:	390	1060		113		186	954		218		208	746		183		492	976		76	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	390	1060		113		186	954		218		208	746		183		492	976		76	
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
FinalVolume:	390	1060		113		186	954		218		208	746		183		492	976		76	
Saturation Flow Module:																				
Sat/Lane:	1900	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900	
Adjustment:	0.95	0.90		0.90		0.95	0.91		0.85		0.95	0.92		0.92		0.95	0.94		0.94	
Lanes:	1.00	2.71		0.29		1.00	3.00		1.00		1.00	1.61		0.39		1.00	1.86		0.14	
Final Sat.:	1805	4622		493		1805	5187		1615		1805	2812		690		1805	3312		258	
Capacity Analysis Module:																				
Vol/Sat:	0.22	0.23		0.23		0.10	0.18		0.13		0.12	0.27		0.27		0.27	0.29		0.29	
Crit Moves:	****						****					****				****				
Green/Cycle:	0.21	0.27		0.27		0.12	0.18		0.18		0.15	0.26		0.26		0.27	0.38		0.38	
Volume/Cap:	1.01	0.84		0.84		0.84	1.01		0.74		0.77	1.01		1.01		1.01	0.77		0.77	
Delay/Veh:	114.9	62.9		62.9		96.5	101		75.3		82.0	94.6		94.6		105.1	48.6		48.6	
User DelAdj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
AdjDel/Veh:	114.9	62.9		62.9		96.5	101		75.3		82.0	94.6		94.6		105.1	48.6		48.6	
LOS by Move:	F	E		E		F	F		E		F	F		F		F	D		D	
HCM2kAvgQ:	506	486		486		238	506		261		299	780		780		784	645		645	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1016: Olive Ave / M St



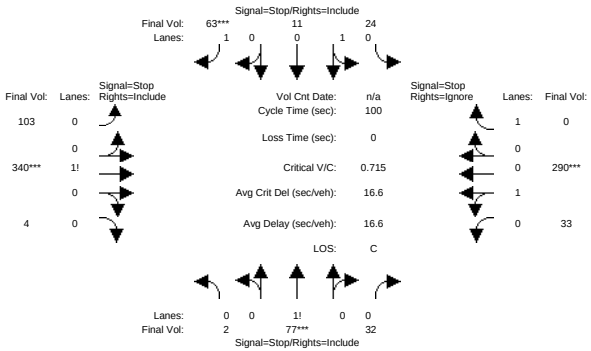
Street Name:	Olive Avenue									M Street								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	312	1537		82		218	1295		229		578	876		232		691	1029		212	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Initial Bse:	312	1537		82		218	1295		229		578	876		232		691	1029		212	
Added Vol:	0	0		0		0	0		0		0	11		0		0	5		0	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	312	1537		82		218	1295		229		578	887		232		691	1034		212	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Volume:	312	1537		82		218	1295		229		578	887		232		691	1034		212	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	312	1537		82		218	1295		229		578	887		232		691	1034		212	
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
FinalVolume:	312	1537		82		218	1295		229		578	887		232		691	1034		212	
Saturation Flow Module:																				
Sat/Lane:	1900	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900	
Adjustment:	0.95	0.90		0.90		0.95	0.91		0.85		0.95	0.92		0.92		0.95	0.93		0.93	
Lanes:	1.00	2.85		0.15		1.00	3.00		1.00		1.00	1.59		0.41		1.00	1.66		0.34	
Final Sat.:	1805	4885		261		1805	5187		1615		1805	2773		725		1805	2921		599	
Capacity Analysis Module:																				
Vol/Sat:	0.17	0.31		0.31		0.12	0.25		0.14		0.32	0.32		0.32		0.38	0.35		0.35	
Crit Moves:		****				****						****				****				
Green/Cycle:	0.15	0.26		0.26		0.10	0.21		0.21		0.27	0.26		0.26		0.31	0.30		0.30	
Volume/Cap:	1.19	1.22		1.22		1.22	1.19		0.67		1.17	1.22		1.22		1.22	1.17		1.17	
Delay/Veh:	188.9	171		171.2		217.3	161		67.1		160.2	174		173.6		174.6	148		148.2	
User DelAdj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
AdjDel/Veh:	188.9	171		171.2		217.3	161		67.1		160.2	174		173.6		174.6	148		148.2	
LOS by Move:	F	F		F		F	F		E		F	F		F		F	F		F	
HCM2kAvgQ:	529	1048		1048		398	824		258		1068	1137		1137		1319	1200		1200	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   77    32    24   11    63   103  340     4    33  290   102
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   77    32    24   11    63   103  340     4    33  290   102
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   77    32    24   11    63   103  340     4    33  290   102
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2   77    32    24   11    63   103  340     4    33  290     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   77    32    24   11    63   103  340     4    33  290     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    2   77    32    24   11    63   103  340     4    33  290     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.69  0.29  0.69 0.31  1.00  0.23 0.76  0.01  0.10 0.90  1.00
Final Sat.:     9  343   143   315  144   530   144  476     6    63  550   702
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.22 0.22  0.22  0.08 0.08  0.12  0.71 0.71  0.71  0.53 0.53  0.00
Crit Moves:       ****                    ****       ****              ****
Delay/Veh:   11.2 11.2  11.2  10.3 10.3   9.4  21.1 21.1  21.1  14.3 14.3   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.2 11.2  11.2  10.3 10.3   9.4  21.1 21.1  21.1  14.3 14.3   0.0
LOS by Move:    B    B     B     B    B     A     C    C     C     B    B     *
ApproachDel:      11.2              9.7             21.1             14.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       11.2              9.7             21.1             14.3
LOS by Appr:         B                A                C                B
AllWayAvgQ:   5.7  5.7   5.7   1.7  1.7   2.6  53.9 53.9  53.9  25.0 25.0   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



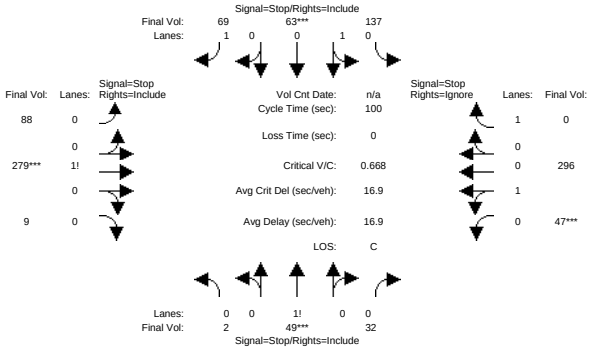
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   77    32    24   11    63   103  340     4    33  290   102
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             872
Minor Approach Volume:           111
Minor Approach Volume Threshold: 332
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   49    32   137   63    69    88  279     9    47  296    88
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   49    32   137   63    69    88  279     9    47  296    88
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   49    32   137   63    69    88  279     9    47  296    88
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2   49    32   137   63    69    88  279     9    47  296     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   49    32   137   63    69    88  279     9    47  296     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    2   49    32   137   63    69    88  279     9    47  296     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.69 0.31  1.00  0.23 0.75  0.02  0.14 0.86  1.00
Final Sat.:    11  267   175   329  151   557   132  417    13    77  483   632
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18  0.18  0.42 0.42  0.12  0.67 0.67  0.67  0.61 0.61  0.00
Crit Moves:       ****              ****              ****        ****
Delay/Veh:   11.3 11.3  11.3  14.2 14.2   9.5  20.2 20.2  20.2  17.7 17.7   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.3 11.3  11.3  14.2 14.2   9.5  20.2 20.2  20.2  17.7 17.7   0.0
LOS by Move:    B    B     B     B    B     A     C    C     C     C    C     *
ApproachDel:      11.3             13.0             20.2             17.7
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       11.3             13.0             20.2             17.7
LOS by Appr:         B                B                C                C
AllWayAvgQ:   4.2  4.2   4.2  15.0 15.0   3.0  43.0 43.0  43.0  34.1 34.1   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



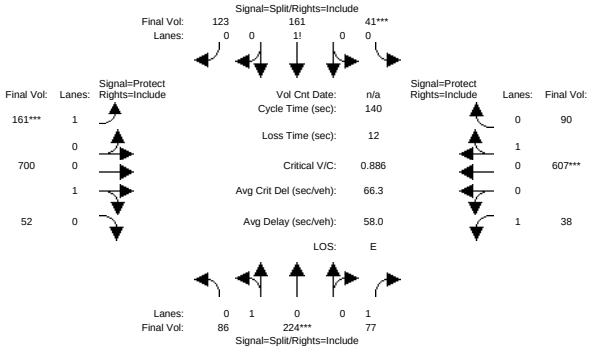
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   49    32   137   63    69    88  279     9    47  296    88
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             807
Minor Approach Volume:           269
Minor Approach Volume Threshold: 466
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1018: Childs Ave / Martin Luther King Wy



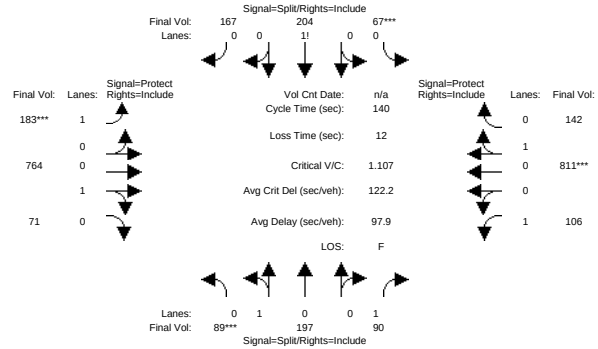
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	224	77	41	161	123	161	662	51	38	588	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	224	77	41	161	123	161	662	51	38	588	90
Added Vol:	0	0	0	0	0	0	0	38	1	0	19	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	86	224	77	41	161	123	161	700	52	38	607	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	224	77	41	161	123	161	700	52	38	607	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	224	77	41	161	123	161	700	52	38	607	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	224	77	41	161	123	161	700	52	38	607	90
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.13	0.49	0.38	1.00	0.93	0.07	1.00	0.87	0.13
Final Sat.:	520	1354	1615	226	888	678	1805	1751	130	1805	1623	241
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.05	0.18	0.18	0.18	0.09	0.40	0.40	0.02	0.37	0.37
Crit Moves:		****		****			****				****	
Green/Cycle:	0.19	0.19	0.19	0.20	0.20	0.20	0.10	0.46	0.46	0.06	0.42	0.42
Volume/Cap:	0.89	0.89	0.26	0.89	0.89	0.89	0.89	0.86	0.86	0.36	0.89	0.89
Delay/Veh:	78.1	78.1	49.1	75.9	75.9	75.9	98.8	42.1	42.1	65.6	49.1	49.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.1	78.1	49.1	75.9	75.9	75.9	98.8	42.1	42.1	65.6	49.1	49.1
LOS by Move:	E	E	D	E	E	E	F	D	D	E	D	D
HCM2kAvgQ:	399	399	72	414	414	414	239	770	770	38	710	710

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1018: Childs Ave / Martin Luther King Wy



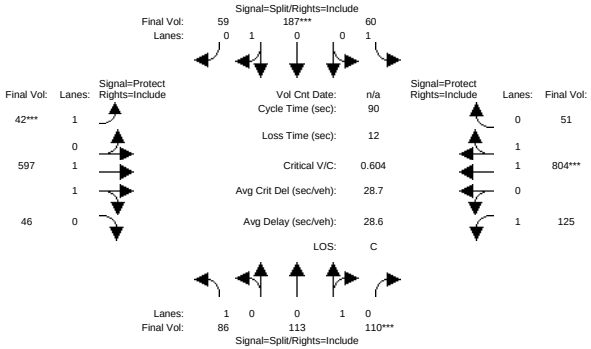
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	197	90	67	204	167	183	745	71	106	773	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	197	90	67	204	167	183	745	71	106	773	142
Added Vol:	1	0	0	0	0	0	0	19	0	0	38	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	197	90	67	204	167	183	764	71	106	811	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	197	90	67	204	167	183	764	71	106	811	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	197	90	67	204	167	183	764	71	106	811	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	197	90	67	204	167	183	764	71	106	811	142
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.31	0.69	1.00	0.15	0.47	0.38	1.00	0.91	0.09	1.00	0.85	0.15
Final Sat.:	582	1289	1615	274	833	682	1805	1716	159	1805	1581	277
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.06	0.24	0.24	0.24	0.10	0.45	0.45	0.06	0.51	0.51
Crit Moves:	****			****			****				****	
Green/Cycle:	0.14	0.14	0.14	0.22	0.22	0.22	0.09	0.49	0.49	0.06	0.46	0.46
Volume/Cap:	1.11	1.11	0.40	1.11	1.11	1.11	1.11	0.91	0.91	0.91	1.11	1.11
Delay/Veh:	148.0	148	56.3	131.9	132	131.9	165.1	45.4	45.4	120.6	102	101.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	148.0	148	56.3	131.9	132	131.9	165.1	45.4	45.4	120.6	102	101.8
LOS by Move:	F	F	E	F	F	F	F	D	D	F	F	F
HCM2kAvgQ:	477	477	96	688	688	688	328	901	901	119	1282	1282

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1019: 13th St / Martin Luther King Wy

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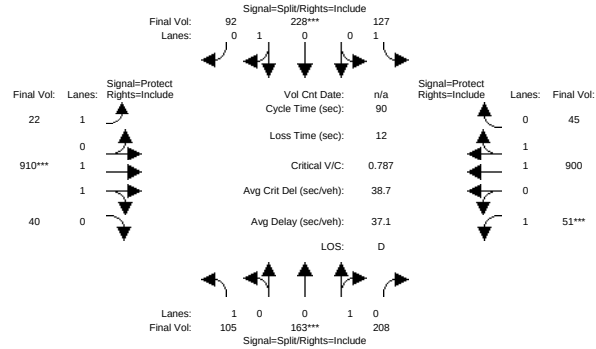
Street Name:            13th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      86  113   110   58  187    50   24  597    46  125  804    51
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   86  113   110   58  187    50   24  597    46  125  804    51
Added Vol:      0    0     0    2    0     9   18    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   86  113   110   60  187    59   42  597    46  125  804    51
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    86  113   110   60  187    59   42  597    46  125  804    51
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   86  113   110   60  187    59   42  597    46  125  804    51
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   86  113   110   60  187    59   42  597    46  125  804    51
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.93  0.93 0.95 0.96  0.96 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.51  0.49 1.00 0.76  0.24 1.00 1.86  0.14 1.00 1.88  0.12
Final Sat.:  1805  892   868 1805 1392   439 1805 3315   255 1805 3364   213
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.13  0.13 0.03 0.13  0.13 0.02 0.18  0.18 0.07 0.24  0.24
Crit Moves:             ****      ****       ****                ****
Green/Cycle: 0.20 0.20  0.20 0.21 0.21  0.21 0.08 0.32  0.32 0.14 0.38  0.38
Volume/Cap:  0.24 0.63  0.63 0.16 0.63  0.63 0.30 0.57  0.57 0.50 0.63  0.63
Delay/Veh:   30.6 36.7  36.7 29.1 35.7  35.7 40.4 26.2  26.2 37.7 23.9  23.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  30.6 36.7  36.7 29.1 35.7  35.7 40.4 26.2  26.2 37.7 23.9  23.9
LOS by Move:    C    D     D    C    D     D    D    C     C    D    C     C
HCM2kAvgQ:     53  167   167   35  180   180   26  182   182   79  252   252
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1019: 13th St / Martin Luther King Wy

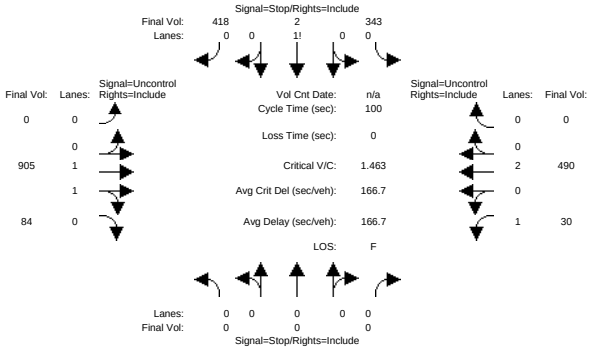



```
Street Name:            13th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     105  163   208  118  228    74   13  910    40   51  900    45
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  105  163   208  118  228    74   13  910    40   51  900    45
Added Vol:      0    0     0    9    0    18    9    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  105  163   208  127  228    92   22  910    40   51  900    45
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  105  163   208  127  228    92   22  910    40   51  900    45
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  105  163   208  127  228    92   22  910    40   51  900    45
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  105  163   208  127  228    92   22  910    40   51  900    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.92  0.92 0.95 0.96  0.96 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.44  0.56 1.00 0.71  0.29 1.00 1.92  0.08 1.00 1.90  0.10
Final Sat.:  1805  765   976 1805 1296   523 1805 3437   151 1805 3414   171
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.21  0.21 0.07 0.18  0.18 0.01 0.26  0.26 0.03 0.26  0.26
Crit Moves:             ****      ****       ****                ****
Green/Cycle: 0.26 0.26  0.26 0.21 0.21  0.21 0.09 0.32  0.32 0.08 0.31  0.31
Volume/Cap:  0.23 0.83  0.83 0.33 0.83  0.83 0.13 0.83  0.83 0.36 0.86  0.86
Delay/Veh:   26.6 43.8  43.8 30.5 47.8  47.8 38.1 33.5  33.5 41.0 36.4  36.4
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  26.6 43.8  43.8 30.5 47.8  47.8 38.1 33.5  33.5 41.0 36.4  36.4
LOS by Move:    C    D     D    C    D     D    D    C     C    D    D     D
HCM2kAvgQ:     59  307   307   79  277   277   13  307   307   33  342   342
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   263    2   418     0  905    82    30  490     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   263    2   418     0  905    82    30  490     0
Added Vol:      0    0     0    80    0     0     0    0     2     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   343    2   418     0  905    84    30  490     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   343    2   418     0  905    84    30  490     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   343    2   418     0  905    84    30  490     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1003 1539   245  xxxx xxxx xxxxx   989 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   242  117   762  xxxx xxxx xxxxx   707 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   234  112   762  xxxx xxxx xxxxx   707 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.46 0.02  0.55  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  376 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 53.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  496 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            496.0           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   343    2   418     0  905    84    30  490     0
ApproachDel:    xxxxxx            496.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=105.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=763]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2272]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

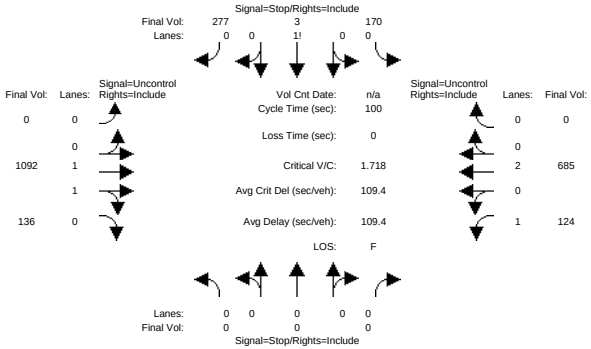
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   343    2   418     0  905    84    30  490     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1509
Minor Approach Volume:           763
Minor Approach Volume Threshold: 143
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   150    3   277     0 1092   127   124  685     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   150    3   277     0 1092   127   124  685     0
Added Vol:      0    0     0    20    0     0     0    0     9     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   170    3   277     0 1092   136   124  685     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   170    3   277     0 1092   136   124  685     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   170    3   277     0 1092   136   124  685     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1479 2161   343  xxxx xxxx xxxxx  1228 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   119   48   659  xxxx xxxx xxxxx   575 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    99   38   659  xxxx xxxx xxxxx   575 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.72 0.08  0.42  xxxx xxxx  xxxx  0.22 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  20.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  13.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  203 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 35.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  601 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            601.3           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   170    3   277     0 1092   136   124  685     0
ApproachDel:    xxxxxx            601.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=75.2]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=450]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2487]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

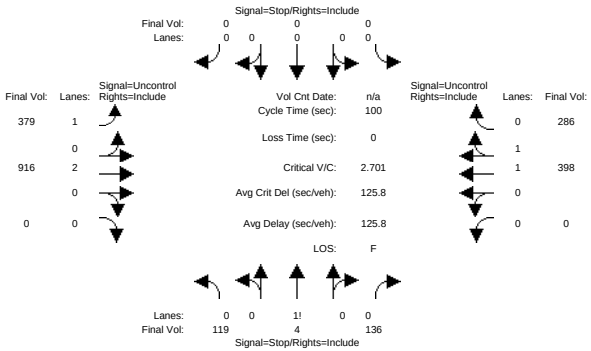
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   170    3   277     0 1092   136   124  685     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2037
Minor Approach Volume:           450
Minor Approach Volume Threshold: 40 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119    4   136     0    0     0   379  836     0     0  398   274
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  119    4   136     0    0     0   379  836     0     0  398   274
Added Vol:      0    0     0     0    0     0     0   80     0     0    0    12
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  119    4   136     0    0     0   379  916     0     0  398   286
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   119    4   136     0    0     0   379  916     0     0  398   286
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  119    4   136     0    0     0   379  916     0     0  398   286
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1873 2358   458  xxxx xxxx xxxxx   684 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   65   36   555  xxxx xxxx xxxxx   919 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     44   21   555  xxxx xxxx xxxxx   919 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  2.70 0.19  0.24  xxxx xxxx  xxxx  0.41 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  51.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   83 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 25.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 1070 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:    1069.8           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:  119    4   136     0    0     0   379  916     0     0  398   286
ApproachDel:    1069.8           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=77.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=259]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2238]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

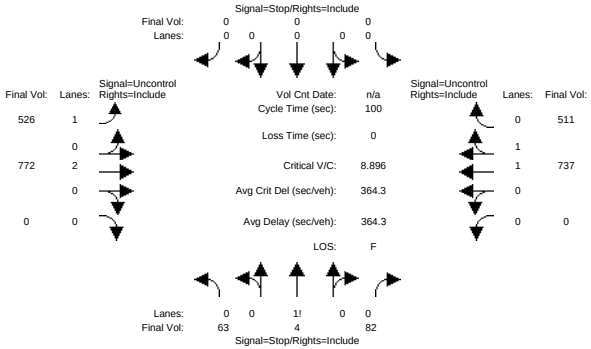
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:  119    4   136     0    0     0   379  916     0     0  398   286
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1979
Minor Approach Volume:           259
Minor Approach Volume Threshold: 50 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63    4    82     0    0     0   526  752     0     0  737   464
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   63    4    82     0    0     0   526  752     0     0  737   464
Added Vol:      0    0     0     0    0     0     0   20     0     0    0    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   63    4    82     0    0     0   526  772     0     0  737   511
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    63    4    82     0    0     0   526  772     0     0  737   511
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   63    4    82     0    0     0   526  772     0     0  737   511
------------||---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------||---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2193 3072   386  xxxx xxxx xxxxx  1248 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   40   12   618  xxxx xxxx xxxxx   565 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:      7    1   618  xxxx xxxx xxxxx   565 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  8.90 4.72  0.13  xxxx xxxx  xxxx  0.93 xxxx  xxxx  xxxx xxxx  xxxx
------------||---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   296 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  49.9 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     E    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   11 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 20.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 6414 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:    6413.6           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   63    4    82     0    0     0   526  772     0     0  737   511
ApproachDel:    6413.6           xxxxxx            xxxxxx            xxxxxx
------------||---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=265.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=149]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2695]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

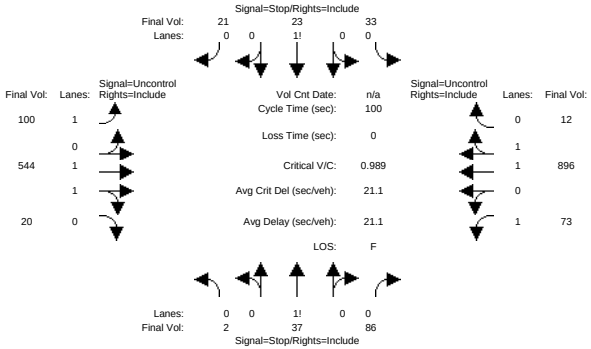
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   63    4    82     0    0     0   526  772     0     0  737   511
------------||---------------||---------------||---------------||---------------|
Major Street Volume:             2546
Minor Approach Volume:           149
Minor Approach Volume Threshold: -37 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   28    86    33   23     9    20  544    20    73  896    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   28    86    33   23     9    20  544    20    73  896    12
Added Vol:      0    9     0     0    0    12    80    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   37    86    33   23    21   100  544    20    73  896    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2   37    86    33   23    21   100  544    20    73  896    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2   37    86    33   23    21   100  544    20    73  896    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1360 1808   282  1539 1812   454   908 xxxx xxxxx   564 xxxx xxxxx
Potent Cap.:  109   80   721    80   79   559   758 xxxx xxxxx  1018 xxxx xxxxx
Move Cap.:     65   64   721    33   64   559   758 xxxx xxxxx  1018 xxxx xxxxx
Volume/Cap:  0.03 0.58  0.12  0.99 0.36  0.04  0.13 xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  11.3 xxxx xxxxx   5.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.5 xxxx xxxxx   8.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  172 xxxxx  xxxx   56 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  4.5 xxxxx xxxxx  6.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 67.2 xxxxx xxxxx  376 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     *    *     *     *    *     *
ApproachDel:      67.2            376.0           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2   37    86    33   23    21   100  544    20    73  896    12
ApproachDel:      67.2            376.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=125]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1847]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=8.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=77]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1847]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

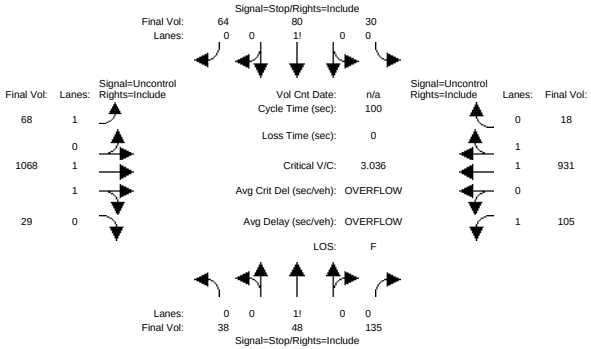
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2   37    86    33   23    21   100  544    20    73  896    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1645
Minor Approach Volume:           125
Minor Approach Volume Threshold: 113
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      38   46   135    30   80    17    48 1068    29   105  931    18
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   38   46   135    30   80    17    48 1068    29   105  931    18
Added Vol:      0    2     0     0    0    47    20    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   38   48   135    30   80    64    68 1068    29   105  931    18
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    38   48   135    30   80    64    68 1068    29   105  931    18
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   38   48   135    30   80    64    68 1068    29   105  931    18
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1934 2378   549  1844 2383   475   949 xxxx xxxxx  1097 xxxx xxxxx
Potent Cap.:   41   35   485    47   35   542   732 xxxx xxxxx   644 xxxx xxxxx
Move Cap.:      0   27   485     0   26   542   732 xxxx xxxxx   644 xxxx xxxxx
Volume/Cap:  xxxx 1.81  0.28  xxxx 3.04  0.12  0.09 xxxx  xxxx  0.16 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   7.7 xxxx xxxxx  14.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.4 xxxx xxxxx  11.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx    0 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   38   48   135    30   80    64    68 1068    29   105  931    18
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=221]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2614]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=174]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2614]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

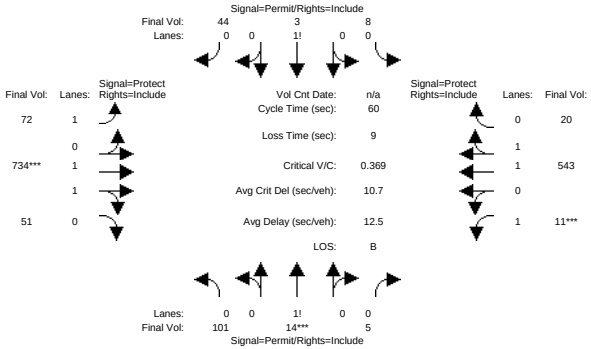
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   38   48   135    30   80    64    68 1068    29   105  931    18
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2219
Minor Approach Volume:           221
Minor Approach Volume Threshold: 10 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1023: 15th St / Martin Luther King Wy



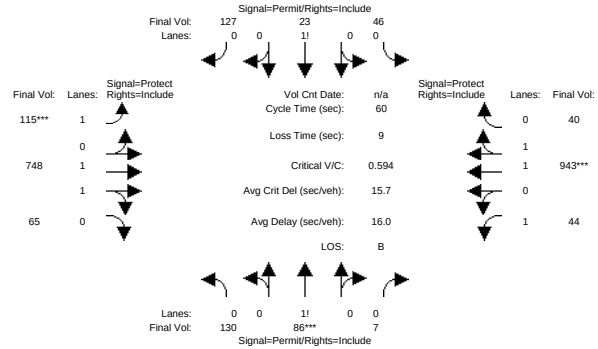
Street Name:	15th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	101		14		5	8		3		44	72		734		51	11		543		20
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	101		14		5	8		3		44	72		734		51	11		543		20
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	101		14		5	8		3		44	72		734		51	11		543		20
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	101		14		5	8		3		44	72		734		51	11		543		20
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	101		14		5	8		3		44	72		734		51	11		543		20
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	101		14		5	8		3		44	72		734		51	11		543		20
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.72		0.72		0.72	0.86		0.86		0.86	0.95		0.94		0.94	0.95		0.95		0.95
Lanes:	0.84		0.12		0.04	0.15		0.05		0.80	1.00		1.87		0.13	1.00		1.93		0.07
Final Sat.:	1152		160		57	237		89		1302	1805		3342		232	1805		3464		128
Capacity Analysis Module:																				
Vol/Sat:	0.09		0.09		0.09	0.03		0.03		0.03	0.04		0.22		0.22	0.01		0.16		0.16
Crit Moves:			****										****			****				
Green/Cycle:	0.21		0.21		0.21	0.21		0.21		0.21	0.26		0.52		0.52	0.12		0.38		0.38
Volume/Cap:	0.42		0.42		0.42	0.16		0.16		0.16	0.15		0.42		0.42	0.05		0.42		0.42
Delay/Veh:	21.6		21.6		21.6	19.6		19.6		19.6	17.1		8.9		8.9	23.7		14.0		14.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	21.6		21.6		21.6	19.6		19.6		19.6	17.1		8.9		8.9	23.7		14.0		14.0
LOS by Move:	C		C		C	B		B		B	B		A		A	C		B		B
HCM2kAvgQ:	61		61		61	24		24		24	24		113		113	4		95		95

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1023: 15th St / Martin Luther King Wy



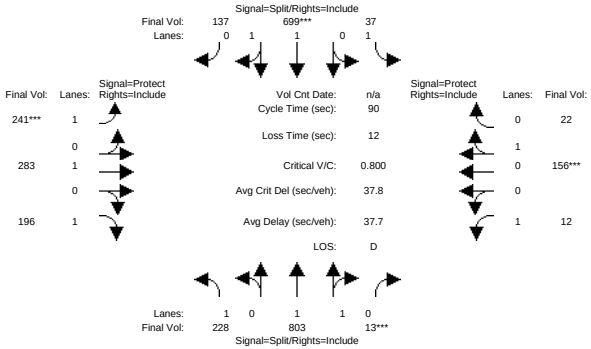
Street Name:	15th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	130		86		7	46		23		127	115		748		65	44		943		40
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	130		86		7	46		23		127	115		748		65	44		943		40
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	130		86		7	46		23		127	115		748		65	44		943		40
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	130		86		7	46		23		127	115		748		65	44		943		40
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	130		86		7	46		23		127	115		748		65	44		943		40
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	130		86		7	46		23		127	115		748		65	44		943		40
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.70		0.70		0.70	0.83		0.83		0.83	0.95		0.94		0.94	0.95		0.94		0.94
Lanes:	0.58		0.39		0.03	0.23		0.12		0.65	1.00		1.84		0.16	1.00		1.92		0.08
Final Sat.:	777		514		42	370		185		1022	1805		3282		285	1805		3442		146
Capacity Analysis Module:																				
Vol/Sat:	0.17		0.17		0.17	0.12		0.12		0.12	0.06		0.23		0.23	0.02		0.27		0.27
Crit Moves:			****										****			****				
Green/Cycle:	0.28		0.28		0.28	0.28		0.28		0.28	0.12		0.38		0.38	0.19		0.46		0.46
Volume/Cap:	0.60		0.60		0.60	0.45		0.45		0.45	0.55		0.60		0.60	0.13		0.60		0.60
Delay/Veh:	21.5		21.5		21.5	18.6		18.6		18.6	28.0		15.8		15.8	20.2		12.9		12.9
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	21.5		21.5		21.5	18.6		18.6		18.6	28.0		15.8		15.8	20.2		12.9		12.9
LOS by Move:	C		C		C	B		B		B	C		B		B	C		B		B
HCM2kAvgQ:	116		116		116	87		87		87	48		151		151	15		163		163

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1024: 16th St / Martin Luther King Wy

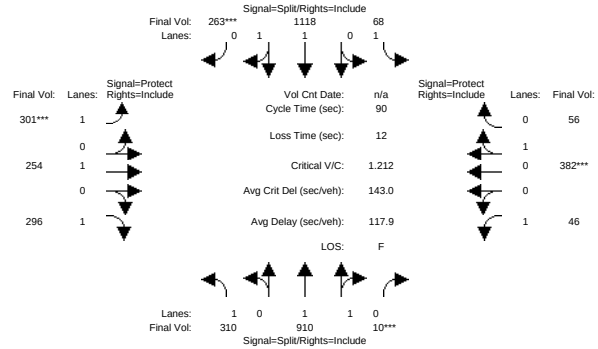



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     228  609    13   37  484   137  241  283   196   12  156    22
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  228  609    13   37  484   137  241  283   196   12  156    22
Added Vol:      0  194     0    0  215     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  228  803    13   37  699   137  241  283   196   12  156    22
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   228  803    13   37  699   137  241  283   196   12  156    22
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  228  803    13   37  699   137  241  283   196   12  156    22
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  228  803    13   37  699   137  241  283   196   12  156    22
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.93  0.93 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.97  0.03 1.00 1.67  0.33 1.00 1.00  1.00 1.00 0.88  0.12
Final Sat.:  1805 3545    57 1805 2943   577 1805 1900  1615 1805 1634   230
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.23  0.23 0.02 0.24  0.24 0.13 0.15  0.12 0.01 0.10  0.10
Crit Moves:             ****      ****       ****                 ****
Green/Cycle: 0.28 0.28  0.28 0.30 0.30  0.30 0.17 0.19  0.19 0.10 0.12  0.12
Volume/Cap:  0.45 0.80  0.80 0.07 0.80  0.80 0.80 0.79  0.65 0.07 0.80  0.80
Delay/Veh:   27.1 34.4  34.4 22.8 33.6  33.6 50.1 46.2  38.5 37.0 56.8  56.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  27.1 34.4  34.4 22.8 33.6  33.6 50.1 46.2  38.5 37.0 56.8  56.8
LOS by Move:    C    C     C    C    C     C    D    D     D    D    E     E
HCM2kAvgQ:    137  329   329   17  280   280  172  197   127    7  132   132
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1024: 16th St / Martin Luther King Wy

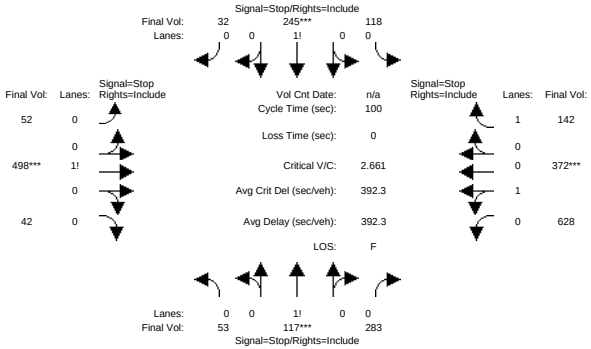



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     310  695    10   68  924   263  301  254   296   46  382    56
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  310  695    10   68  924   263  301  254   296   46  382    56
Added Vol:      0  215     0    0  194     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  310  910    10   68 1118   263  301  254   296   46  382    56
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   310  910    10   68 1118   263  301  254   296   46  382    56
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  310  910    10   68 1118   263  301  254   296   46  382    56
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  310  910    10   68 1118   263  301  254   296   46  382    56
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.92  0.92 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.98  0.02 1.00 1.62  0.38 1.00 1.00  1.00 1.00 0.87  0.13
Final Sat.:  1805 3564    39 1805 2841   668 1805 1900  1615 1805 1626   238
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.26  0.26 0.04 0.39  0.39 0.17 0.13  0.18 0.03 0.23  0.23
Crit Moves:             ****             ****  ****                 ****
Green/Cycle: 0.21 0.21  0.21 0.32 0.32  0.32 0.14 0.23  0.23 0.10 0.19  0.19
Volume/Cap:  0.82 1.21  1.21 0.12 1.21  1.21 1.21 0.57  0.79 0.26 1.21  1.21
Delay/Veh:   46.6  143 143.1 21.4  134 134.2 165.6 32.4  43.1 38.3  155 154.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  46.6  143 143.1 21.4  134 134.2 165.6 32.4  43.1 38.3  155 154.8
LOS by Move:    D    F     F    C    F     F    F    C     D    D    F     F
HCM2kAvgQ:    265  670   670   30  879   879  381  151   199   29  557   557
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #1025: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      53   117   283   118   245    32    52   497    42   628   372   142
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   53   117   283   118   245    32    52   497    42   628   372   142
Added Vol:      0     0     0     0     0     0     0     1     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   53   117   283   118   245    32    52   498    42   628   372   142
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    53   117   283   118   245    32    52   498    42   628   372   142
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   53   117   283   118   245    32    52   498    42   628   372   142
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   53   117   283   118   245    32    52   498    42   628   372   142
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.12  0.26  0.62  0.30  0.62  0.08  0.09  0.84  0.07  0.63  0.37  1.00
Final Sat.:    48   106   256   118   244    32    34   329    28   236   140   420
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.10  1.10  1.10  1.00  1.00  1.00  1.51  1.51  1.51  2.66  2.66  0.34
Crit Moves:        ****              ****              ****              ****
Delay/Veh:  105.1   105 105.1  76.8  76.8  76.8 267.4   267 267.4 774.6   775  15.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh: 105.1   105 105.1  76.8  76.8  76.8 267.4   267 267.4 774.6   775  15.6
LOS by Move:    F     F     F     F     F     F     F     F     F     F     F     C
ApproachDel:     105.1             76.8             267.4             680.2
Delay Adj:        1.00             1.00              1.00              1.00
ApprAdjDel:      105.1             76.8             267.4             680.2
LOS by Appr:         F                F                 F                 F
AllWayAvgQ:    266   266 265.8   177   177 177.0   694   694 693.6  1990  1990  12.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1025 13th St / G St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   53  117   283   118  245    32    52  498    42   628  372   142
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1734
Minor Approach Volume:           453
Minor Approach Volume Threshold: 95 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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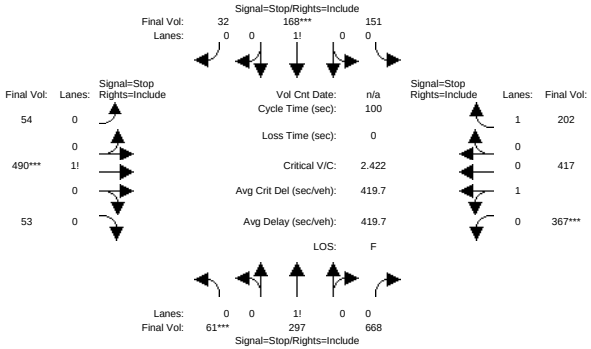
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #1025: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61  297   668   151  168    32    54  490    53   367  416   202
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   61  297   668   151  168    32    54  490    53   367  416   202
Added Vol:      0    0     0     0    0     0     0    0     0     0    1     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   61  297   668   151  168    32    54  490    53   367  417   202
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    61  297   668   151  168    32    54  490    53   367  417   202
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   61  297   668   151  168    32    54  490    53   367  417   202
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   61  297   668   151  168    32    54  490    53   367  417   202
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.06 0.29  0.65  0.43 0.48  0.09  0.09 0.82  0.09  0.47 0.53  1.00
Final Sat.:    25  123   276   169  188    36    36  330    36   181  206   431
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     2.42 2.42  2.42  0.89 0.89  0.89  1.48 1.48  1.48  2.03 2.03  0.47
Crit Moves:  ****                 ****               ****        ****
Delay/Veh:  665.8  666 665.8  53.3 53.3  53.3 254.0  254 254.0 491.3  491  18.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 665.8  666 665.8  53.3 53.3  53.3 254.0  254 254.0 491.3  491  18.3
LOS by Move:    F    F     F     F    F     F     F    F     F     F    F     C
ApproachDel:     665.8             53.3            254.0            394.4
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:      665.8             53.3            254.0            394.4
LOS by Appr:         F                F                F                F
AllWayAvgQ:  1924 1924  1924   112  112 112.2   677  677 676.7  1288 1288  21.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1025 13th St / G St
*******************************************************************************
```



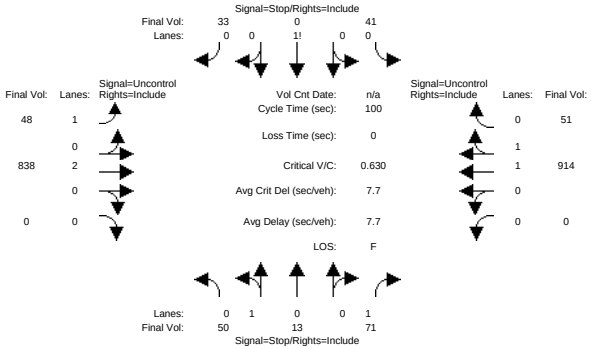
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   61  297   668   151  168    32    54  490    53   367  417   202
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1583
Minor Approach Volume:           1026
Minor Approach Volume Threshold: 127
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      50    4    71    41    0    33    48  837     0     0  908    51
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   50    4    71    41    0    33    48  837     0     0  908    51
Added Vol:      0    9     0     0    0     0     0    1     0     0    6     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   50   13    71    41    0    33    48  838     0     0  914    51
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    50   13    71    41    0    33    48  838     0     0  914    51
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   50   13    71    41    0    33    48  838     0     0  914    51
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1391 1899   419  1461 1874   483   965 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  103   70   589    92   73   535   722 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     92   65   589    65   68   535   722 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.54 0.20  0.12  0.63 0.00  0.06  0.07 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  10.2  xxxx xxxx xxxxx   5.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  12.0 xxxxx xxxx xxxxx  10.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:   85 xxxx xxxxx  xxxx  107 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  3.7 xxxx xxxxx xxxxx  3.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:121.5 xxxx xxxxx xxxxx 93.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     F    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      63.5             93.0            xxxxxx            xxxxxx
ApproachLOS:         F                F                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   50   13    71    41    0    33    48  838     0     0  914    51
ApproachDel:      63.5             93.0            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=134]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2059]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=74]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2059]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   50   13    71    41    0    33    48  838     0     0  914    51
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1851
Minor Approach Volume:           134
Minor Approach Volume Threshold: 109 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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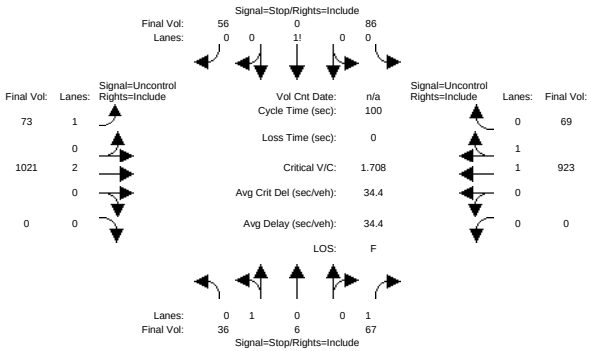
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36    4    67    86    0    56    73 1021     0     0  914    69
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36    4    67    86    0    56    73 1021     0     0  914    69
Added Vol:      0    2     0     0    0     0     0    0     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   36    6    67    86    0    56    73 1021     0     0  923    69
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    36    6    67    86    0    56    73 1021     0     0  923    69
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   36    6    67    86    0    56    73 1021     0     0  923    69
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1629 2159   511  1617 2125   496   992 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   69   48   513    70   51   525   705 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     57   43   513    50   45   525   705 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.64 0.14  0.13  1.71 0.00  0.11  0.10 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  11.2  xxxx xxxx xxxxx   8.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  13.1 xxxxx xxxx xxxxx  10.7 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:   54 xxxx xxxxx  xxxx   78 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  3.3 xxxx xxxxx xxxxx 12.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:180.9 xxxx xxxxx xxxxx  501 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     F    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      77.7            501.0           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   36    6    67    86    0    56    73 1021     0     0  923    69
ApproachDel:      77.7            501.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=109]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2337]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=19.8]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=142]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2337]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   36    6    67    86    0    56    73 1021     0     0  923    69
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2086
Minor Approach Volume:           142
Minor Approach Volume Threshold: 32 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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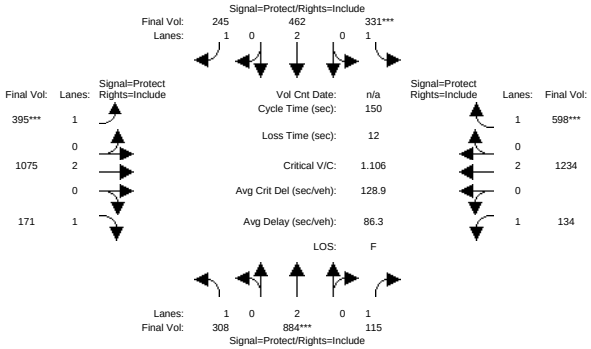
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1028: Olive Ave / G St



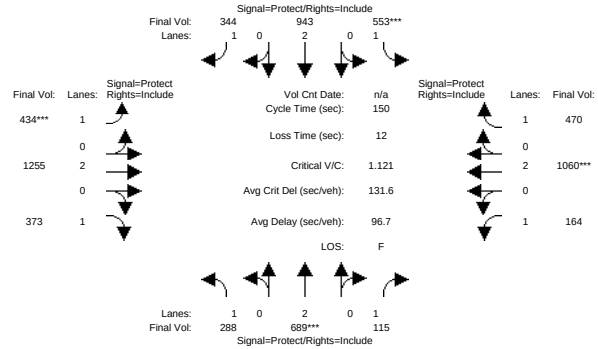
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	302	884	115	331	462	245	395	1072	168	134	1229	598
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	302	884	115	331	462	245	395	1072	168	134	1229	598
Added Vol:	6	0	0	0	0	0	0	3	3	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	308	884	115	331	462	245	395	1075	171	134	1234	598
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	308	884	115	331	462	245	395	1075	171	134	1234	598
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	308	884	115	331	462	245	395	1075	171	134	1234	598
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	308	884	115	331	462	245	395	1075	171	134	1234	598
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.17	0.24	0.07	0.18	0.13	0.15	0.22	0.30	0.11	0.07	0.34	0.37
Crit Moves:		****		****			****					****
Green/Cycle:	0.21	0.22	0.22	0.17	0.18	0.18	0.20	0.43	0.43	0.11	0.33	0.33
Volume/Cap:	0.83	1.11	0.32	1.11	0.70	0.83	1.11	0.70	0.25	0.70	1.02	1.11
Delay/Veh:	71.9	123	49.5	146.0	60.9	77.1	139.4	36.6	27.8	75.5	81.2	120.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	71.9	123	49.5	146.0	60.9	77.1	139.4	36.6	27.8	75.5	81.2	120.9
LOS by Move:	E	F	D	F	E	E	F	D	C	E	F	F
HCM2kAvgQ:	394	757	112	454	240	251	656	535	122	181	923	946

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1028: Olive Ave / G St



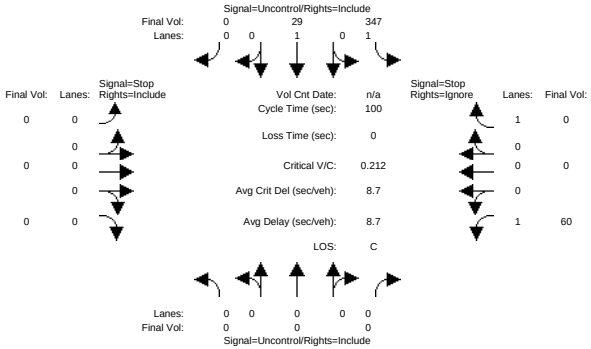
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	285	689	115	553	943	344	434	1250	367	164	1057	470
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	285	689	115	553	943	344	434	1250	367	164	1057	470
Added Vol:	3	0	0	0	0	0	0	5	6	0	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	288	689	115	553	943	344	434	1255	373	164	1060	470
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	288	689	115	553	943	344	434	1255	373	164	1060	470
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	288	689	115	553	943	344	434	1255	373	164	1060	470
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	288	689	115	553	943	344	434	1255	373	164	1060	470
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.16	0.19	0.07	0.31	0.26	0.21	0.24	0.35	0.23	0.09	0.29	0.29
Crit Moves:		****		****			****					****
Green/Cycle:	0.17	0.17	0.17	0.27	0.28	0.28	0.21	0.38	0.38	0.10	0.26	0.26
Volume/Cap:	0.95	1.12	0.42	1.12	0.95	0.77	1.12	0.92	0.61	0.92	1.12	1.11
Delay/Veh:	99.7	137	56.6	132.5	70.8	58.3	141.7	54.9	39.6	112.1	124	132.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	99.7	137	56.6	132.5	70.8	58.3	141.7	54.9	39.6	112.1	124	132.8
LOS by Move:	F	F	E	F	E	E	F	D	D	F	F	F
HCM2kAvgQ:	425	618	124	775	528	334	723	811	352	263	904	768

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   336   29     0     0    0     0    60    0   364
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   336   29     0     0    0     0    60    0   364
Added Vol:      0    0     0    11    0     0     0    0     0     0    0    21
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   347   29     0     0    0     0    60    0   385
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   347   29     0     0    0     0    60    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   347   29     0     0    0     0    60    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   723 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   396 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   331 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.21 xxxx  xxxx  xxxx xxxx  xxxx  0.18 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  20.1 xxxx xxxxx  xxxx xxxx xxxxx  16.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx  18.2 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             18.2
ApproachLOS:         *                *                *                C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   347   29     0     0    0     0    60    0   385
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             18.2
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=445]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=821]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

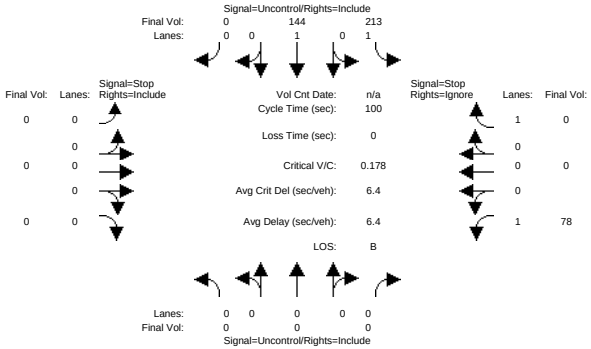
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   347   29     0     0    0     0    60    0   385
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             376
Minor Approach Volume:           445
Minor Approach Volume Threshold: 795
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   192  144     0     0    0     0    78    0   215
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   192  144     0     0    0     0    78    0   215
Added Vol:      0    0     0    21    0     0     0    0     0     0    0    11
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   213  144     0     0    0     0    78    0   226
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   213  144     0     0    0     0    78    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   213  144     0     0    0     0    78    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   570 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   486 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   438 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.13 xxxx  xxxx  xxxx xxxx  xxxx  0.18 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  11.2 xxxx xxxxx  xxxx xxxx xxxxx  16.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  15.0 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             15.0
ApproachLOS:         *                *                *                 B
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   213  144     0     0    0     0    78    0   226
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             15.0
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=304]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=661]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

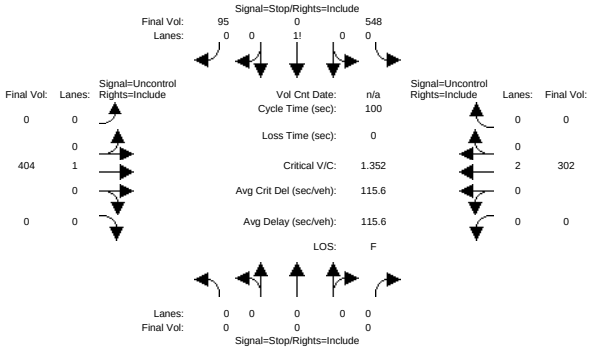
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   213  144     0     0    0     0    78    0   226
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             357
Minor Approach Volume:           304
Minor Approach Volume Threshold: 817
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   548    0    95     0  393     0     0  281     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   548    0    95     0  393     0     0  281     0
Added Vol:      0    0     0     0    0     0     0   11     0     0   21     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   548    0    95     0  404     0     0  302     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   548    0    95     0  404     0     0  302     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   548    0    95     0  404     0     0  302     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   706  706   151  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   405  363   901  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   405  363   901  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.35 0.00  0.11  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  441 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 32.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  243 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            242.5           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0    95     0  404     0     0  302     0
ApproachDel:    xxxxxx            242.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=43.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=643]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1349]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0    95     0  404     0     0  302     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             706
Minor Approach Volume:           643
Minor Approach Volume Threshold: 405
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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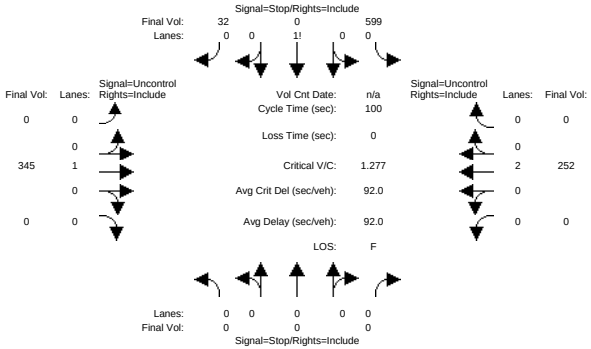
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   599    0    32     0  324     0     0  241     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   599    0    32     0  324     0     0  241     0
Added Vol:      0    0     0     0    0     0     0   21     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   599    0    32     0  345     0     0  252     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   599    0    32     0  345     0     0  252     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   599    0    32     0  345     0     0  252     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   597  597   126  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   469  419   930  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   469  419   930  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.28 0.00  0.03  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  481 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 27.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  179 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            179.1           xxxxxx           xxxxxx
ApproachLOS:         *              F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    32     0  345     0     0  252     0
ApproachDel:    xxxxxx            179.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=31.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=631]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1228]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    32     0  345     0     0  252     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             597
Minor Approach Volume:           631
Minor Approach Volume Threshold: 463
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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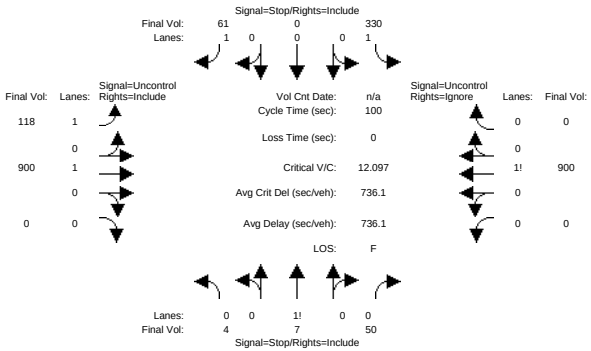
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    6    50   330    0    61   118  889     0     0  879   844
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4    6    50   330    0    61   118  889     0     0  879   844
Added Vol:      0    1     0     0    0     0     0   11     0     0   21     1
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4    7    50   330    0    61   118  900     0     0  900   845
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     4    7    50   330    0    61   118  900     0     0  900     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4    7    50   330    0    61   118  900     0     0  900     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2067 2036   900  2065 xxxx   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   41   58   340    41 xxxx   340   763 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     29   49   340    27 xxxx   340   763 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.14 0.14  0.15 12.10 xxxx  0.18  0.15 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  1022 xxxx  16.1  13.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  5271 xxxx  17.9  10.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     C     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  143 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 47.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *     *    *     *     *    *     *     *    *     *
ApproachDel:      47.8           4451.1           xxxxxx           xxxxxx
ApproachLOS:         E                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    4    7    50   330    0    61   118  900     0     0  900   845
ApproachDel:      47.8           4451.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=61]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3215]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=483.4]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=391]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3215]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    4    7    50   330    0    61   118  900     0     0  900   845
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2763
Minor Approach Volume:           391
Minor Approach Volume Threshold: -63 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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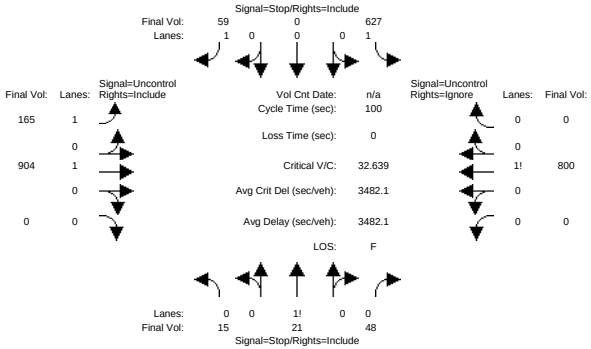
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   21    48   626    0    59   165  883     0     0  789   606
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15   21    48   626    0    59   165  883     0     0  789   606
Added Vol:      0    0     0     1    0     0     0   21     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   15   21    48   627    0    59   165  904     0     0  800   606
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:    15   21    48   627    0    59   165  904     0     0  800     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   15   21    48   627    0    59   165  904     0     0  800     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2064 2034   904  2069 xxxx   800   800 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   41   58   338    40 xxxx   388   832 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     29   46   338    19 xxxx   388   832 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.51 0.45  0.14 32.64 xxxx  0.15  0.20 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  1974 xxxx  13.3  18.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 14621 xxxx  15.9  10.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     C     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   76 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  6.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  233 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     232.7           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 F                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:   15   21    48   627    0    59   165  904     0     0  800   606
ApproachDel:     232.7           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=84]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3245]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2546.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=686]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3245]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:   15   21    48   627    0    59   165  904     0     0  800   606
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2475
Minor Approach Volume:           686
Minor Approach Volume Threshold: -16 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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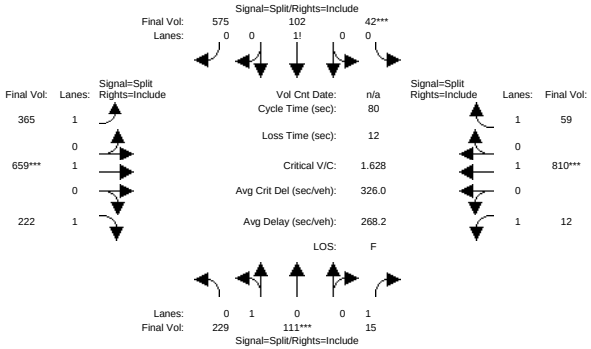
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

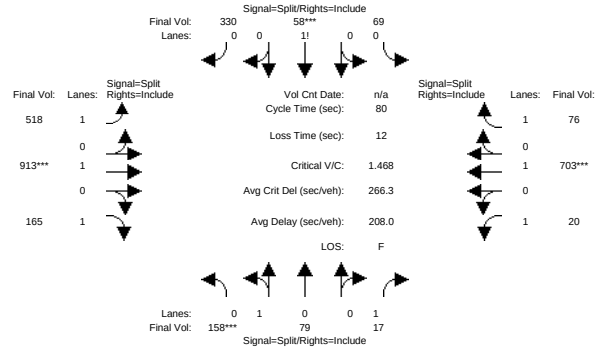



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     229  111    15   42  102   575  365  648   222   12  788    59
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  229  111    15   42  102   575  365  648   222   12  788    59
Added Vol:      0    0     0    0    0     0    0   11     0    0   22     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  229  111    15   42  102   575  365  659   222   12  810    59
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   229  111    15   42  102   575  365  659   222   12  810    59
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  229  111    15   42  102   575  365  659   222   12  810    59
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  229  111    15   42  102   575  365  659   222   12  810    59
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.89 0.89  0.89 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.06 0.14  0.80 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1237  600  1615   99  240  1351 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.19  0.01 0.43 0.43  0.43 0.20 0.35  0.14 0.01 0.43  0.04
Crit Moves:        ****        ****             ****             ****
Green/Cycle: 0.13 0.13  0.13 0.26 0.26  0.26 0.21 0.21  0.21 0.26 0.26  0.26
Volume/Cap:  1.48 1.48  0.07 1.65 1.65  1.65 0.96 1.65  0.66 0.03 1.65  0.14
Delay/Veh:  273.1  273  31.1 333.8  334 333.8  68.0  337  33.6 22.2  333  23.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 273.1  273  31.1 333.8  334 333.8  68.0  337  33.6 22.2  333  23.0
LOS by Move:    F    F     C     F    F     F    E    F     C    C    F     C
HCM2kAvgQ:    599  599     9  1347 1347  1347  350 1239   156    6 1510    29
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

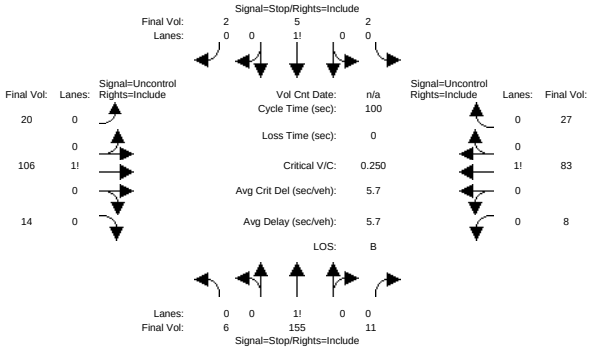



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     158   79    17   69   58   330  518  891   165   20  692    76
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  158   79    17   69   58   330  518  891   165   20  692    76
Added Vol:      0    0     0    0    0     0    0   22     0    0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  158   79    17   69   58   330  518  913   165   20  703    76
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   158   79    17   69   58   330  518  913   165   20  703    76
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  158   79    17   69   58   330  518  913   165   20  703    76
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  158   79    17   69   58   330  518  913   165   20  703    76
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.90 0.90  0.90 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.15 0.13  0.72 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1226  613  1615  257  216  1230 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.01 0.27 0.27  0.27 0.29 0.48  0.10 0.01 0.37  0.05
Crit Moves:  ****             ****             ****             ****
Green/Cycle: 0.13 0.13  0.13 0.17 0.17  0.17 0.31 0.31  0.31 0.24 0.24  0.24
Volume/Cap:  1.03 1.03  0.08 1.54 1.54  1.54 0.92 1.54  0.33 0.05 1.54  0.20
Delay/Veh:  102.6  103  31.1 293.6  294 293.6  47.3  280  21.5 23.4  286  24.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 102.6  103  31.1 293.6  294 293.6  47.3  280  21.5 23.4  286  24.5
LOS by Move:    F    F     C     F    F     F    D    F     C    C    F     C
HCM2kAvgQ:    279  279    11   820  820   820  422 1578    82   10 1229    40
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   33    11     2    5     2    20  106    14     8   83    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   33    11     2    5     2    20  106    14     8   83    13
Added Vol:      0  122     0     0    0     0     0    0     0     0    0    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6  155    11     2    5     2    20  106    14     8   83    27
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6  155    11     2    5     2    20  106    14     8   83    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6  155    11     2    5     2    20  106    14     8   83    27
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  269  279   113   349  273    97   110 xxxx xxxxx   120 xxxx xxxxx
Potent Cap.:  688  632   945   610  638   965  1493 xxxx xxxxx  1480 xxxx xxxxx
Move Cap.:    672  621   945   480  626   965  1493 xxxx xxxxx  1480 xxxx xxxxx
Volume/Cap:  0.01 0.25  0.01  0.00 0.01  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  636 xxxxx  xxxx  632 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.1 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.7 xxxxx xxxxx 10.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      12.7             10.8           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  155    11     2    5     2    20  106    14     8   83    27
ApproachDel:      12.7             10.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=172]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=439]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=439]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

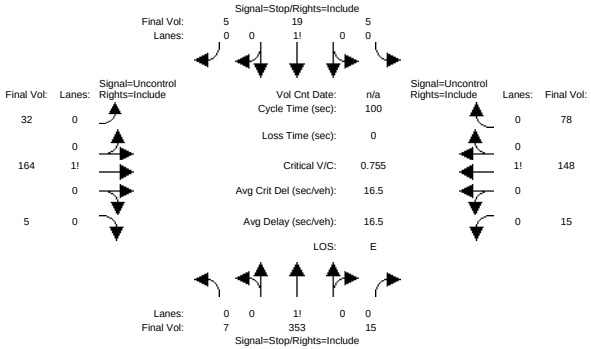
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  155    11     2    5     2    20  106    14     8   83    27
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             258
Minor Approach Volume:           172
Minor Approach Volume Threshold: 581
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                          O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  107    15     5   19     5    32  164     5    15  148    21
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7  107    15     5   19     5    32  164     5    15  148    21
Added Vol:      0  246     0     0    0     0     0    0     0     0    0    57
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7  353    15     5   19     5    32  164     5    15  148    78
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7  353    15     5   19     5    32  164     5    15  148    78
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7  353    15     5   19     5    32  164     5    15  148    78
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  460  487   167   632  450   187   226 xxxx xxxxx   169 xxxx xxxxx
Potent Cap.:  515  484   883   396  508   860  1354 xxxx xxxxx  1421 xxxx xxxxx
Move Cap.:    484  467   883   145  490   860  1354 xxxx xxxxx  1421 xxxx xxxxx
Volume/Cap:  0.01 0.76  0.02  0.03 0.04  0.01  0.02 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.8 xxxx xxxxx   0.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx   7.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  477 xxxxx  xxxx  367 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  7.1 xxxxx xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 35.1 xxxxx xxxxx 15.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *     *    C     *     *    *     *     *    *     *
ApproachDel:      35.1             15.7            xxxxxx           xxxxxx
ApproachLOS:         E                C                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  353    15     5   19     5    32  164     5    15  148    78
ApproachDel:      35.1             15.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=375]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=846]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=29]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=846]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

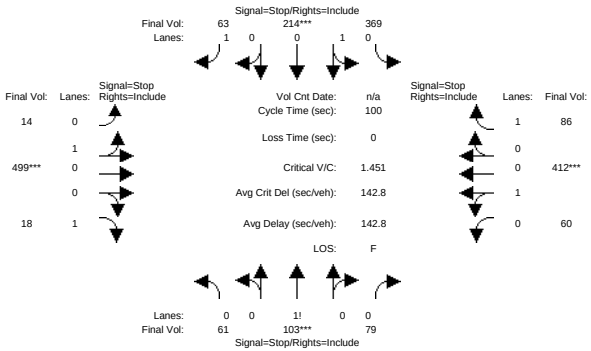
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  353    15     5   19     5    32  164     5    15  148    78
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             442
Minor Approach Volume:           375
Minor Approach Volume Threshold: 437
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61   103    61   141   214    63    14   480    18    48   402    86
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   61   103    61   141   214    63    14   480    18    48   402    86
Added Vol:      0     0    18   228     0     0     0    19     0    12    10     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   61   103    79   369   214    63    14   499    18    60   412    86
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    61   103    79   369   214    63    14   499    18    60   412    86
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   61   103    79   369   214    63    14   499    18    60   412    86
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   61   103    79   369   214    63    14   499    18    60   412    86
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.25  0.42  0.33  0.63  0.37  1.00  0.03  0.97  1.00  0.13  0.87  1.00
Final Sat.:    94   159   122   254   148   453    11   403   452    53   361   453
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.65  0.65  0.65  1.45  1.45  0.14  1.24  1.24  0.04  1.14  1.14  0.19
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   28.5  28.5  28.5 240.0   240  11.9 152.3   152  11.0 117.4   117  12.5
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  28.5  28.5  28.5 240.0   240  11.9 152.3   152  11.0 117.4   117  12.5
LOS by Move:    D     D     D     F     F     B     F     F     B     F     F     B
ApproachDel:       28.5             217.7             147.5             101.3
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        28.5             217.7             147.5             101.3
LOS by Appr:          D                 F                 F                 F
AllWayAvgQ:  41.6  41.6  41.6   637   637   4.0   406   406   1.0   304   304   5.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



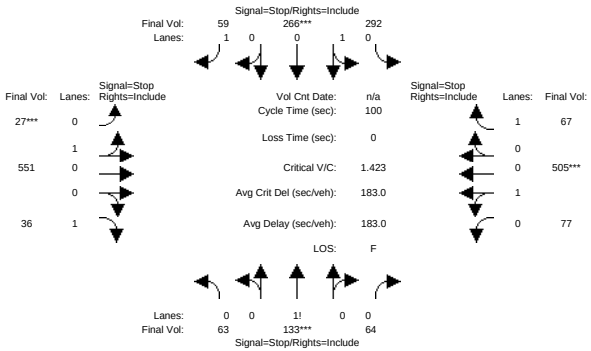
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   61  103    79   369  214    63    14  499    18    60  412    86
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1089
Minor Approach Volume:           646
Minor Approach Volume Threshold: 337
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63  133    55   172  266    59    27  541    36    50  486    67
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   63  133    55   172  266    59    27  541    36    50  486    67
Added Vol:      0    0     9   120    0     0     0   10     0    27   19     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   63  133    64   292  266    59    27  551    36    77  505    67
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    63  133    64   292  266    59    27  551    36    77  505    67
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   63  133    64   292  266    59    27  551    36    77  505    67
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   63  133    64   292  266    59    27  551    36    77  505    67
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.24 0.51  0.25  0.52 0.48  1.00  0.05 0.95  1.00  0.13 0.87  1.00
Final Sat.:    91  191    92   210  191   448    19  391   447    54  355   448
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.70 0.70  0.70  1.39 1.39  0.13  1.41 1.41  0.08  1.42 1.42  0.15
Crit Moves:        ****               ****        ****                    ****
Delay/Veh:   31.9 31.9  31.9 216.3  216  11.9 221.5  221  11.4 228.0  228  12.1
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  31.9 31.9  31.9 216.3  216  11.9 221.5  221  11.4 228.0  228  12.1
LOS by Move:    D    D     D     F    F     B     F    F     B     F    F     B
ApproachDel:       31.9            196.8            209.2            205.7
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:        31.9            196.8            209.2            205.7
LOS by Appr:          D                F                F                F
AllWayAvgQ:  50.0 50.0  50.0   569  569   3.8   599  599   2.2   615  615   4.4
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



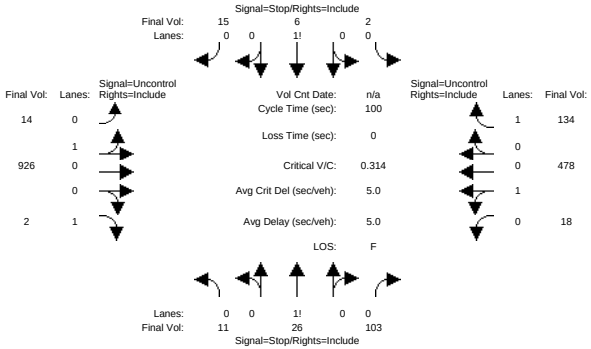
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   63  133    64   292  266    59    27  551    36    77  505    67
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1263
Minor Approach Volume:           617
Minor Approach Volume Threshold: 274
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      11   26    13     2    6    15    14  660     2     6  457    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   11   26    13     2    6    15    14  660     2     6  457    12
Added Vol:      0    0    90     0    0     0     0  266     0    12   21   122
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   11   26   103     2    6    15    14  926     2    18  478   134
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    11   26   103     2    6    15    14  926     2    18  478   134
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   11   26   103     2    6    15    14  926     2    18  478   134
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1546 1602   926  1534 1470   478   612 xxxx xxxxx   928 xxxx xxxxx
Potent Cap.:   94  107   329    96  129   591   977 xxxx xxxxx   745 xxxx xxxxx
Move Cap.:     86  103   329    52  124   591   977 xxxx xxxxx   745 xxxx xxxxx
Volume/Cap:  0.13 0.25  0.31  0.04 0.05  0.03  0.01 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx   1.9 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.7 xxxx xxxxx  10.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  202 xxxxx  xxxx  204 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  4.4 xxxxx xxxxx  0.4 xxxxx   0.0 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 55.7 xxxxx xxxxx 24.9 xxxxx   8.7 xxxx xxxxx  10.0 xxxx xxxxx
Shared LOS:     *    F     *     *    C     *     A    *     *     A    *     *
ApproachDel:      55.7             24.9           xxxxxx           xxxxxx
ApproachLOS:         F                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:   11   26   103     2    6    15    14  926     2    18  478   134
ApproachDel:      55.7             24.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=140]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1735]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1735]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

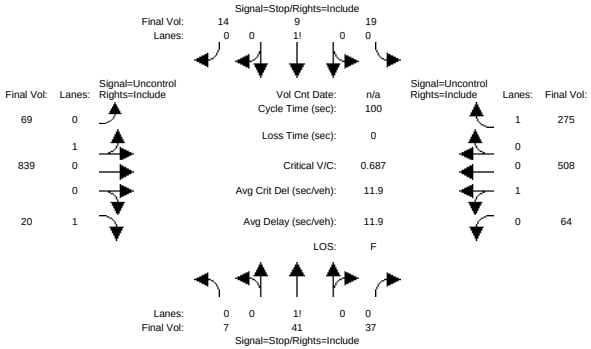
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:   11   26   103     2    6    15    14  926     2    18  478   134
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1572
Minor Approach Volume:           140
Minor Approach Volume Threshold: 129
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7   41    15    19    9    14    69  700    20    17  461    29
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7   41    15    19    9    14    69  700    20    17  461    29
Added Vol:      0    0    22     0    0     0     0  139     0    47   47   246
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7   41    37    19    9    14    69  839    20    64  508   275
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7   41    37    19    9    14    69  839    20    64  508   275
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7   41    37    19    9    14    69  839    20    64  508   275
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1762 1888   839  1662 1633   508   783 xxxx xxxxx   859 xxxx xxxxx
Potent Cap.:   67   71   369    78  102   569   844 xxxx xxxxx   791 xxxx xxxxx
Move Cap.:     52   60   369    28   86   569   844 xxxx xxxxx   791 xxxx xxxxx
Volume/Cap:  0.13 0.69  0.10  0.68 0.10  0.02  0.08 xxxx  xxxx  0.08 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   6.7 xxxx xxxxx   6.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.6 xxxx xxxxx  10.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   92 xxxxx  xxxx   52 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  5.2 xxxxx xxxxx  3.4 xxxxx   0.3 xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx  155 xxxxx xxxxx  196 xxxxx   9.6 xxxx xxxxx  10.0 xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     A    *     *     A    *     *
ApproachDel:     154.6            196.0           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    7   41    37    19    9    14    69  839    20    64  508   275
ApproachDel:     154.6            196.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=85]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1902]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=42]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1902]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

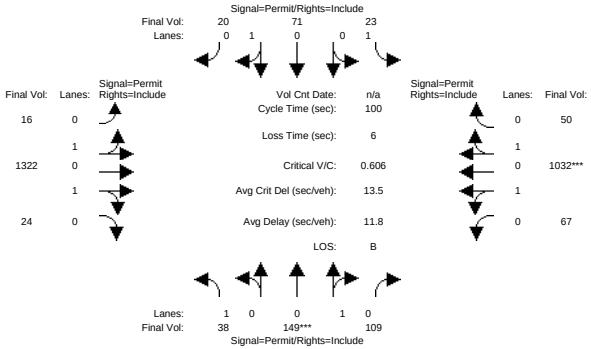
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    7   41    37    19    9    14    69  839    20    64  508   275
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1775
Minor Approach Volume:           85
Minor Approach Volume Threshold: 87 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1036: Main St / M St



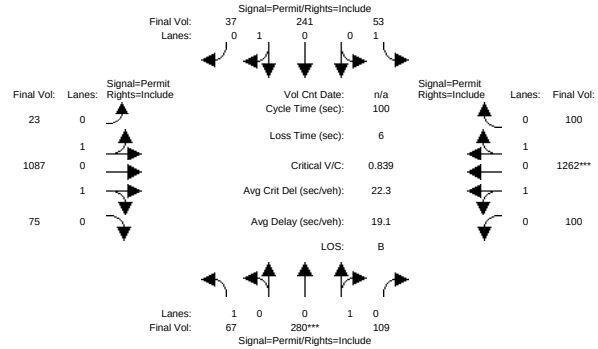
Street Name:	Main Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	35		149	109	23		71	20	16		1301	23	67		1017	50
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	35		149	109	23		71	20	16		1301	23	67		1017	50
Added Vol:	3		0	0	0		0	0	0		21	1	0		15	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	38		149	109	23		71	20	16		1322	24	67		1032	50
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	38		149	109	23		71	20	16		1322	24	67		1032	50
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	38		149	109	23		71	20	16		1322	24	67		1032	50
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	38		149	109	23		71	20	16		1322	24	67		1032	50
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.67		0.94	0.94	0.35		0.97	0.97	0.88		0.88	0.88	0.71		0.71	0.71
Lanes:	1.00		0.58	0.42	1.00		0.78	0.22	0.02		1.94	0.04	0.12		1.79	0.09
Final Sat.:	1265		1028	752	669		1433	404	39		3263	59	158		2431	118
Capacity Analysis Module:																
Vol/Sat:	0.03		0.14	0.14	0.03		0.05	0.05	0.41		0.41	0.41	0.42		0.42	0.42
Crit Moves:			****												****	
Green/Cycle:	0.24		0.24	0.24	0.24		0.24	0.24	0.70		0.70	0.70	0.70		0.70	0.70
Volume/Cap:	0.13		0.61	0.61	0.14		0.21	0.21	0.58		0.58	0.58	0.61		0.61	0.61
Delay/Veh:	30.0		36.3	36.3	30.4		30.7	30.7	7.9		7.9	7.9	8.3		8.3	8.3
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	30.0		36.3	36.3	30.4		30.7	30.7	7.9		7.9	7.9	8.3		8.3	8.3
LOS by Move:	C		D	D	C		C	C	A		A	A	A		A	A
HCM2kAvgQ:	24		195	195	17		57	57	267		267	267	240		240	240

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1036: Main St / M St



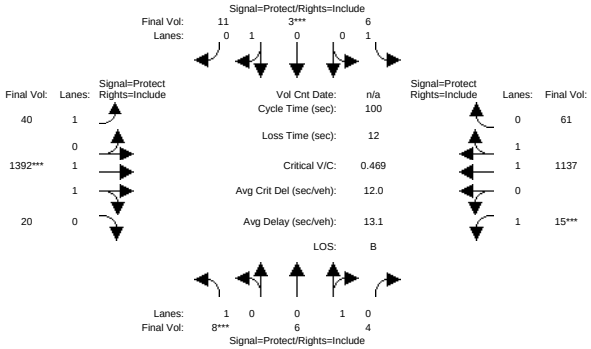
Street Name:	Main Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	66		280	109	53		241	37	23		1072	72	100		1241	100
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	66		280	109	53		241	37	23		1072	72	100		1241	100
Added Vol:	1		0	0	0		0	0	0		15	3	0		21	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	67		280	109	53		241	37	23		1087	75	100		1262	100
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	67		280	109	53		241	37	23		1087	75	100		1262	100
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	67		280	109	53		241	37	23		1087	75	100		1262	100
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	67		280	109	53		241	37	23		1087	75	100		1262	100
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.34		0.96	0.96	0.17		0.98	0.98	0.85		0.85	0.85	0.67		0.67	0.67
Lanes:	1.00		0.72	0.28	1.00		0.87	0.13	0.04		1.83	0.13	0.14		1.72	0.14
Final Sat.:	646		1310	510	314		1614	248	63		2957	204	174		2193	174
Capacity Analysis Module:																
Vol/Sat:	0.10		0.21	0.21	0.17		0.15	0.15	0.37		0.37	0.37	0.58		0.58	0.58
Crit Moves:			****												****	
Green/Cycle:	0.25		0.25	0.25	0.25		0.25	0.25	0.69		0.69	0.69	0.69		0.69	0.69
Volume/Cap:	0.41		0.84	0.84	0.66		0.59	0.59	0.54		0.54	0.54	0.84		0.84	0.84
Delay/Veh:	32.6		48.1	48.1	52.5		34.6	34.6	8.1		8.1	8.1	15.5		15.5	15.5
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	32.6		48.1	48.1	52.5		34.6	34.6	8.1		8.1	8.1	15.5		15.5	15.5
LOS by Move:	C		D	D	D		C	C	A		A	A	B		B	B
HCM2kAvgQ:	55		349	349	68		203	203	220		220	220	456		456	456

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1037: 18th St / M St



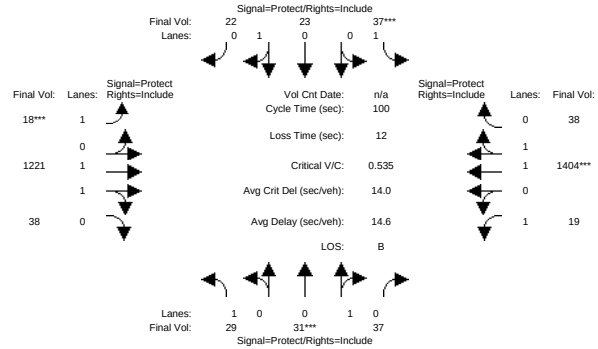
Street Name:	18th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	4	6	4	6	3	11	40	1387	4	15	1126	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	6	4	6	3	11	40	1387	4	15	1126	61
Added Vol:	4	0	0	0	0	0	0	5	16	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	6	4	6	3	11	40	1392	20	15	1137	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	6	4	6	3	11	40	1392	20	15	1137	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	6	4	6	3	11	40	1392	20	15	1137	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	8	6	4	6	3	11	40	1392	20	15	1137	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.88	0.88	0.95	0.95	0.95	0.95	0.94	0.94
Lanes:	1.00	0.60	0.40	1.00	0.21	0.79	1.00	1.97	0.03	1.00	1.90	0.10
Final Sat.:	1805	1072	714	1805	359	1317	1805	3552	51	1805	3399	182
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.00	0.01	0.01	0.02	0.39	0.39	0.01	0.33	0.33
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.10	0.10	0.07	0.10	0.10	0.12	0.64	0.64	0.07	0.59	0.59
Volume/Cap:	0.06	0.06	0.06	0.05	0.08	0.08	0.18	0.61	0.61	0.12	0.57	0.57
Delay/Veh:	43.6	40.9	40.9	43.5	41.1	41.1	39.7	11.1	11.1	44.0	13.2	13.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.6	40.9	40.9	43.5	41.1	41.1	39.7	11.1	11.1	44.0	13.2	13.2
LOS by Move:	D	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	7	8	8	4	9	9	26	331	331	13	304	304

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1037: 18th St / M St



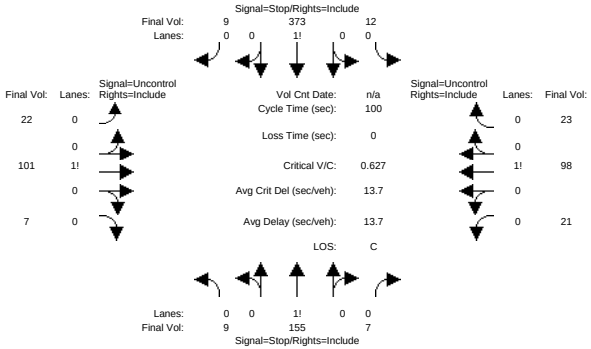
Street Name:	18th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	13	31	37	37	23	22	18	1210	34	19	1399	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	31	37	37	23	22	18	1210	34	19	1399	38
Added Vol:	16	0	0	0	0	0	0	11	4	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	31	37	37	23	22	18	1221	38	19	1404	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	31	37	37	23	22	18	1221	38	19	1404	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	31	37	37	23	22	18	1221	38	19	1404	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	31	37	37	23	22	18	1221	38	19	1404	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	1.00	0.46	0.54	1.00	0.51	0.49	1.00	1.94	0.06	1.00	1.95	0.05
Final Sat.:	1805	795	949	1805	900	861	1805	3487	109	1805	3501	95
Capacity Analysis Module:												
Vol/Sat:	0.02	0.04	0.04	0.02	0.03	0.03	0.01	0.35	0.35	0.01	0.40	0.40
Crit Moves:		****		****			****				****	
Green/Cycle:	0.07	0.10	0.10	0.07	0.10	0.10	0.07	0.59	0.59	0.12	0.64	0.64
Volume/Cap:	0.23	0.39	0.39	0.29	0.26	0.26	0.14	0.59	0.59	0.09	0.63	0.63
Delay/Veh:	44.9	43.6	43.6	45.4	42.3	42.3	44.2	13.3	13.3	39.5	11.4	11.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.9	43.6	43.6	45.4	42.3	42.3	44.2	13.3	13.3	39.5	11.4	11.4
LOS by Move:	D	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	26	59	59	27	31	31	12	312	312	14	358	358

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1038: 15th St / Canal St

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Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9   79     7    12   68     9    22  101     7    21   98    23
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9   79     7    12   68     9    22  101     7    21   98    23
Added Vol:      0   76     0     0  305     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    9  155     7    12  373     9    22  101     7    21   98    23
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9  155     7    12  373     9    22  101     7    21   98    23
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    9  155     7    12  373     9    22  101     7    21   98    23
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  491  312   105   381  304   110   121 xxxx xxxxx   108 xxxx xxxxx
Potent Cap.:  491  607   956   581  613   950  1479 xxxx xxxxx  1495 xxxx xxxxx
Move Cap.:    238  589   956   450  595   950  1479 xxxx xxxxx  1495 xxxx xxxxx
Volume/Cap:  0.04 0.26  0.01  0.03 0.63  0.01  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  555 xxxxx  xxxx  594 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.3 xxxxx xxxxx  4.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 14.4 xxxxx xxxxx 22.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    C     *     *    *     *     *    *     *
ApproachDel:      14.4             22.2           xxxxxx           xxxxxx
ApproachLOS:         B               C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



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------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  155     7    12  373     9    22  101     7    21   98    23
ApproachDel:      14.4             22.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=171]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=837]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=394]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=837]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  155     7    12  373     9    22  101     7    21   98    23
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             272
Minor Approach Volume:           394
Minor Approach Volume Threshold: 567
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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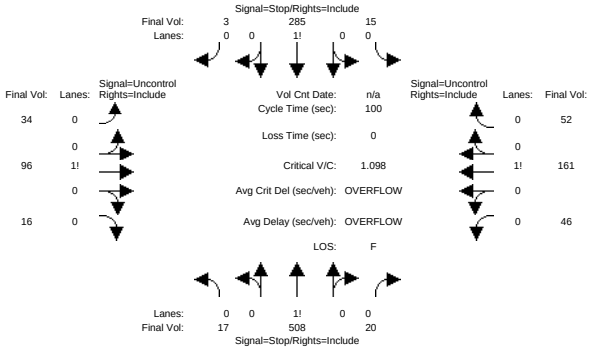
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17  203    20    15  209     3    34   96    16    46  161    52
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   17  203    20    15  209     3    34   96    16    46  161    52
Added Vol:      0  305     0     0   76     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   17  508    20    15  285     3    34   96    16    46  161    52
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    17  508    20    15  285     3    34   96    16    46  161    52
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   17  508    20    15  285     3    34   96    16    46  161    52
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  595  477   104   715  459   187   213 xxxx xxxxx   112 xxxx xxxxx
Potent Cap.:  419  490   956   348  502   860  1369 xxxx xxxxx  1490 xxxx xxxxx
Move Cap.:    209  462   956     0  473   860  1369 xxxx xxxxx  1490 xxxx xxxxx
Volume/Cap:  0.08 1.10  0.02  xxxx 0.60  0.00  0.02 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.9 xxxx xxxxx   2.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx   7.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  454 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 21.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  138 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     137.6           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         F                 F                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   17  508    20    15  285     3    34   96    16    46  161    52
ApproachDel:     137.6           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=20.8]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=545]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1253]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=303]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1253]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   17  508    20    15  285     3    34   96    16    46  161    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             405
Minor Approach Volume:           545
Minor Approach Volume Threshold: 460
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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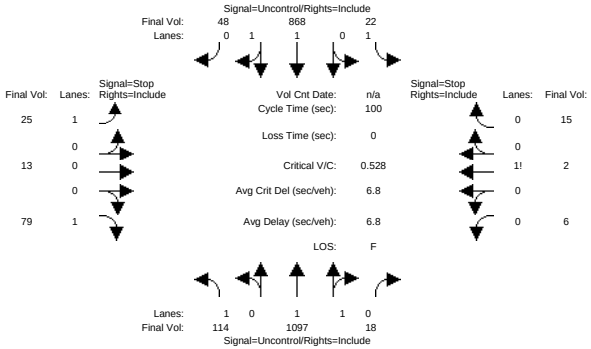
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     114  903    18    22  653    48    25   13    79     6    2    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  114  903    18    22  653    48    25   13    79     6    2    15
Added Vol:      0  194     0     0  215     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  114 1097    18    22  868    48    25   13    79     6    2    15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   114 1097    18    22  868    48    25   13    79     6    2    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  114 1097    18    22  868    48    25   13    79     6    2    15
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  916 xxxx xxxxx  1115 xxxx xxxxx  1714 2279   458  1819 2294   558
Potent Cap.:  753 xxxx xxxxx   634 xxxx xxxxx    60   40   555    50   40   479
Move Cap.:    753 xxxx xxxxx   634 xxxx xxxxx    47   33   555    26   32   479
Volume/Cap:  0.15 xxxx  xxxx  0.03 xxxx  xxxx  0.53 0.39  0.14  0.23 0.06  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   13.3 xxxx xxxxx   2.7 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.6 xxxx xxxxx  10.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx    41 xxxx   172  xxxx   70 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.6 xxxx   2.7 xxxxx  1.2 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 265.2 xxxx  47.7 xxxxx 79.1 xxxxx
Shared LOS:     *    *     *     *    *     *     F    *     E     *    F     *
ApproachDel:    xxxxxx           xxxxxx            111.3            79.1
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:  114 1097    18    22  868    48    25   13    79     6    2    15
ApproachDel:    xxxxxx           xxxxxx            111.3            79.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=117]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2307]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2307]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:  114 1097    18    22  868    48    25   13    79     6    2    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2167
Minor Approach Volume:           117
Minor Approach Volume Threshold: 42 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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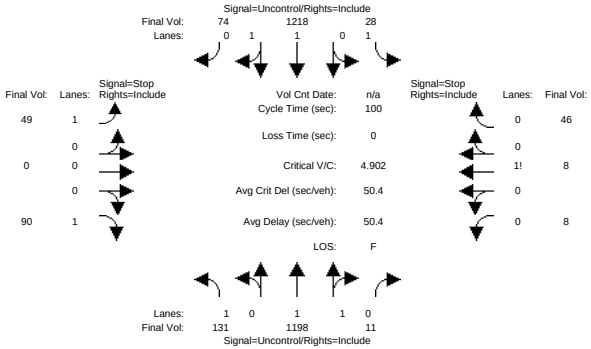
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     131  983    11    28 1024    74    49    0    90     8    8    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  131  983    11    28 1024    74    49    0    90     8    8    46
Added Vol:      0  215     0     0  194     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  131 1198    11    28 1218    74    49    0    90     8    8    46
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   131 1198    11    28 1218    74    49    0    90     8    8    46
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  131 1198    11    28 1218    74    49    0    90     8    8    46
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1292 xxxx xxxxx  1209 xxxx xxxxx  2176 xxxx   646  2131 2814   605
Potent Cap.:  543 xxxx xxxxx   584 xxxx xxxxx    27 xxxx   419    29   18   446
Move Cap.:    543 xxxx xxxxx   584 xxxx xxxxx    10 xxxx   419    18   13   446
Volume/Cap:  0.24 xxxx  xxxx  0.05 xxxx  xxxx  4.90 xxxx  0.21  0.45 0.60  0.10
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   23.4 xxxx xxxxx   3.8 xxxx xxxxx   184 xxxx  20.1  xxxx xxxx xxxxx
Control Del: 13.7 xxxx xxxxx  11.5 xxxx xxxxx  2494 xxxx  15.9 xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     F    *     C     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx   54 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  5.4 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  299 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    F     *
ApproachDel:    xxxxxx           xxxxxx            889.5           298.5
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:  131 1198    11    28 1218    74    49    0    90     8    8    46
ApproachDel:    xxxxxx           xxxxxx            889.5           298.5
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=34.3]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=139]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2861]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2861]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:  131 1198    11    28 1218    74    49    0    90     8    8    46
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2660
Minor Approach Volume:           139
Minor Approach Volume Threshold: -47 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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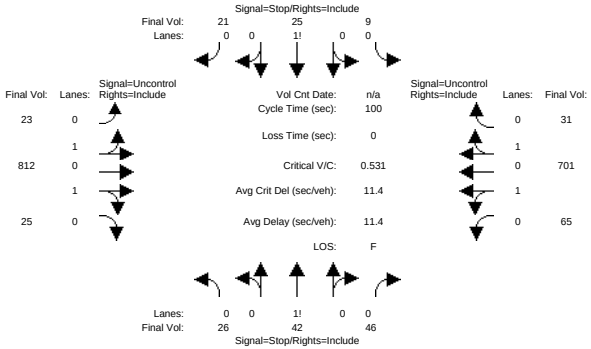
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26   42    46     9   25    11     4  794    25    65  692    31
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26   42    46     9   25    11     4  794    25    65  692    31
Added Vol:      0    0     0     0    0    10    19   18     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26   42    46     9   25    21    23  812    25    65  701    31
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26   42    46     9   25    21    23  812    25    65  701    31
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26   42    46     9   25    21    23  812    25    65  701    31
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1364 1733   419  1320 1730   366   732 xxxx xxxxx   837 xxxx xxxxx
Potent Cap.:  108   89   589   117   89   637   882 xxxx xxxxx   806 xxxx xxxxx
Move Cap.:     73   79   589    58   79   637   882 xxxx xxxxx   806 xxxx xxxxx
Volume/Cap:  0.36 0.53  0.08  0.16 0.31  0.03  0.03 xxxx  xxxx  0.08 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.0 xxxx xxxxx   6.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.2 xxxx xxxxx   9.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  118 xxxxx  xxxx  109 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  6.3 xxxxx xxxxx  2.3 xxxxx   0.1 xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx  143 xxxxx xxxxx 67.4 xxxxx   9.2 xxxx xxxxx   9.9 xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     A    *     *     A    *     *
ApproachDel:     143.0             67.4            xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   26   42    46     9   25    21    23  812    25    65  701    31
ApproachDel:     143.0             67.4            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=114]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1826]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=55]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1826]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

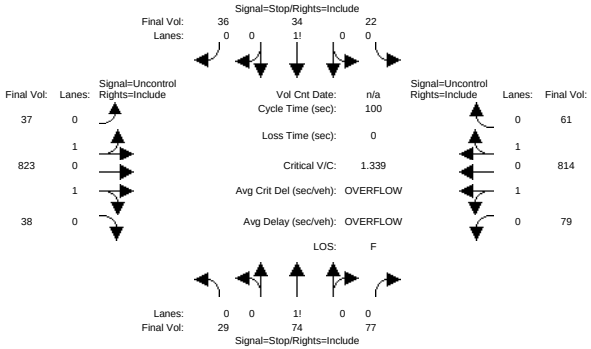
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   26   42    46     9   25    21    23  812    25    65  701    31
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1657
Minor Approach Volume:           114
Minor Approach Volume Threshold: 111
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      29   74    77    22   34    17    27  814    38    79  796    61
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   29   74    77    22   34    17    27  814    38    79  796    61
Added Vol:      0    0     0     0    0    19    10    9     0     0   18     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   29   74    77    22   34    36    37  823    38    79  814    61
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    29   74    77    22   34    36    37  823    38    79  814    61
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   29   74    77    22   34    36    37  823    38    79  814    61
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1498 1949   431  1525 1938   438   875 xxxx xxxxx   861 xxxx xxxxx
Potent Cap.:   86   65   579    82   66   573   780 xxxx xxxxx   789 xxxx xxxxx
Move Cap.:     37   55   579     0   56   573   780 xxxx xxxxx   789 xxxx xxxxx
Volume/Cap:  0.77 1.34  0.13  xxxx 0.61  0.06  0.05 xxxx  xxxx  0.10 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.7 xxxx xxxxx   8.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.8 xxxx xxxxx  10.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   80 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 16.6 xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx  682 xxxxx xxxxx xxxx xxxxx   9.8 xxxx xxxxx  10.1 xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     A    *     *     B    *     *
ApproachDel:     682.2           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         F                 F                 *                 *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   29   74    77    22   34    36    37  823    38    79  814    61
ApproachDel:     682.2           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=34.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=180]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2124]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=92]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2124]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

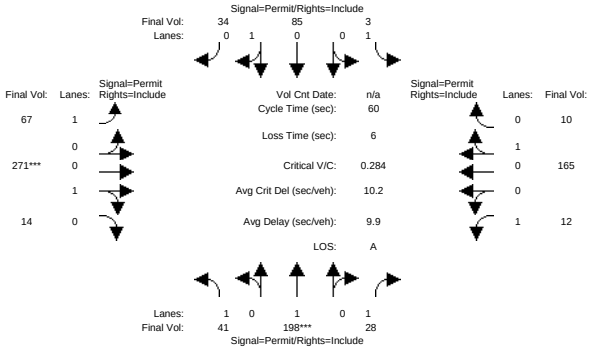
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   29   74    77    22   34    36    37  823    38    79  814    61
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1852
Minor Approach Volume:           180
Minor Approach Volume Threshold: 73 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1041: Main St / Martin Luther King Wy



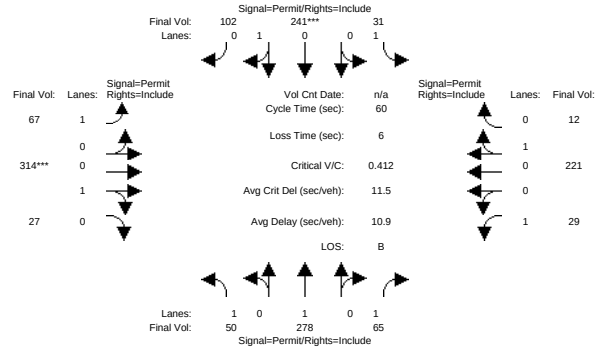
Street Name:	Main Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	41		195		28	3		84		34	67		271		14	12		165		10
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	41		195		28	3		84		34	67		271		14	12		165		10
Added Vol:	0		3		0	0		1		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	41		198		28	3		85		34	67		271		14	12		165		10
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	41		198		28	3		85		34	67		271		14	12		165		10
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	41		198		28	3		85		34	67		271		14	12		165		10
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	41		198		28	3		85		34	67		271		14	12		165		10
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.68		1.00		0.85	0.58		0.96		0.96	0.64		0.99		0.99	0.54		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.71		0.29	1.00		0.95		0.05	1.00		0.94		0.06
Final Sat.:	1284		1900		1615	1098		1299		520	1216		1794		93	1022		1775		108
Capacity Analysis Module:																				
Vol/Sat:	0.03		0.10		0.02	0.00		0.07		0.07	0.06		0.15		0.15	0.01		0.09		0.09
Crit Moves:			****										****							
Green/Cycle:	0.37		0.37		0.37	0.37		0.37		0.37	0.53		0.53		0.53	0.53		0.53		0.53
Volume/Cap:	0.09		0.28		0.05	0.01		0.18		0.18	0.10		0.28		0.28	0.02		0.17		0.17
Delay/Veh:	12.5		13.6		12.2	12.0		13.0		13.0	7.0		7.9		7.9	6.6		7.3		7.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	12.5		13.6		12.2	12.0		13.0		13.0	7.0		7.9		7.9	6.6		7.3		7.3
LOS by Move:	B		B		B	B		B		B	A		A		A	A		A		A
HCM2kAvgQ:	14		68		9	1		39		39	14		68		68	3		43		43

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1041: Main St / Martin Luther King Wy



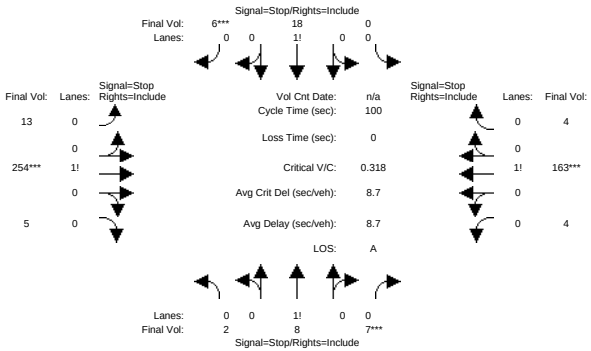
Street Name:	Main Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	50		277		65	31		238		102	67		314		27	29		221		12
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	50		277		65	31		238		102	67		314		27	29		221		12
Added Vol:	0		1		0	0		3		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	50		278		65	31		241		102	67		314		27	29		221		12
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	50		278		65	31		241		102	67		314		27	29		221		12
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	50		278		65	31		241		102	67		314		27	29		221		12
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	50		278		65	31		241		102	67		314		27	29		221		12
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.46		1.00		0.85	0.52		0.96		0.96	0.56		0.99		0.99	0.45		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.70		0.30	1.00		0.92		0.08	1.00		0.95		0.05
Final Sat.:	870		1900		1615	988		1275		540	1066		1729		149	857		1788		97
Capacity Analysis Module:																				
Vol/Sat:	0.06		0.15		0.04	0.03		0.19		0.19	0.06		0.18		0.18	0.03		0.12		0.12
Crit Moves:								****					****							
Green/Cycle:	0.46		0.46		0.46	0.46		0.46		0.46	0.44		0.44		0.44	0.44		0.44		0.44
Volume/Cap:	0.13		0.32		0.09	0.07		0.41		0.41	0.14		0.41		0.41	0.08		0.28		0.28
Delay/Veh:	9.5		10.5		9.2	9.1		11.2		11.2	10.1		11.8		11.8	9.8		10.9		10.9
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	9.5		10.5		9.2	9.1		11.2		11.2	10.1		11.8		11.8	9.8		10.9		10.9
LOS by Move:	A		B		A	A		B		B	B		B		B	A		B		B
HCM2kAvgQ:	16		85		18	9		113		113	18		104		104	9		72		72

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2     4     7     0     2     6    13   254     5     4   163     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2     4     7     0     2     6    13   254     5     4   163     4
Added Vol:      0     4     0     0    16     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    2     8     7     0    18     6    13   254     5     4   163     4
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     2     8     7     0    18     6    13   254     5     4   163     4
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    2     8     7     0    18     6    13   254     5     4   163     4
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    2     8     7     0    18     6    13   254     5     4   163     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.12  0.47  0.41  0.00  0.75  0.25  0.05  0.93  0.02  0.02  0.96  0.02
Final Sat.:    84   337   295     0   531   177    41   800    16    20   795    20
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02  0.02  0.02  xxxx  0.03  0.03  0.32  0.32  0.32  0.21  0.21  0.21
Crit Moves:              ****              ****        ****              ****
Delay/Veh:    7.7   7.7   7.7   0.0   7.8   7.8   9.1   9.1   9.1   8.3   8.3   8.3
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.7   7.7   7.7   0.0   7.8   7.8   9.1   9.1   9.1   8.3   8.3   8.3
LOS by Move:    A     A     A     *     A     A     A     A     A     A     A     A
ApproachDel:        7.7               7.8               9.1               8.3
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.7               7.8               9.1               8.3
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   0.5   0.5   0.5   0.7   0.7   0.7  11.3  11.3  11.3   6.2   6.2   6.2
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



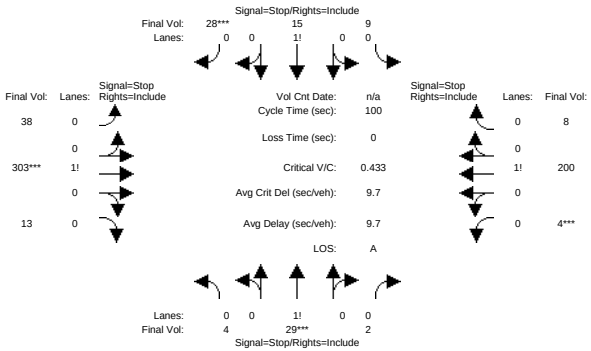
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2     8     7     0    18     6    13   254     5     4   163     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             443
Minor Approach Volume:           24
Minor Approach Volume Threshold: 437
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    13     2     9    11    28    38   303    13     4   200     8
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    4    13     2     9    11    28    38   303    13     4   200     8
Added Vol:      0    16     0     0     4     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    4    29     2     9    15    28    38   303    13     4   200     8
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     4    29     2     9    15    28    38   303    13     4   200     8
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    4    29     2     9    15    28    38   303    13     4   200     8
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    4    29     2     9    15    28    38   303    13     4   200     8
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.11  0.83  0.06  0.17  0.29  0.54  0.11  0.85  0.04  0.02  0.94  0.04
Final Sat.:    72   524    36   116   193   361    88   699    30    15   743    30
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06  0.06  0.06  0.08  0.08  0.08  0.43  0.43  0.43  0.27  0.27  0.27
Crit Moves:        ****                    ****        ****        ****
Delay/Veh:    8.4   8.4   8.4   8.2   8.2   8.2  10.5  10.5  10.5   9.0   9.0   9.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.4   8.4   8.4   8.2   8.2   8.2  10.5  10.5  10.5   9.0   9.0   9.0
LOS by Move:    A     A     A     A     A     A     B     B     B     A     A     A
ApproachDel:        8.4              8.2              10.5              9.0
Delay Adj:         1.00             1.00              1.00             1.00
ApprAdjDel:         8.4              8.2              10.5              9.0
LOS by Appr:          A                A                B                A
AllWayAvgQ:   1.2   1.2   1.2   1.7   1.7   1.7  18.1  18.1  18.1   8.6   8.6   8.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4   29     2     9   15    28    38  303    13     4  200     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             566
Minor Approach Volume:           52
Minor Approach Volume Threshold: 371
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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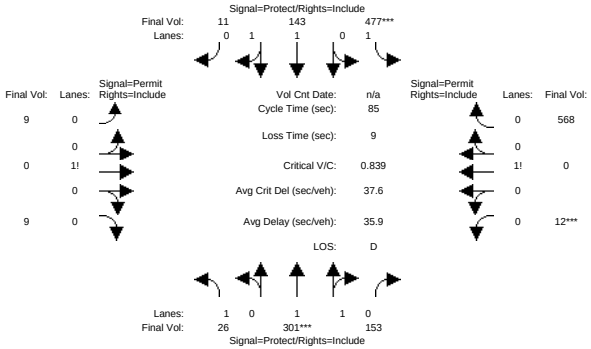
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1043: 16th St / H St



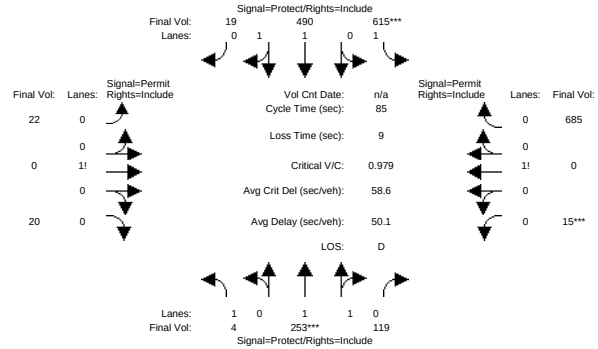
Street Name:	16th Street									H Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	26	273	153		466	132	11		9	0	9		12	0	560	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	26	273	153		466	132	11		9	0	9		12	0	560	
Added Vol:	0	28	0		11	11	0		0	0	0		0	0	8	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	26	301	153		477	143	11		9	0	9		12	0	568	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	26	301	153		477	143	11		9	0	9		12	0	568	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	26	301	153		477	143	11		9	0	9		12	0	568	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	26	301	153		477	143	11		9	0	9		12	0	568	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.90	0.90		0.95	0.94	0.94		0.78	1.00	0.78		0.86	1.00	0.86	
Lanes:	1.00	1.33	0.67		1.00	1.86	0.14		0.50	0.00	0.50		0.02	0.00	0.98	
Final Sat.:	1805	2271	1155		1805	3315	255		744	0	744		34	0	1609	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.13	0.13		0.26	0.04	0.04		0.01	0.00	0.01		0.35	0.00	0.35	
Crit Moves:		****			****								****			
Green/Cycle:	0.19	0.16	0.16		0.32	0.28	0.28		0.42	0.00	0.42		0.42	0.00	0.42	
Volume/Cap:	0.07	0.84	0.84		0.84	0.15	0.15		0.03	0.00	0.03		0.84	0.00	0.84	
Delay/Veh:	28.0	45.9	45.9		37.7	23.2	23.2		14.4	0.0	14.4		31.0	0.0	31.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	28.0	45.9	45.9		37.7	23.2	23.2		14.4	0.0	14.4		31.0	0.0	31.0	
LOS by Move:	C	D	D		D	C	C		B	A	B		C	A	C	
HCM2kAvgQ:	15	219	219		359	41	41		7	0	7		407	0	407	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1043: 16th St / H St



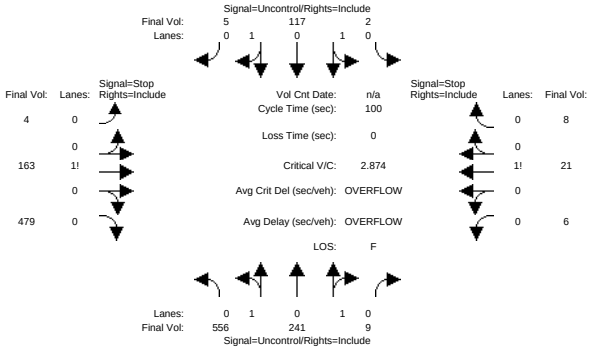
Street Name:	16th Street									H Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	4	236	119		600	469	19		22	0	20		15	0	680	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	4	236	119		600	469	19		22	0	20		15	0	680	
Added Vol:	0	17	0		15	21	0		0	0	0		0	0	5	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	4	253	119		615	490	19		22	0	20		15	0	685	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	4	253	119		615	490	19		22	0	20		15	0	685	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	4	253	119		615	490	19		22	0	20		15	0	685	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	4	253	119		615	490	19		22	0	20		15	0	685	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.90	0.90		0.95	0.94	0.94		0.72	1.00	0.72		0.86	1.00	0.86	
Lanes:	1.00	1.36	0.64		1.00	1.93	0.07		0.52	0.00	0.48		0.02	0.00	0.98	
Final Sat.:	1805	2337	1099		1805	3454	134		714	0	649		35	0	1607	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.11	0.11		0.34	0.14	0.14		0.03	0.00	0.03		0.43	0.00	0.43	
Crit Moves:		****			****								****			
Green/Cycle:	0.17	0.12	0.12		0.34	0.29	0.29		0.43	0.00	0.43		0.43	0.00	0.43	
Volume/Cap:	0.01	0.92	0.92		0.99	0.48	0.48		0.07	0.00	0.07		0.99	0.00	0.99	
Delay/Veh:	29.4	63.1	63.1		60.5	25.1	25.1		14.2	0.0	14.2		54.5	0.0	54.5	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	29.4	63.1	63.1		60.5	25.1	25.1		14.2	0.0	14.2		54.5	0.0	54.5	
LOS by Move:	C	E	E		E	C	C		B	A	B		D	A	D	
HCM2kAvgQ:	2	214	214		568	153	153		16	0	16		630	0	630	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     548  238     9     2  116     5     4  163   468     6   21     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  548  238     9     2  116     5     4  163   468     6   21     8
Added Vol:      8    3     0     0    1     0     0    0    11     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  556  241     9     2  117     5     4  163   479     6   21     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   556  241     9     2  117     5     4  163   479     6   21     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  556  241     9     2  117     5     4  163   479     6   21     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  122 xxxx xxxxx   250 xxxx xxxxx  1367 1486    61  1502 1484   125
Potent Cap.: 1478 xxxx xxxxx  1327 xxxx xxxxx   108  126   998    86  126   909
Move Cap.:   1478 xxxx xxxxx  1327 xxxx xxxxx    45   57   998     0   57   909
Volume/Cap:  0.38 xxxx  xxxx  0.00 xxxx  xxxx  0.09 2.87  0.48  xxxx 0.37  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   44.5 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.9 xxxx xxxxx   7.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  188 xxxxx  xxxx    0 xxxxx
SharedQueue:  1.8 xxxx xxxxx   0.0 xxxx xxxxx xxxxx 61.3 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.9 xxxx xxxxx   7.7 xxxx xxxxx xxxxx 1150 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     A    *     *     *    F     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           1150.0           xxxxxx
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  556  241     9     2  117     5     4  163   479     6   21     8
ApproachDel:    xxxxxx           xxxxxx           1150.0           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=206.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=646]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1611]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1611]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

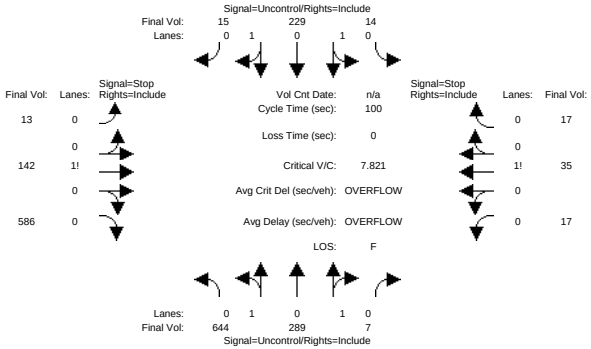
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  556  241     9     2  117     5     4  163   479     6   21     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             930
Minor Approach Volume:           646
Minor Approach Volume Threshold: 310
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                     H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     639  288     7    14  226    15    13  142   571    17   35    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  639  288     7    14  226    15    13  142   571    17   35    17
Added Vol:      5    1     0     0    3     0     0    0    15     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  644  289     7    14  229    15    13  142   586    17   35    17
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   644  289     7    14  229    15    13  142   586    17   35    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  644  289     7    14  229    15    13  142   586    17   35    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  244 xxxx xxxxx   296 xxxx xxxxx  1715 1849   122  1794 1853   148
Potent Cap.: 1334 xxxx xxxxx  1277 xxxx xxxxx    59   75   913    52   75   878
Move Cap.:   1334 xxxx xxxxx  1277 xxxx xxxxx     0   18   913     0   18   878
Volume/Cap:  0.48 xxxx  xxxx  0.01 xxxx  xxxx  xxxx 7.82  0.64  xxxx 1.94  0.02
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   67.9 xxxx xxxxx   0.8 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.2 xxxx xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx    0 xxxxx  xxxx    0 xxxxx
SharedQueue:  2.7 xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 10.2 xxxx xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     A    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  644  289     7    14  229    15    13  142   586    17   35    17
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=741]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2008]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=69]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2008]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

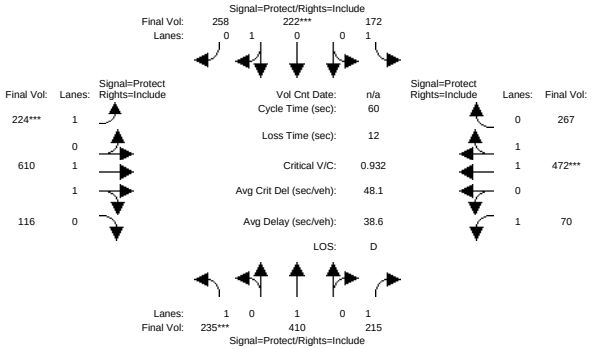
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  644  289     7    14  229    15    13  142   586    17   35    17
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1198
Minor Approach Volume:           741
Minor Approach Volume Threshold: 223
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1046: Main St / G St



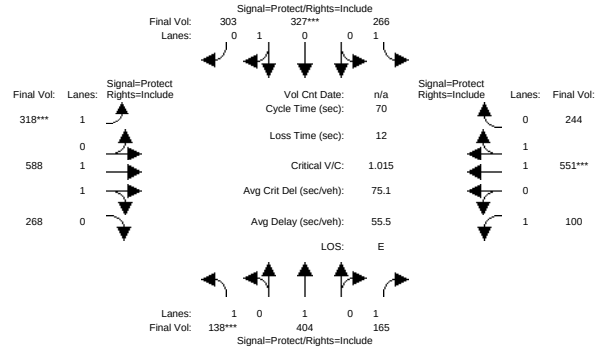
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	235	410	214	166	222	252	224	609	116	70	472	256
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	410	214	166	222	252	224	609	116	70	472	256
Added Vol:	0	0	1	6	0	6	0	1	0	0	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	235	410	215	172	222	258	224	610	116	70	472	267
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	235	410	215	172	222	258	224	610	116	70	472	267
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	410	215	172	222	258	224	610	116	70	472	267
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	410	215	172	222	258	224	610	116	70	472	267
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.00	1.00	1.00	0.46	0.54	1.00	1.68	0.32	1.00	1.28	0.72
Final Sat.:	1805	1900	1615	1805	808	939	1805	2960	563	1805	2181	1234
Capacity Analysis Module:												
Vol/Sat:	0.13	0.22	0.13	0.10	0.27	0.27	0.12	0.21	0.21	0.04	0.22	0.22
Crit Moves:	****				****		****				****	
Green/Cycle:	0.14	0.28	0.28	0.15	0.29	0.29	0.13	0.23	0.23	0.13	0.23	0.23
Volume/Cap:	0.93	0.76	0.47	0.62	0.93	0.93	0.93	0.88	0.88	0.29	0.93	0.93
Delay/Veh:	64.1	26.2	18.6	28.3	44.5	44.5	65.5	33.3	33.3	24.2	40.2	40.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.1	26.2	18.6	28.3	44.5	44.5	65.5	33.3	33.3	24.2	40.2	40.2
LOS by Move:	E	C	B	C	D	D	E	C	C	C	D	D
HCM2kAvgQ:	208	226	96	104	341	341	202	265	265	29	222	222

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1046: Main St / G St



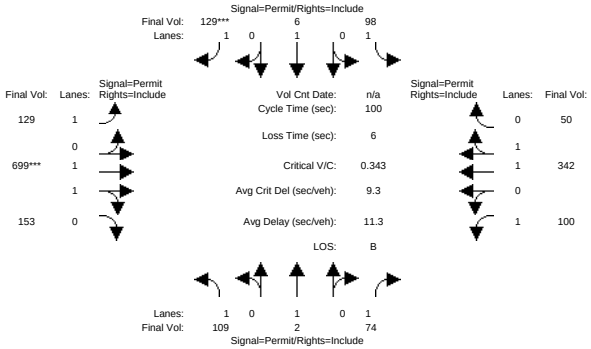
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	138	404	165	255	327	296	318	588	268	99	549	238
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	138	404	165	255	327	296	318	588	268	99	549	238
Added Vol:	0	0	0	11	0	7	0	0	0	1	2	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	138	404	165	266	327	303	318	588	268	100	551	244
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	138	404	165	266	327	303	318	588	268	100	551	244
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	138	404	165	266	327	303	318	588	268	100	551	244
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	138	404	165	266	327	303	318	588	268	100	551	244
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.91	0.91	0.95	0.91	0.91
Lanes:	1.00	1.00	1.00	1.00	0.52	0.48	1.00	1.37	0.63	1.00	1.39	0.61
Final Sat.:	1805	1900	1615	1805	915	848	1805	2363	1077	1805	2387	1057
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.10	0.15	0.36	0.36	0.18	0.25	0.25	0.06	0.23	0.23
Crit Moves:	****				****		****				****	
Green/Cycle:	0.10	0.26	0.26	0.18	0.34	0.34	0.17	0.28	0.28	0.11	0.22	0.22
Volume/Cap:	0.76	0.82	0.39	0.82	1.05	1.05	1.05	0.90	0.90	0.50	1.05	1.05
Delay/Veh:	48.2	34.6	21.9	42.4	73.3	73.3	94.2	35.7	35.7	31.2	73.6	73.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.2	34.6	21.9	42.4	73.3	73.3	94.2	35.7	35.7	31.2	73.6	73.6
LOS by Move:	D	C	C	D	E	E	F	D	D	C	E	E
HCM2kAvgQ:	122	270	82	203	579	579	337	335	335	51	343	343

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1047: 18th St / G St



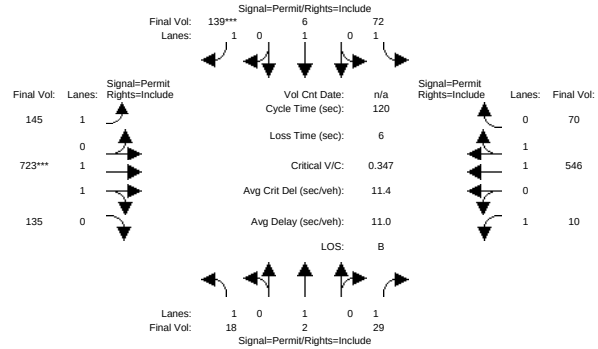
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	109	2	74	98	6	128	126	693	153	100	331	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	109	2	74	98	6	128	126	693	153	100	331	50
Added Vol:	0	0	0	0	0	1	3	6	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	109	2	74	98	6	129	129	699	153	100	342	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	109	2	74	98	6	129	129	699	153	100	342	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	109	2	74	98	6	129	129	699	153	100	342	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	109	2	74	98	6	129	129	699	153	100	342	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.85	0.77	1.00	0.85	0.51	0.92	0.92	0.30	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.64	0.36	1.00	1.74	0.26
Final Sat.:	1452	1900	1615	1457	1900	1615	975	2882	631	564	3090	452
Capacity Analysis Module:												
Vol/Sat:	0.08	0.00	0.05	0.07	0.00	0.08	0.13	0.24	0.24	0.18	0.11	0.11
Crit Moves:						****		****				
Green/Cycle:	0.23	0.23	0.23	0.23	0.23	0.23	0.71	0.71	0.71	0.71	0.71	0.71
Volume/Cap:	0.32	0.00	0.20	0.29	0.01	0.34	0.19	0.34	0.34	0.25	0.16	0.16
Delay/Veh:	32.4	29.5	31.1	32.0	29.5	32.5	5.1	5.7	5.7	5.5	4.9	4.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.4	29.5	31.1	32.0	29.5	32.5	5.1	5.7	5.7	5.5	4.9	4.9
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	74	1	47	66	4	88	31	124	124	33	52	52

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1047: 18th St / G St



Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	18	2	29	72	6	136	144	712	135	10	540	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	18	2	29	72	6	136	144	712	135	10	540	70
Added Vol:	0	0	0	0	0	3	1	11	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	18	2	29	72	6	139	145	723	135	10	546	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	2	29	72	6	139	145	723	135	10	546	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	2	29	72	6	139	145	723	135	10	546	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	2	29	72	6	139	145	723	135	10	546	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.85	0.77	1.00	0.85	0.39	0.93	0.93	0.29	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.69	0.31	1.00	1.77	0.23
Final Sat.:	1452	1900	1615	1457	1900	1615	739	2969	554	555	3145	403
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.02	0.05	0.00	0.09	0.20	0.24	0.24	0.02	0.17	0.17
Crit Moves:						****		****				
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.70	0.70	0.70	0.70	0.70	0.70
Volume/Cap:	0.05	0.00	0.07	0.20	0.01	0.35	0.28	0.35	0.35	0.03	0.25	0.25
Delay/Veh:	34.4	34.0	34.6	36.0	34.0	37.6	6.9	7.1	7.1	5.5	6.5	6.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.4	34.0	34.6	36.0	34.0	37.6	6.9	7.1	7.1	5.5	6.5	6.5
LOS by Move:	C	C	C	D	C	D	A	A	A	A	A	A
HCM2kAvgQ:	13	1	20	54	4	108	47	152	152	3	106	106

Note: Queue reported is the distance per lane in feet.

MERCED STATION ANALYSIS

INTERSECTION

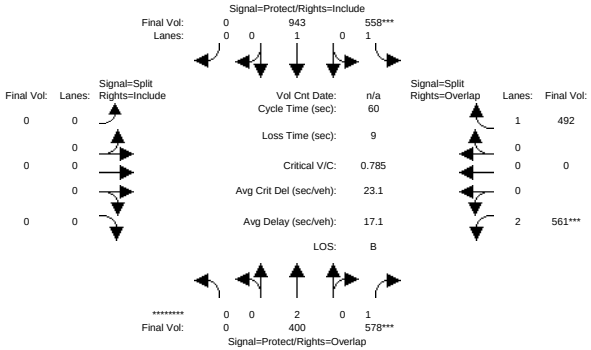
2035 BUILD_OPTION-A MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1001: 16th St / SR-59

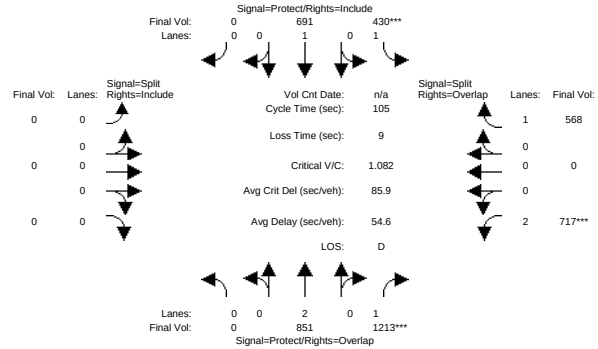



```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10   10     7   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  371  570   558  943    0     0    0    0   544    0  492
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0  371  570   558  943    0     0    0    0   544    0  492
Added Vol:      0   29    8     0    0    0     0    0    0    17    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  400  578   558  943    0     0    0    0   561    0  492
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0  400  578   558  943    0     0    0    0   561    0  492
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  400  578   558  943    0     0    0    0   561    0  492
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0  400  578   558  943    0     0    0    0   561    0  492
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.95 0.85  0.95 1.00 1.00  1.00 1.00 1.00  0.92 1.00 0.85
Lanes:       0.00 2.00 1.00  1.00 1.00 0.00  0.00 0.00 0.00  2.00 0.00 1.00
Final Sat.:     0 3610 1615  1805 1900    0     0    0    0  3502    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.11 0.36  0.31 0.50 0.00  0.00 0.00 0.00  0.16 0.00 0.30
Crit Moves:                ****  ****                        ****
Green/Cycle: 0.00 0.25 0.45  0.40 0.65 0.00  0.00 0.00 0.00  0.20 0.00 0.60
Volume/Cap:  0.00 0.45 0.79  0.77 0.77 0.00  0.00 0.00 0.00  0.78 0.00 0.51
Delay/Veh:    0.0 19.5 20.1  21.0 10.5  0.0   0.0  0.0  0.0  28.3  0.0  7.2
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 19.5 20.1  21.0 10.5  0.0   0.0  0.0  0.0  28.3  0.0  7.2
LOS by Move:    A    B    C     C    B    A     A    A    A     C    A    A
HCM2kAvgQ:      0   94  288   277  353    0     0    0    0   185    0  142
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1001: 16th St / SR-59

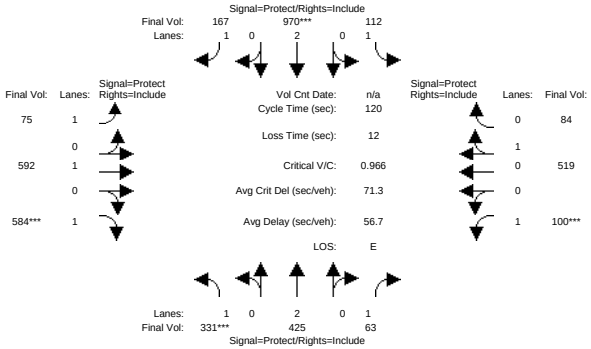



```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10   10     7   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  817 1196   430  691    0     0    0    0   709    0  568
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0  817 1196   430  691    0     0    0    0   709    0  568
Added Vol:      0   34   17     0    0    0     0    0    0     8    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  851 1213   430  691    0     0    0    0   717    0  568
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0  851 1213   430  691    0     0    0    0   717    0  568
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  851 1213   430  691    0     0    0    0   717    0  568
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0  851 1213   430  691    0     0    0    0   717    0  568
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.95 0.85  0.95 1.00 1.00  1.00 1.00 1.00  0.92 1.00 0.85
Lanes:       0.00 2.00 1.00  1.00 1.00 0.00  0.00 0.00 0.00  2.00 0.00 1.00
Final Sat.:     0 3610 1615  1805 1900    0     0    0    0  3502    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.24 0.75  0.24 0.36 0.00  0.00 0.00 0.00  0.20 0.00 0.35
Crit Moves:                ****  ****                        ****
Green/Cycle: 0.00 0.50 0.69  0.22 0.73 0.00  0.00 0.00 0.00  0.19 0.00 0.41
Volume/Cap:  0.00 0.47 1.08  1.08 0.50 0.00  0.00 0.00 0.00  1.08 0.00 0.86
Delay/Veh:    0.0 17.0 68.0 109.9  6.5  0.0   0.0  0.0  0.0 101.8  0.0 39.2
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 17.0 68.0 109.9  6.5  0.0   0.0  0.0  0.0 101.8  0.0 39.2
LOS by Move:    A    B    E     F    A    A     A    A    A     F    A    D
HCM2kAvgQ:      0  233 1368   555  243    0     0    0    0   489    0  488
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

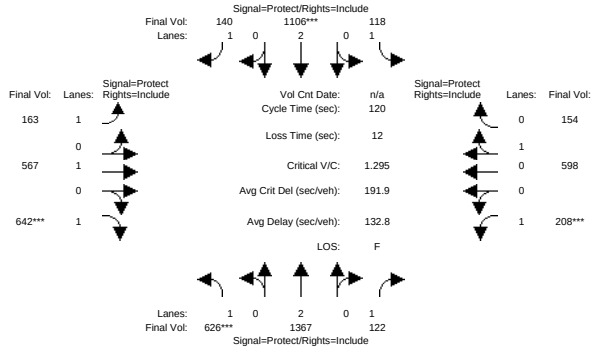



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     331  425    63   112  970   167    75  584   584   100  502    84
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  331  425    63   112  970   167    75  584   584   100  502    84
Added Vol:      0    0     0     0    0     0     0    8     0     0   17     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  331  425    63   112  970   167    75  592   584   100  519    84
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   331  425    63   112  970   167    75  592   584   100  519    84
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  331  425    63   112  970   167    75  592   584   100  519    84
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  331  425    63   112  970   167    75  592   584   100  519    84
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.98  0.98
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.86  0.14
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1601   259
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.12  0.04  0.06 0.27  0.10  0.04 0.31  0.36  0.06 0.32  0.32
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.19 0.31  0.31  0.16 0.28  0.28  0.07 0.37  0.37  0.06 0.37  0.37
Volume/Cap:  0.97 0.38  0.13  0.38 0.97  0.37  0.63 0.83  0.97  0.95 0.88  0.88
Delay/Veh:   87.9 33.0  30.2  45.8 63.5  35.4  65.0 42.5  65.2 127.8 48.8  48.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  87.9 33.0  30.2  45.8 63.5  35.4  65.0 42.5  65.2 127.8 48.8  48.8
LOS by Move:    F    C     C     D    E     D     E    D     E     F    D     D
HCM2kAvgQ:    359  155    40    99  594   127    95  547   662   164  598   598
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

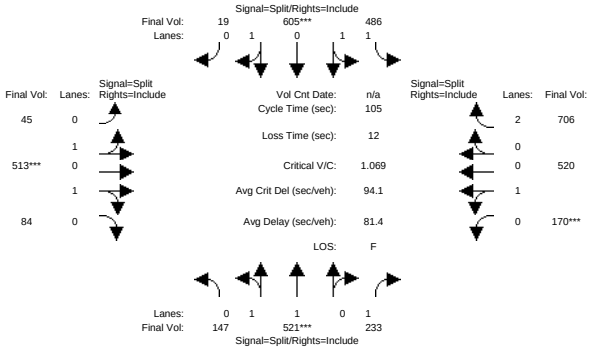



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     626 1367   122   118 1106   140   163  550   642   208  590   154
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  626 1367   122   118 1106   140   163  550   642   208  590   154
Added Vol:      0    0     0     0    0     0     0   17     0     0    8     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  626 1367   122   118 1106   140   163  567   642   208  598   154
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   626 1367   122   118 1106   140   163  567   642   208  598   154
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  626 1367   122   118 1106   140   163  567   642   208  598   154
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  626 1367   122   118 1106   140   163  567   642   208  598   154
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.97  0.97
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.80  0.20
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1464   377
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35 0.38  0.08  0.07 0.31  0.09  0.09 0.30  0.40  0.12 0.41  0.41
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.27 0.43  0.43  0.07 0.24  0.24  0.07 0.31  0.31  0.09 0.32  0.32
Volume/Cap:  1.30 0.88  0.18  0.88 1.30  0.37  1.26 0.97  1.30  1.30 1.26  1.26
Delay/Veh:  191.6 37.6  21.2  99.1  187  38.9 220.6 71.4 188.9 225.8  171 170.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 191.6 37.6  21.2  99.1  187  38.9 220.6 71.4 188.9 225.8  171 170.7
LOS by Move:    F    D     C     F    F     D     F    E     F     F    F     F
HCM2kAvgQ:    973  562    63   172  990   112   313  654  1084   395 1212  1212
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

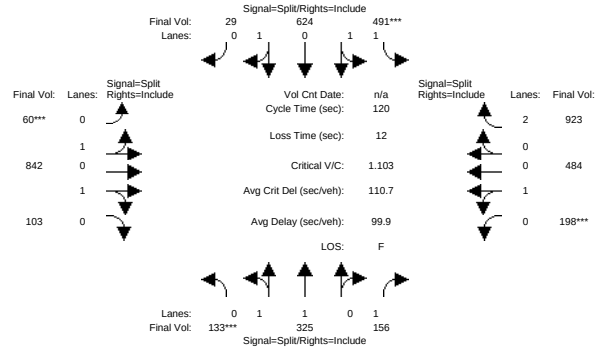



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     113  229   233  484  585    19   45  513    84  170  520   695
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  113  229   233  484  585    19   45  513    84  170  520   695
Added Vol:     34  292     0    2   20     0    0    0     0    0    0    11
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  147  521   233  486  605    19   45  513    84  170  520   706
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   147  521   233  486  605    19   45  513    84  170  520   706
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  147  521   233  486  605    19   45  513    84  170  520   706
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  147  521   233  486  605    19   45  513    84  170  520   706
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.94 0.94  0.85 0.93 0.93  0.93 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.44 1.56  1.00 1.31 1.64  0.05 0.14 1.60  0.26 0.25 0.75  2.00
Final Sat.:   786 2785  1615 2314 2881    90  247 2818   462  462 1415  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.19  0.14 0.21 0.21  0.21 0.18 0.18  0.18 0.37 0.37  0.25
Crit Moves:        ****            ****            ****            ****
Green/Cycle: 0.18 0.18  0.18 0.20 0.20  0.20 0.17 0.17  0.17 0.34 0.34  0.34
Volume/Cap:  1.07 1.07  0.82 1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  0.72
Delay/Veh:   99.1 99.1  59.3 90.4 90.4  90.4 100.1  100 100.1 89.7 89.7  32.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  99.1 99.1  59.3 90.4 90.4  90.4 100.1  100 100.1 89.7 89.7  32.7
LOS by Move:    F    F     E    F    F     F    F    F     F    F    F     C
HCM2kAvgQ:    461  461   242  502  502   502  446  446   446  815  815   313
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

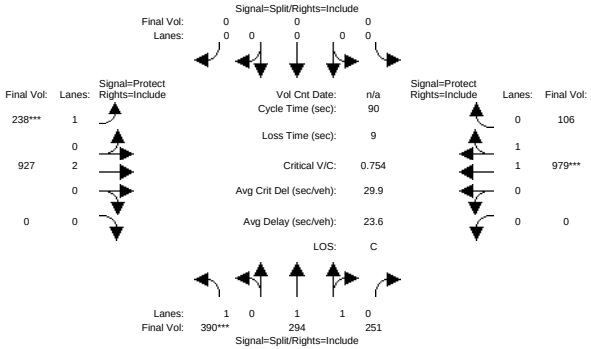



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     104  172   156  489  615    29   60  842   103  198  484   901
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  104  172   156  489  615    29   60  842   103  198  484   901
Added Vol:     29  153     0    2    9     0    0    0     0    0    0    22
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  133  325   156  491  624    29   60  842   103  198  484   923
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   133  325   156  491  624    29   60  842   103  198  484   923
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  133  325   156  491  624    29   60  842   103  198  484   923
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  133  325   156  491  624    29   60  842   103  198  484   923
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.94 0.94  0.85 0.93 0.93  0.93 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.58 1.42  1.00 1.29 1.64  0.07 0.12 1.68  0.20 0.29 0.71  2.00
Final Sat.:  1034 2526  1615 2266 2880   134  212 2970   363  544 1330  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.10 0.22 0.22  0.22 0.28 0.28  0.28 0.36 0.36  0.32
Crit Moves:  ****            ****            ****            ****
Green/Cycle: 0.12 0.12  0.12 0.20 0.20  0.20 0.26 0.26  0.26 0.33 0.33  0.33
Volume/Cap:  1.10 1.10  0.83 1.10 1.10  1.10 1.10 1.10  1.10 1.10 1.10  0.98
Delay/Veh:  128.1  128  77.0 108.9  109 108.9 106.8  107 106.8 108.0  108  65.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 128.1  128  77.0 108.9  109 108.9 106.8  107 106.8 108.0  108  65.3
LOS by Move:    F    F     E    F    F     F    F    F     F    F    F     E
HCM2kAvgQ:    378  378   198  580  580   580  736  736   736  919  919   623
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

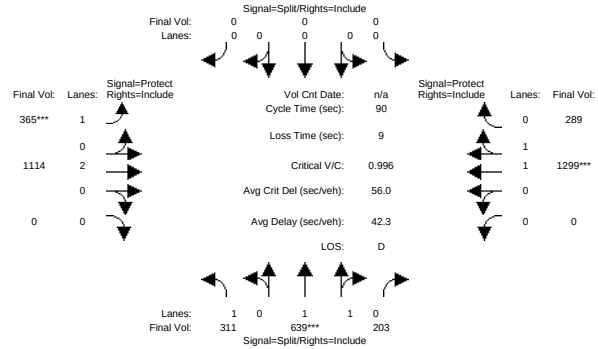



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     387  147   251     0    0     0   238  891     0     0  971    92
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  387  147   251     0    0     0   238  891     0     0  971    92
Added Vol:      3  147     0     0    0     0     0   36     0     0    8    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  390  294   251     0    0     0   238  927     0     0  979   106
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   390  294   251     0    0     0   238  927     0     0  979   106
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  390  294   251     0    0     0   238  927     0     0  979   106
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  390  294   251     0    0     0   238  927     0     0  979   106
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.88  0.88  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       1.00 1.08  0.92  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.80  0.20
Final Sat.:  1615 1813  1548     0    0     0  1805 3610     0     0 3208   347
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24 0.16  0.16  0.00 0.00  0.00  0.13 0.26  0.00  0.00 0.31  0.31
Crit Moves:  ****                             ****                    ****
Green/Cycle: 0.32 0.32  0.32  0.00 0.00  0.00  0.17 0.58  0.00  0.00 0.40  0.40
Volume/Cap:  0.75 0.51  0.51  0.00 0.00  0.00  0.75 0.44  0.00  0.00 0.75  0.75
Delay/Veh:   33.6 25.2  25.2   0.0  0.0   0.0  45.2 10.8   0.0   0.0 25.3  25.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  33.6 25.2  25.2   0.0  0.0   0.0  45.2 10.8   0.0   0.0 25.3  25.3
LOS by Move:    C    C     C     A    A     A     D    B     A     A    C     C
HCM2kAvgQ:    284  170   170     0    0     0   203  192     0     0  342   342
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

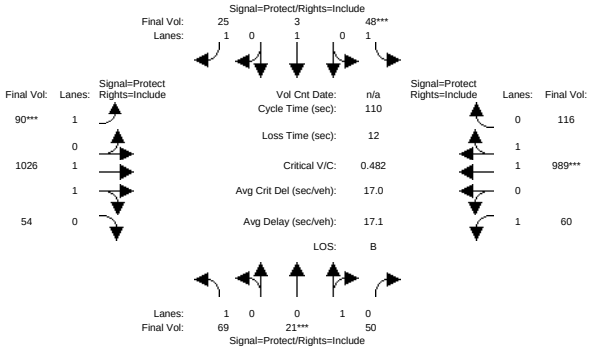



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     299  331   203     0    0     0   365 1083     0     0 1289   272
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  299  331   203     0    0     0   365 1083     0     0 1289   272
Added Vol:     12  308     0     0    0     0     0   31     0     0   10    17
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  311  639   203     0    0     0   365 1114     0     0 1299   289
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   311  639   203     0    0     0   365 1114     0     0 1299   289
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  311  639   203     0    0     0   365 1114     0     0 1299   289
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  311  639   203     0    0     0   365 1114     0     0 1299   289
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.92  0.92  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.92  0.92
Lanes:       1.00 1.52  0.48  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.64  0.36
Final Sat.:  1615 2641   839     0    0     0  1805 3610     0     0 2873   639
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.24  0.24  0.00 0.00  0.00  0.20 0.31  0.00  0.00 0.45  0.45
Crit Moves:       ****                             ****                    ****
Green/Cycle: 0.24 0.24  0.24  0.00 0.00  0.00  0.20 0.66  0.00  0.00 0.45  0.45
Volume/Cap:  0.79 1.00  1.00  0.00 0.00  0.00  1.00 0.47  0.00  0.00 1.00  1.00
Delay/Veh:   42.5 63.9  63.9   0.0  0.0   0.0  81.7  7.8   0.0   0.0 46.0  46.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  42.5 63.9  63.9   0.0  0.0   0.0  81.7  7.8   0.0   0.0 46.0  46.0
LOS by Move:    D    E     E     A    A     A     F    A     A     A    D     D
HCM2kAvgQ:    256  460   460     0    0     0   394  204     0     0  680   680
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1005: 15th St / V St



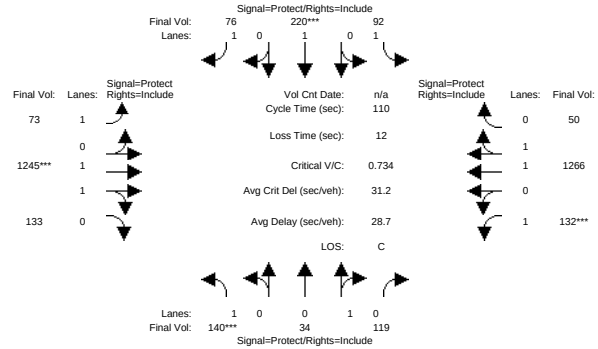
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	69	21	50	48	3	25	90	990	54	60	967	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	21	50	48	3	25	90	990	54	60	967	116
Added Vol:	0	0	0	0	0	0	0	36	0	0	22	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	21	50	48	3	25	90	1026	54	60	989	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	69	21	50	48	3	25	90	1026	54	60	989	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	21	50	48	3	25	90	1026	54	60	989	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	21	50	48	3	25	90	1026	54	60	989	116
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.79	0.21
Final Sat.:	1805	502	1196	1805	1900	1615	1805	3405	179	1805	3179	373
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.03	0.00	0.02	0.05	0.30	0.30	0.03	0.31	0.31
Crit Moves:		****		****			****				****	
Green/Cycle:	0.06	0.09	0.09	0.06	0.09	0.09	0.10	0.61	0.61	0.13	0.63	0.63
Volume/Cap:	0.60	0.46	0.46	0.42	0.02	0.17	0.49	0.50	0.50	0.26	0.49	0.49
Delay/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.8	12.3	12.3	43.8	10.8	10.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.8	12.3	12.3	43.8	10.8	10.8
LOS by Move:	E	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	82	71	71	52	3	23	71	262	262	42	237	237

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1005: 15th St / V St



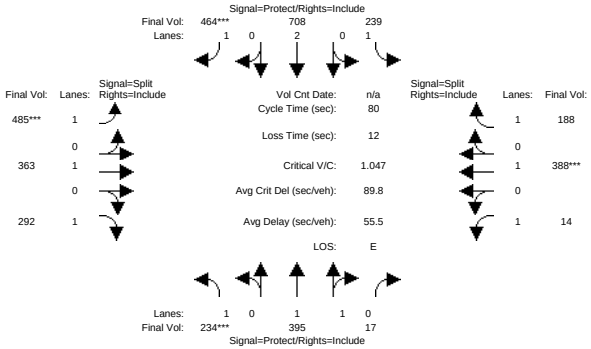
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	140	34	119	92	220	76	73	1214	133	132	1239	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	34	119	92	220	76	73	1214	133	132	1239	50
Added Vol:	0	0	0	0	0	0	0	31	0	0	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	34	119	92	220	76	73	1245	133	132	1266	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	34	119	92	220	76	73	1245	133	132	1266	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	34	119	92	220	76	73	1245	133	132	1266	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	34	119	92	220	76	73	1245	133	132	1266	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.22	0.78	1.00	1.00	1.00	1.00	1.81	0.19	1.00	1.92	0.08
Final Sat.:	1805	373	1305	1805	1900	1615	1805	3213	343	1805	3452	136
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.05	0.12	0.05	0.04	0.39	0.39	0.07	0.37	0.37
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.16	0.16	0.11	0.16	0.16	0.09	0.53	0.53	0.10	0.53	0.53
Volume/Cap:	0.73	0.59	0.59	0.47	0.73	0.30	0.44	0.73	0.73	0.73	0.69	0.69
Delay/Veh:	61.4	46.7	46.7	47.9	53.2	41.6	49.0	21.6	21.6	62.6	19.9	19.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.4	46.7	46.7	47.9	53.2	41.6	49.0	21.6	21.6	62.6	19.9	19.9
LOS by Move:	E	D	D	D	D	D	D	C	C	E	B	B
HCM2kAvgQ:	156	141	141	87	216	62	57	472	472	100	393	393

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1006: 16th St / V St



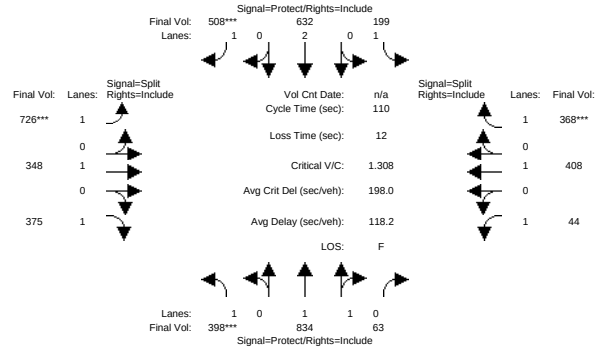
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	212	358	17	239	691	464	485	363	256	14	388	188
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	212	358	17	239	691	464	485	363	256	14	388	188
Added Vol:	22	37	0	0	17	0	0	0	36	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	395	17	239	708	464	485	363	292	14	388	188
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	395	17	239	708	464	485	363	292	14	388	188
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	395	17	239	708	464	485	363	292	14	388	188
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	395	17	239	708	464	485	363	292	14	388	188
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.92	0.08	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3440	148	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.11	0.11	0.13	0.20	0.29	0.27	0.19	0.18	0.01	0.20	0.12
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.19	0.19	0.20	0.27	0.27	0.26	0.26	0.26	0.20	0.20	0.20
Volume/Cap:	1.05	0.59	0.59	0.65	0.71	1.05	1.05	0.74	0.70	0.04	1.05	0.60
Delay/Veh:	108.1	30.8	30.8	33.1	28.7	84.6	84.3	33.5	32.4	26.2	91.7	32.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	108.1	30.8	30.8	33.1	28.7	84.6	84.3	33.5	32.4	26.2	91.7	32.4
LOS by Move:	F	C	C	C	C	F	F	C	C	C	F	C
HCM2kAvgQ:	213	121	121	163	243	483	423	210	166	7	419	129

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1006: 16th St / V St



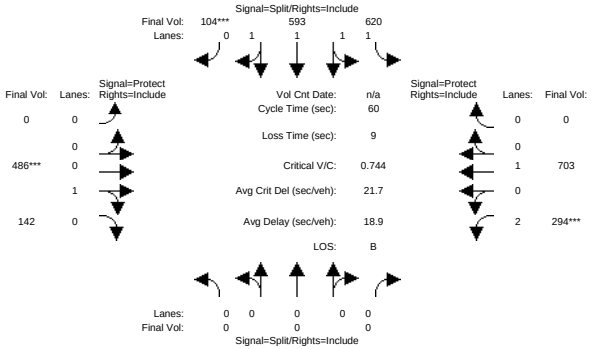
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	371	783	63	199	624	508	726	348	344	44	408	368
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	371	783	63	199	624	508	726	348	344	44	408	368
Added Vol:	27	51	0	0	8	0	0	0	31	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	398	834	63	199	632	508	726	348	375	44	408	368
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	398	834	63	199	632	508	726	348	375	44	408	368
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	398	834	63	199	632	508	726	348	375	44	408	368
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	398	834	63	199	632	508	726	348	375	44	408	368
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.86	0.14	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3323	251	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.22	0.25	0.25	0.11	0.18	0.31	0.40	0.18	0.23	0.02	0.21	0.23
Crit Moves:	****					****	****					****
Green/Cycle:	0.17	0.28	0.28	0.12	0.24	0.24	0.31	0.31	0.31	0.17	0.17	0.17
Volume/Cap:	1.31	0.88	0.88	0.88	0.73	1.31	1.31	0.60	0.75	0.14	1.23	1.31
Delay/Veh:	206.0	46.9	46.9	78.2	41.6	197.8	189.2	34.0	40.9	38.6	174	207.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	206.0	46.9	46.9	78.2	41.6	197.8	189.2	34.0	40.9	38.6	174	207.2
LOS by Move:	F	D	D	E	D	F	F	C	D	D	F	F
HCM2kAvgQ:	616	386	386	240	292	848	1122	238	281	32	647	633

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1007: 13th St / R St

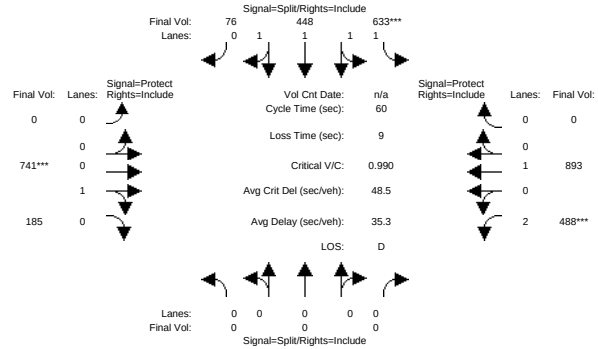



```
Street Name:            13th Street                     R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0   10   10   10     0   10   10     7   10     0
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  537  365  104     0  486  142   294  703     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0    0     0  537  365  104     0  486  142   294  703     0
Added Vol:      0    0     0   83  228    0     0    0    0     0    0     0
PasserByVol:    0    0     0    0    0    0     0    0    0     0    0     0
Initial Fut:    0    0     0  620  593  104     0  486  142   294  703     0
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0    0     0  620  593  104     0  486  142   294  703     0
Reduct Vol:     0    0     0    0    0    0     0    0    0     0    0     0
Reduced Vol:    0    0     0  620  593  104     0  486  142   294  703     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0    0     0  620  593  104     0  486  142   294  703     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 1.00  1.00 0.84 0.84 0.84  1.00 0.97 0.97  0.92 1.00 1.00
Lanes:       0.00 0.00  0.00 1.88 1.80 0.32  0.00 0.77 0.23  2.00 1.00 0.00
Final Sat.:     0    0     0 2988 2858  501     0 1425  416  3502 1900    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.21 0.21 0.21  0.00 0.34 0.34  0.08 0.37 0.00
Crit Moves:                                  ****      ****       ****
Green/Cycle: 0.00 0.00  0.00 0.28 0.28 0.28  0.00 0.46 0.46  0.12 0.57 0.00
Volume/Cap:  0.00 0.00  0.00 0.75 0.75 0.75  0.00 0.75 0.75  0.72 0.65 0.00
Delay/Veh:    0.0  0.0   0.0 21.6 21.6 21.6   0.0 17.2 17.2  31.7 10.1  0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0  0.0   0.0 21.6 21.6 21.6   0.0 17.2 17.2  31.7 10.1  0.0
LOS by Move:    A    A     A    C    C    C     A    B    B     C    B    A
HCM2kAvgQ:      0    0     0  201  201  201     0  283  283    72  221    0
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1007: 13th St / R St




```
Street Name:            13th Street                     R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0   10   10   10     0   10   10     7   10     0
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  591  328   76     0  741  185   488  893     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0    0     0  591  328   76     0  741  185   488  893     0
Added Vol:      0    0     0   42  120    0     0    0    0     0    0     0
PasserByVol:    0    0     0    0    0    0     0    0    0     0    0     0
Initial Fut:    0    0     0  633  448   76     0  741  185   488  893     0
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0    0     0  633  448   76     0  741  185   488  893     0
Reduct Vol:     0    0     0    0    0    0     0    0    0     0    0     0
Reduced Vol:    0    0     0  633  448   76     0  741  185   488  893     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0    0     0  633  448   76     0  741  185   488  893     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 1.00  1.00 0.83 0.83 0.83  1.00 0.97 0.97  0.92 1.00 1.00
Lanes:       0.00 0.00  0.00 2.00 1.71 0.29  0.00 0.80 0.20  2.00 1.00 0.00
Final Sat.:     0    0     0 3143 2687  456     0 1479  369  3502 1900    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.20 0.17 0.17  0.00 0.50 0.50  0.14 0.47 0.00
Crit Moves:                  ****                 ****       ****
Green/Cycle: 0.00 0.00  0.00 0.20 0.20 0.20  0.00 0.51 0.51  0.14 0.65 0.00
Volume/Cap:  0.00 0.00  0.00 0.99 0.82 0.82  0.00 0.99 0.99  0.99 0.73 0.00
Delay/Veh:    0.0  0.0   0.0 47.7 26.8 26.8   0.0 41.6 41.6  63.6  9.3  0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0  0.0   0.0 47.7 26.8 26.8   0.0 41.6 41.6  63.6  9.3  0.0
LOS by Move:    A    A     A    D    C    C     A    D    D     E    A    A
HCM2kAvgQ:      0    0     0  304  195  195     0  637  637   162  280    0
Note: Queue reported is the distance per lane in feet.
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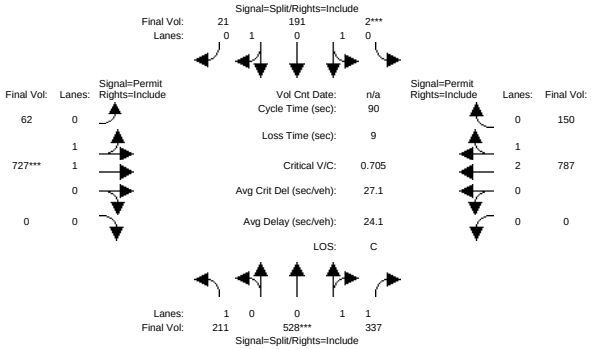
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

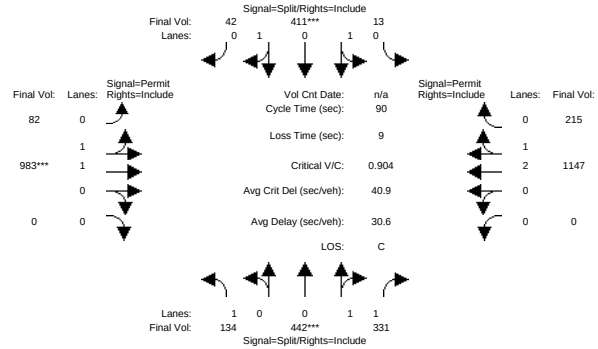



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     211  528   337    2   69    21   62  644     0    0  787   136
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  211  528   337    2   69    21   62  644     0    0  787   136
Added Vol:      0    0     0    0  122     0    0   83     0    0    0    14
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  211  528   337    2  191    21   62  727     0    0  787   150
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   211  528   337    2  191    21   62  727     0    0  787   150
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  211  528   337    2  191    21   62  727     0    0  787   150
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  211  528   337    2  191    21   62  727     0    0  787   150
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.74 0.74  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.02 1.78  0.20 0.16 1.84  0.00 0.00 2.52  0.48
Final Sat.:  1805 1790  1790   33 3174   349  222 2601     0    0 4252   810
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.30  0.19 0.06 0.06  0.06 0.28 0.28  0.00 0.00 0.19  0.19
Crit Moves:        ****        ****            ****
Green/Cycle: 0.41 0.41  0.41 0.11 0.11  0.11 0.38 0.38  0.00 0.00 0.38  0.38
Volume/Cap:  0.29 0.73  0.46 0.54 0.54  0.54 0.73 0.73  0.00 0.00 0.48  0.48
Delay/Veh:   18.3 24.9  19.8 39.4 39.4  39.4 26.2 26.2   0.0  0.0 21.2  21.2
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  18.3 24.9  19.8 39.4 39.4  39.4 26.2 26.2   0.0  0.0 21.2  21.2
LOS by Move:    B    C     B    D    D     D    C    C     A    A    C     C
HCM2kAvgQ:     99  339   176   94   94    94  240  240     0    0  174   174
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

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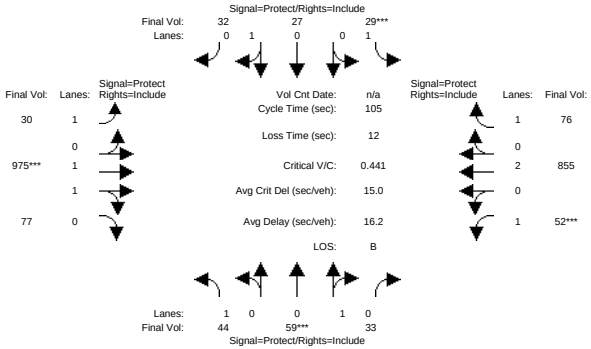
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     134  442   331   13  165    42   82  941     0    0 1147   198
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  134  442   331   13  165    42   82  941     0    0 1147   198
Added Vol:      0    0     0    0  246     0    0   42     0    0    0    17
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  134  442   331   13  411    42   82  983     0    0 1147   215
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   134  442   331   13  411    42   82  983     0    0 1147   215
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  134  442   331   13  411    42   82  983     0    0 1147   215
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  134  442   331   13  411    42   82  983     0    0 1147   215
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.65 0.65  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.06 1.76  0.18 0.15 1.85  0.00 0.00 2.53  0.47
Final Sat.:  1805 1778  1778   99 3139   321  189 2266     0    0 4263   799
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.25  0.19 0.13 0.13  0.13 0.43 0.43  0.00 0.00 0.27  0.27
Crit Moves:        ****            ****            ****
Green/Cycle: 0.28 0.28  0.28 0.14 0.14  0.14 0.48 0.48  0.00 0.00 0.48  0.48
Volume/Cap:  0.27 0.90  0.68 0.90 0.90  0.90 0.90 0.90  0.00 0.00 0.56  0.56
Delay/Veh:   25.8 44.3  30.7 57.1 57.1  57.1 31.4 31.4   0.0  0.0 16.9  16.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  25.8 44.3  30.7 57.1 57.1  57.1 31.4 31.4   0.0  0.0 16.9  16.9
LOS by Move:    C    D     C    E    E     E    C    C     A    A    B     B
HCM2kAvgQ:     75  393   232  254  254   254  335  335     0    0  236   236
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1009: 15th St / R St



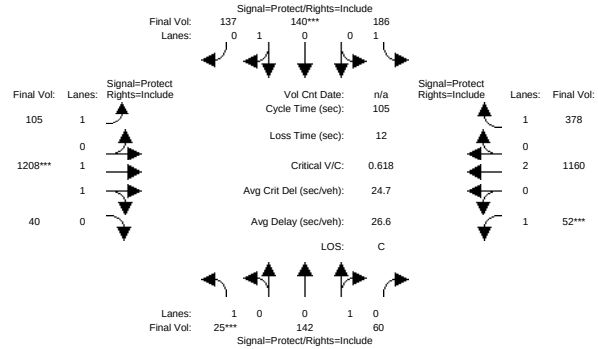
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	44	59	31	29	27	32	30	939	30	46	841	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	59	31	29	27	32	30	939	30	46	841	76
Added Vol:	0	0	2	0	0	0	0	36	47	6	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	59	33	29	27	32	30	975	77	52	855	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	59	33	29	27	32	30	975	77	52	855	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	59	33	29	27	32	30	975	77	52	855	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	59	33	29	27	32	30	975	77	52	855	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	0.94	0.94	0.95	0.95	0.85
Lanes:	1.00	0.64	0.36	1.00	0.46	0.54	1.00	1.85	0.15	1.00	2.00	1.00
Final Sat.:	1805	1153	645	1805	799	947	1805	3309	261	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.05	0.05	0.02	0.03	0.03	0.02	0.29	0.29	0.03	0.24	0.05
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.11	0.11	0.07	0.10	0.10	0.16	0.64	0.64	0.07	0.55	0.55
Volume/Cap:	0.33	0.46	0.46	0.24	0.32	0.32	0.11	0.46	0.46	0.43	0.43	0.09
Delay/Veh:	47.7	45.4	45.4	47.5	44.6	44.6	38.2	9.7	9.7	49.6	13.9	11.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.7	45.4	45.4	47.5	44.6	44.6	38.2	9.7	9.7	49.6	13.9	11.1
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	42	83	83	28	51	51	19	216	216	40	204	27

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1009: 15th St / R St



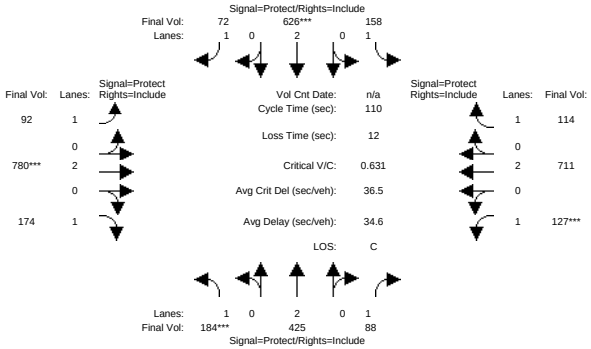
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	25	142	54	186	140	137	105	1177	28	50	1143	378
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	142	54	186	140	137	105	1177	28	50	1143	378
Added Vol:	0	0	6	0	0	0	0	31	12	2	17	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	142	60	186	140	137	105	1208	40	52	1160	378
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	25	142	60	186	140	137	105	1208	40	52	1160	378
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	25	142	60	186	140	137	105	1208	40	52	1160	378
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	25	142	60	186	140	137	105	1208	40	52	1160	378
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.70	0.30	1.00	0.51	0.49	1.00	1.94	0.06	1.00	2.00	1.00
Final Sat.:	1805	1276	539	1805	889	870	1805	3477	115	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.11	0.11	0.10	0.16	0.16	0.06	0.35	0.35	0.03	0.32	0.23
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.16	0.16	0.14	0.23	0.23	0.10	0.52	0.52	0.07	0.48	0.48
Volume/Cap:	0.21	0.71	0.71	0.71	0.67	0.67	0.58	0.67	0.67	0.43	0.66	0.48
Delay/Veh:	47.2	50.2	50.2	51.6	40.8	40.8	49.7	19.7	19.7	49.6	21.6	18.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.2	50.2	50.2	51.6	40.8	40.8	49.7	19.7	19.7	49.6	21.6	18.7
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	B
HCM2kAvgQ:	24	191	191	180	229	229	76	365	365	38	354	192

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1010: 16th St / R St



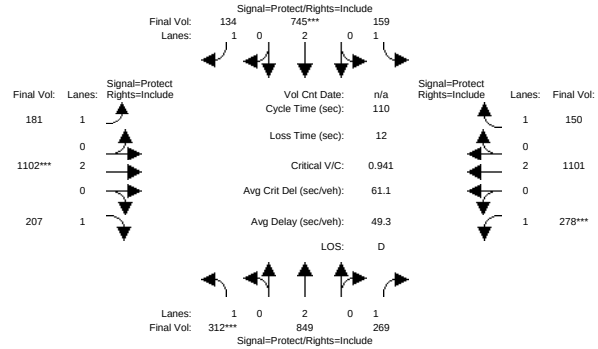
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	170	366	84	158	573	72	92	778	138	122	705	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	170	366	84	158	573	72	92	778	138	122	705	114
Added Vol:	14	59	4	0	53	0	0	2	36	5	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	184	425	88	158	626	72	92	780	174	127	711	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	184	425	88	158	626	72	92	780	174	127	711	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	425	88	158	626	72	92	780	174	127	711	114
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	184	425	88	158	626	72	92	780	174	127	711	114
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.12	0.05	0.09	0.17	0.04	0.05	0.22	0.11	0.07	0.20	0.07
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.25	0.25	0.19	0.28	0.28	0.11	0.34	0.34	0.11	0.34	0.34
Volume/Cap:	0.63	0.47	0.22	0.47	0.63	0.16	0.46	0.63	0.31	0.63	0.57	0.21
Delay/Veh:	47.4	35.4	33.0	41.0	36.3	30.4	47.5	31.4	27.0	53.0	30.2	25.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.4	35.4	33.0	41.0	36.3	30.4	47.5	31.4	27.0	53.0	30.2	25.7
LOS by Move:	D	D	C	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	170	167	60	113	235	43	71	285	103	105	254	65

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1010: 16th St / R St



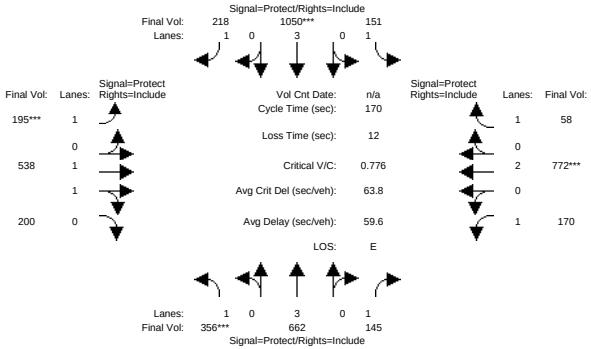
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	295	771	264	159	706	134	181	1096	176	274	1099	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	295	771	264	159	706	134	181	1096	176	274	1099	150
Added Vol:	17	78	5	0	39	0	0	6	31	4	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	312	849	269	159	745	134	181	1102	207	278	1101	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	312	849	269	159	745	134	181	1102	207	278	1101	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	312	849	269	159	745	134	181	1102	207	278	1101	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	312	849	269	159	745	134	181	1102	207	278	1101	150
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.17	0.24	0.17	0.09	0.21	0.08	0.10	0.31	0.13	0.15	0.30	0.09
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.29	0.29	0.11	0.22	0.22	0.12	0.32	0.32	0.16	0.37	0.37
Volume/Cap:	0.94	0.80	0.57	0.80	0.94	0.38	0.83	0.94	0.40	0.94	0.83	0.25
Delay/Veh:	78.6	40.4	34.6	68.3	61.4	37.2	70.0	50.6	29.3	82.4	36.3	24.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.6	40.4	34.6	68.3	61.4	37.2	70.0	50.6	29.3	82.4	36.3	24.5
LOS by Move:	E	D	C	E	E	D	E	D	C	F	D	C
HCM2kAvgQ:	364	397	206	135	357	91	157	520	128	277	468	85

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1011: Olive Ave / R St



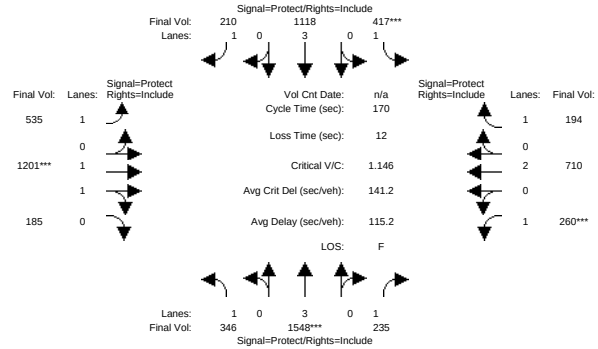
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	356		662		145	151		1050		218	195		533		200	170		761		58
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	356		662		145	151		1050		218	195		533		200	170		761		58
Added Vol:	0		0		0	0		0		0	0		5		0	0		11		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	356		662		145	151		1050		218	195		538		200	170		772		58
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	356		662		145	151		1050		218	195		538		200	170		772		58
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	356		662		145	151		1050		218	195		538		200	170		772		58
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	356		662		145	151		1050		218	195		538		200	170		772		58
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.91		0.91	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.46		0.54	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		2524		938	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.20		0.13		0.09	0.08		0.20		0.13	0.11		0.21		0.21	0.09		0.21		0.04
Crit Moves:	****							****			****							****		
Green/Cycle:	0.25		0.31		0.31	0.20		0.26		0.26	0.14		0.29		0.29	0.13		0.28		0.28
Volume/Cap:	0.78		0.41		0.29	0.41		0.78		0.52	0.78		0.74		0.74	0.74		0.78		0.13
Delay/Veh:	67.1		46.4		44.7	59.5		61.1		54.8	84.7		57.9		57.9	83.7		60.7		46.4
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	67.1		46.4		44.7	59.5		61.1		54.8	84.7		57.9		57.9	83.7		60.7		46.4
LOS by Move:	E		D		D	E		E		D	F		E		E	F		E		D
HCM2kAvgQ:	413		232		133	157		430		223	286		478		478	249		515		55

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1011: Olive Ave / R St



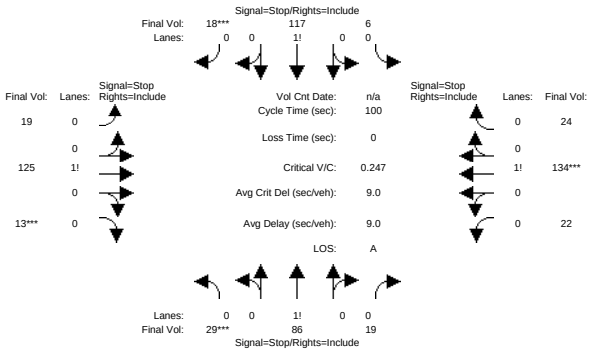
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	346		1548		235	417		1118		210	535		1190		185	260		705		194
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	346		1548		235	417		1118		210	535		1190		185	260		705		194
Added Vol:	0		0		0	0		0		0	0		11		0	0		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	346		1548		235	417		1118		210	535		1201		185	260		710		194
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	346		1548		235	417		1118		210	535		1201		185	260		710		194
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	346		1548		235	417		1118		210	535		1201		185	260		710		194
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	346		1548		235	417		1118		210	535		1201		185	260		710		194
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.93		0.93	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.73		0.27	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		3066		472	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.19		0.30		0.15	0.23		0.22		0.13	0.30		0.39		0.39	0.14		0.20		0.12
Crit Moves:			****			****							****			****				
Green/Cycle:	0.22		0.26		0.26	0.20		0.24		0.24	0.28		0.34		0.34	0.13		0.19		0.19
Volume/Cap:	0.88		1.15		0.56	1.15		0.88		0.53	1.05		1.15		1.15	1.15		1.05		0.64
Delay/Veh:	84.5		138		56.1	161.0		69.4		57.2	116.3		132		131.8	179.1		119		68.7
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	84.5		138		56.1	161.0		69.4		57.2	116.3		132		131.8	179.1		119		68.7
LOS by Move:	F		F		E	F		E		E	F		F		F	F		F		E
HCM2kAvgQ:	405		907		242	668		476		217	884		1286		1286	510		645		252

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1012: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15    84    19     6    64    18    19   125    13    22   134    24
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   15    84    19     6    64    18    19   125    13    22   134    24
Added Vol:     14     2     0     0    53     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   29    86    19     6   117    18    19   125    13    22   134    24
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    29    86    19     6   117    18    19   125    13    22   134    24
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   29    86    19     6   117    18    19   125    13    22   134    24
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   29    86    19     6   117    18    19   125    13    22   134    24
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.22  0.64  0.14  0.04  0.83  0.13  0.12  0.80  0.08  0.12  0.75  0.13
Final Sat.:   152   450    99    30   586    90    87   572    60    89   542    97
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19  0.19  0.19  0.20  0.20  0.20  0.22  0.22  0.22  0.25  0.25  0.25
Crit Moves:  ****                          ****              ****        ****
Delay/Veh:    8.9   8.9   8.9   8.9   8.9   8.9   9.0   9.0   9.0   9.1   9.1   9.1
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.9   8.9   8.9   8.9   8.9   8.9   9.0   9.0   9.0   9.1   9.1   9.1
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        8.9               8.9               9.0               9.1
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:         8.9               8.9               9.0               9.1
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   5.1   5.1   5.1   5.4   5.4   5.4   6.2   6.2   6.2   7.2   7.2   7.2
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
```



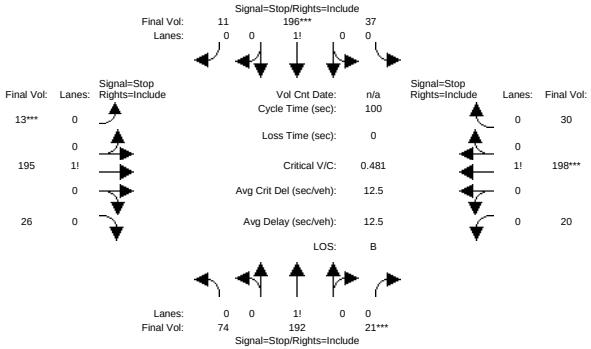
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   29   86    19     6  117    18    19  125    13    22  134    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             337
Minor Approach Volume:           141
Minor Approach Volume Threshold: 509
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1012: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17   186    21    37   183    11    13   195    26    20   198    30
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   17   186    21    37   183    11    13   195    26    20   198    30
Added Vol:     57     6     0     0    13     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   74   192    21    37   196    11    13   195    26    20   198    30
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    74   192    21    37   196    11    13   195    26    20   198    30
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   74   192    21    37   196    11    13   195    26    20   198    30
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   74   192    21    37   196    11    13   195    26    20   198    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.26  0.67  0.07  0.15  0.80  0.05  0.06  0.83  0.11  0.08  0.80  0.12
Final Sat.:   154   399    44    88   468    26    32   481    64    47   465    70
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.48  0.48  0.48  0.42  0.42  0.42  0.41  0.41  0.41  0.43  0.43  0.43
Crit Moves:              ****        ****        ****                    ****
Delay/Veh:   13.2  13.2  13.2  12.3  12.3  12.3  12.1  12.1  12.1  12.4  12.4  12.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  13.2  13.2  13.2  12.3  12.3  12.3  12.1  12.1  12.1  12.4  12.4  12.4
LOS by Move:    B     B     B     B     B     B     B     B     B     B     B     B
ApproachDel:       13.2              12.3              12.1              12.4
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        13.2              12.3              12.1              12.4
LOS by Appr:          B                 B                 B                 B
AllWayAvgQ:  18.9  18.9  18.9  14.5  14.5  14.5  13.5  13.5  13.5  14.8  14.8  14.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
```



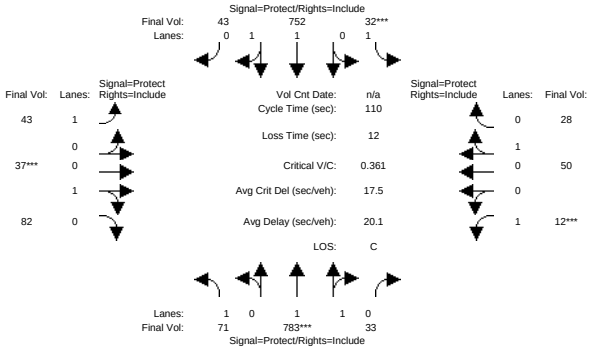
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   74  192    21    37  196    11    13  195    26    20  198    30
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             531
Minor Approach Volume:           248
Minor Approach Volume Threshold: 388
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1013: 16th St / O St



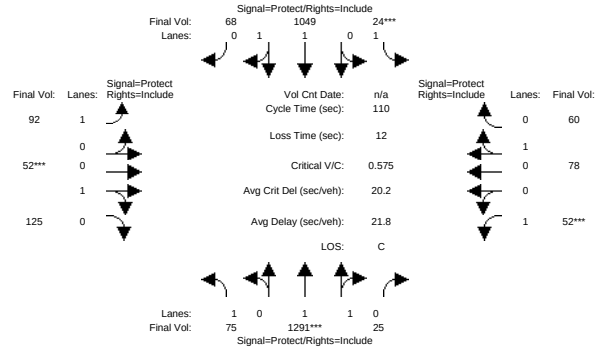
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	71	706	33	32	658	43	43	37	82	12	50	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	706	33	32	658	43	43	37	82	12	50	28
Added Vol:	0	77	0	0	94	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	783	33	32	752	43	43	37	82	12	50	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	783	33	32	752	43	43	37	82	12	50	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	783	33	32	752	43	43	37	82	12	50	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	71	783	33	32	752	43	43	37	82	12	50	28
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.92	0.08	1.00	1.89	0.11	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3443	145	1805	3387	194	1805	530	1174	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.23	0.02	0.22	0.22	0.02	0.07	0.07	0.01	0.04	0.04
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.58	0.58	0.06	0.50	0.50	0.10	0.18	0.18	0.06	0.14	0.14
Volume/Cap:	0.27	0.39	0.39	0.28	0.44	0.44	0.24	0.39	0.39	0.10	0.30	0.30
Delay/Veh:	42.5	12.4	12.4	50.4	17.6	17.6	46.3	40.6	40.6	48.9	42.9	42.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	12.4	12.4	50.4	17.6	17.6	46.3	40.6	40.6	48.9	42.9	42.9
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	58	192	192	33	223	223	38	96	96	12	64	64

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1013: 16th St / O St



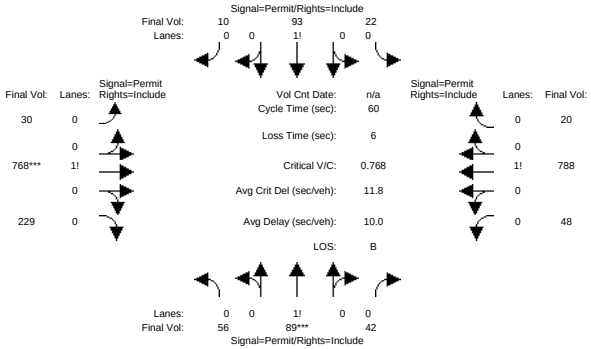
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	75	1192	25	24	976	68	92	52	125	52	78	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	1192	25	24	976	68	92	52	125	52	78	60
Added Vol:	0	99	0	0	73	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	1291	25	24	1049	68	92	52	125	52	78	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	1291	25	24	1049	68	92	52	125	52	78	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	1291	25	24	1049	68	92	52	125	52	78	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	1291	25	24	1049	68	92	52	125	52	78	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.88	0.12	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3531	68	1805	3360	218	1805	499	1200	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.04	0.37	0.37	0.01	0.31	0.31	0.05	0.10	0.10	0.03	0.08	0.08
Crit Moves:		****		****				****		****		
Green/Cycle:	0.11	0.59	0.59	0.06	0.55	0.55	0.10	0.17	0.17	0.06	0.14	0.14
Volume/Cap:	0.37	0.62	0.62	0.21	0.57	0.57	0.53	0.62	0.62	0.45	0.57	0.57
Delay/Veh:	46.5	14.8	14.8	49.8	16.9	16.9	50.5	46.3	46.3	52.5	47.5	47.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.5	14.8	14.8	49.8	16.9	16.9	50.5	46.3	46.3	52.5	47.5	47.5
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	67	377	377	24	329	329	93	162	162	57	129	129

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1014: 15th St / M St

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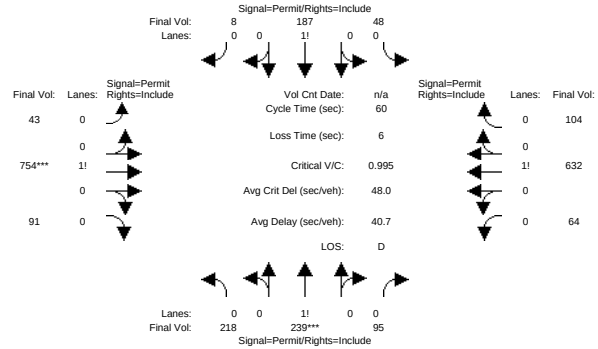
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   73    34   22   40    10   30  631    11   14  685    20
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    4   73    34   22   40    10   30  631    11   14  685    20
Added Vol:     52   16     8    0   53     0    0  137   218   34  103     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   56   89    42   22   93    10   30  768   229   48  788    20
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    56   89    42   22   93    10   30  768   229   48  788    20
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   56   89    42   22   93    10   30  768   229   48  788    20
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   56   89    42   22   93    10   30  768   229   48  788    20
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.84 0.84  0.84 0.91 0.91  0.91 0.94 0.94  0.94 0.92 0.92  0.92
Lanes:       0.30 0.48  0.22 0.18 0.74  0.08 0.03 0.75  0.22 0.06 0.92  0.02
Final Sat.:   481  764   361  305 1288   138   52 1335   398   98 1601    41
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.12  0.12 0.07 0.07  0.07 0.58 0.58  0.58 0.49 0.49  0.49
Crit Moves:         ****                          ****
Green/Cycle: 0.17 0.17  0.17 0.17 0.17  0.17 0.73 0.73  0.73 0.73 0.73  0.73
Volume/Cap:  0.70 0.70  0.70 0.43 0.43  0.43 0.78 0.78  0.78 0.67 0.67  0.67
Delay/Veh:   31.5 31.5  31.5 23.5 23.5  23.5  8.2  8.2   8.2  5.6  5.6   5.6
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  31.5 31.5  31.5 23.5 23.5  23.5  8.2  8.2   8.2  5.6  5.6   5.6
LOS by Move:    C    C     C    C    C     C    A    A     A    A    A     A
HCM2kAvgQ:     87   87    87   65   65    65  307  307   307  209  209   209
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1014: 15th St / M St

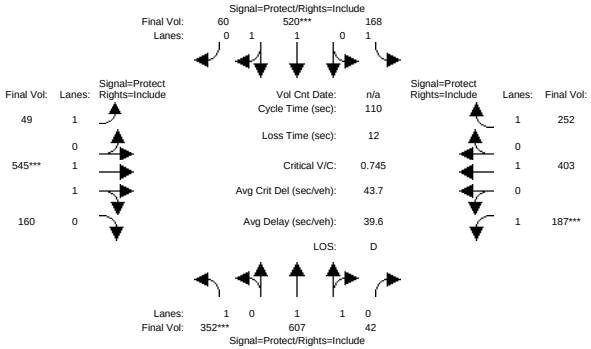



```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10  176    61   48  174     8   43  647    37   56  500   104
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   10  176    61   48  174     8   43  647    37   56  500   104
Added Vol:    208   63    34    0   13     0    0  107    54    8  132     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  218  239    95   48  187     8   43  754    91   64  632   104
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  218  239    95   48  187     8   43  754    91   64  632   104
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  218  239    95   48  187     8   43  754    91   64  632   104
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume: 218  239    95   48  187     8   43  754    91   64  632   104
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.73 0.73  0.73 0.87 0.87  0.87 0.94 0.94  0.94 0.87 0.87  0.87
Lanes:       0.39 0.44  0.17 0.20 0.77  0.03 0.05 0.85  0.10 0.08 0.79  0.13
Final Sat.:   550  603   240  326 1268    54   86 1511   182  133 1313   216
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.40 0.40  0.40 0.15 0.15  0.15 0.50 0.50  0.50 0.48 0.48  0.48
Crit Moves:         ****                          ****
Green/Cycle: 0.40 0.40  0.40 0.40 0.40  0.40 0.50 0.50  0.50 0.50 0.50  0.50
Volume/Cap:  0.99 0.99  0.99 0.37 0.37  0.37 0.99 0.99  0.99 0.96 0.96  0.96
Delay/Veh:   54.8 54.8  54.8 13.1 13.1  13.1 43.7 43.7  43.7 36.2 36.2  36.2
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  54.8 54.8  54.8 13.1 13.1  13.1 43.7 43.7  43.7 36.2 36.2  36.2
LOS by Move:    D    D     D    B    B     B    D    D     D    D    D     D
HCM2kAvgQ:    344  344   344   86   86    86  521  521   521  409  409   409
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1015: 16th St / M St



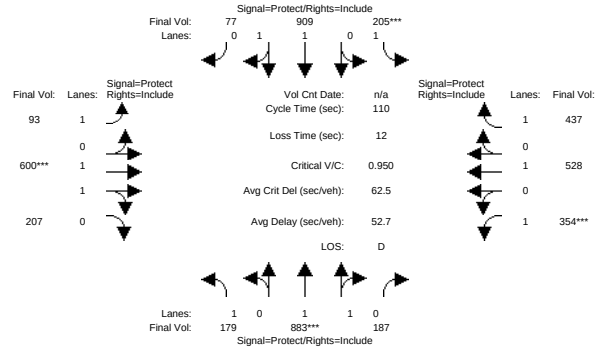
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	237	532	38	167	436	51	47	528	34	182	390	252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	237	532	38	167	436	51	47	528	34	182	390	252
Added Vol:	115	75	4	1	84	9	2	17	126	5	13	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	352	607	42	168	520	60	49	545	160	187	403	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	352	607	42	168	520	60	49	545	160	187	403	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	352	607	42	168	520	60	49	545	160	187	403	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	352	607	42	168	520	60	49	545	160	187	403	252
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.92	0.92	0.95	1.00	0.85
Lanes:	1.00	1.87	0.13	1.00	1.79	0.21	1.00	1.55	0.45	1.00	1.00	1.00
Final Sat.:	1805	3343	231	1805	3188	368	1805	2696	791	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.20	0.18	0.18	0.09	0.16	0.16	0.03	0.20	0.20	0.10	0.21	0.16
Crit Moves:	****				****			****		****		
Green/Cycle:	0.26	0.32	0.32	0.16	0.22	0.22	0.09	0.27	0.27	0.14	0.32	0.32
Volume/Cap:	0.75	0.57	0.57	0.57	0.75	0.75	0.29	0.75	0.75	0.75	0.67	0.49
Delay/Veh:	43.6	32.0	32.0	45.2	44.0	44.0	47.3	39.9	39.9	57.0	35.7	31.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.6	32.0	32.0	45.2	44.0	44.0	47.3	39.9	39.9	57.0	35.7	31.3
LOS by Move:	D	C	C	D	D	D	D	D	D	E	D	C
HCM2kAvgQ:	274	232	232	149	279	279	36	278	278	155	289	166

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1015: 16th St / M St



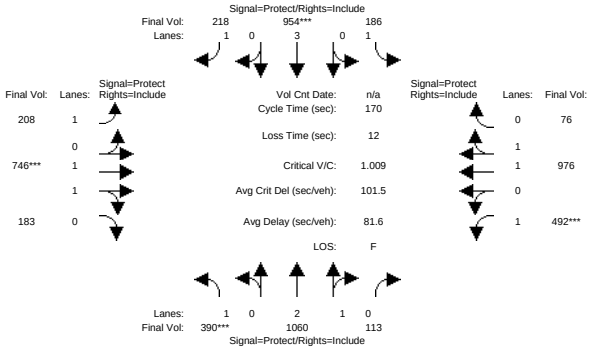
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	57	794	182	205	838	75	84	587	88	350	512	436
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	57	794	182	205	838	75	84	587	88	350	512	436
Added Vol:	122	89	5	0	71	2	9	13	119	4	16	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	179	883	187	205	909	77	93	600	207	354	528	437
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	179	883	187	205	909	77	93	600	207	354	528	437
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	179	883	187	205	909	77	93	600	207	354	528	437
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	179	883	187	205	909	77	93	600	207	354	528	437
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	0.95	0.94	0.94	0.95	0.91	0.91	0.95	1.00	0.85
Lanes:	1.00	1.65	0.35	1.00	1.84	0.16	1.00	1.49	0.51	1.00	1.00	1.00
Final Sat.:	1805	2902	615	1805	3288	279	1805	2579	890	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.30	0.30	0.11	0.28	0.28	0.05	0.23	0.23	0.20	0.28	0.27
Crit Moves:		****		****				****		****		
Green/Cycle:	0.12	0.32	0.32	0.12	0.32	0.32	0.08	0.24	0.24	0.21	0.37	0.37
Volume/Cap:	0.85	0.95	0.95	0.95	0.85	0.85	0.61	0.95	0.95	0.95	0.76	0.74
Delay/Veh:	75.0	52.8	52.8	95.3	41.2	41.2	55.9	60.7	60.7	76.9	35.3	35.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	75.0	52.8	52.8	95.3	41.2	41.2	55.9	60.7	60.7	76.9	35.3	35.0
LOS by Move:	E	D	D	F	D	D	E	E	E	E	D	D
HCM2kAvgQ:	161	519	519	266	476	476	70	338	338	315	374	306

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1016: Olive Ave / M St



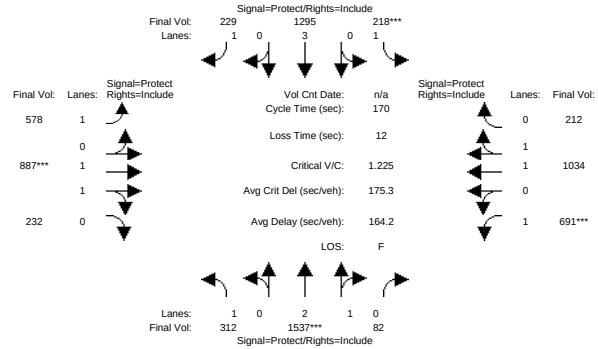
Street Name:	Olive Avenue												M Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	390	1060		113		186	954		218		208	741		183		492	965		76	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Initial Bse:	390	1060		113		186	954		218		208	741		183		492	965		76	
Added Vol:	0	0		0		0	0		0		0	5		0		0	11		0	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	390	1060		113		186	954		218		208	746		183		492	976		76	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Volume:	390	1060		113		186	954		218		208	746		183		492	976		76	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	390	1060		113		186	954		218		208	746		183		492	976		76	
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
FinalVolume:	390	1060		113		186	954		218		208	746		183		492	976		76	
Saturation Flow Module:																				
Sat/Lane:	1900	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900	
Adjustment:	0.95	0.90		0.90		0.95	0.91		0.85		0.95	0.92		0.92		0.95	0.94		0.94	
Lanes:	1.00	2.71		0.29		1.00	3.00		1.00		1.00	1.61		0.39		1.00	1.86		0.14	
Final Sat.:	1805	4622		493		1805	5187		1615		1805	2812		690		1805	3312		258	
Capacity Analysis Module:																				
Vol/Sat:	0.22	0.23		0.23		0.10	0.18		0.13		0.12	0.27		0.27		0.27	0.29		0.29	
Crit Moves:	****						****					****				****				
Green/Cycle:	0.21	0.27		0.27		0.12	0.18		0.18		0.15	0.26		0.26		0.27	0.38		0.38	
Volume/Cap:	1.01	0.84		0.84		0.84	1.01		0.74		0.77	1.01		1.01		1.01	0.77		0.77	
Delay/Veh:	114.9	62.9		62.9		96.5	101		75.3		82.0	94.6		94.6		105.1	48.6		48.6	
User DelAdj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
AdjDel/Veh:	114.9	62.9		62.9		96.5	101		75.3		82.0	94.6		94.6		105.1	48.6		48.6	
LOS by Move:	F	E		E		F	F		E		F	F		F		F	D		D	
HCM2kAvgQ:	506	486		486		238	506		261		299	780		780		784	645		645	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1016: Olive Ave / M St



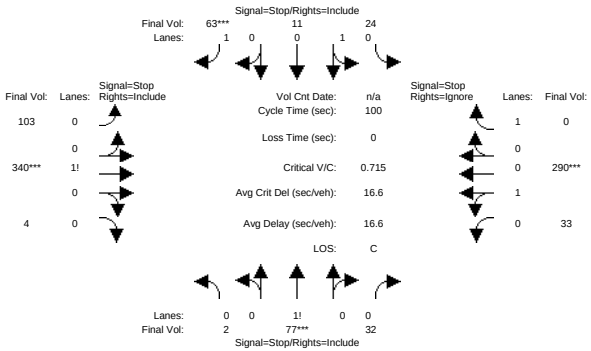
Street Name:	Olive Avenue												M Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	312	1537		82		218	1295		229		578	876		232		691	1029		212	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Initial Bse:	312	1537		82		218	1295		229		578	876		232		691	1029		212	
Added Vol:	0	0		0		0	0		0		0	11		0		0	5		0	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	312	1537		82		218	1295		229		578	887		232		691	1034		212	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Volume:	312	1537		82		218	1295		229		578	887		232		691	1034		212	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	312	1537		82		218	1295		229		578	887		232		691	1034		212	
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
FinalVolume:	312	1537		82		218	1295		229		578	887		232		691	1034		212	
Saturation Flow Module:																				
Sat/Lane:	1900	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900	
Adjustment:	0.95	0.90		0.90		0.95	0.91		0.85		0.95	0.92		0.92		0.95	0.93		0.93	
Lanes:	1.00	2.85		0.15		1.00	3.00		1.00		1.00	1.59		0.41		1.00	1.66		0.34	
Final Sat.:	1805	4885		261		1805	5187		1615		1805	2773		725		1805	2921		599	
Capacity Analysis Module:																				
Vol/Sat:	0.17	0.31		0.31		0.12	0.25		0.14		0.32	0.32		0.32		0.38	0.35		0.35	
Crit Moves:		****				****						****				****				
Green/Cycle:	0.15	0.26		0.26		0.10	0.21		0.21		0.27	0.26		0.26		0.31	0.30		0.30	
Volume/Cap:	1.19	1.22		1.22		1.22	1.19		0.67		1.17	1.22		1.22		1.22	1.17		1.17	
Delay/Veh:	188.9	171		171.2		217.3	161		67.1		160.2	174		173.6		174.6	148		148.2	
User DelAdj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
AdjDel/Veh:	188.9	171		171.2		217.3	161		67.1		160.2	174		173.6		174.6	148		148.2	
LOS by Move:	F	F		F		F	F		E		F	F		F		F	F		F	
HCM2kAvgQ:	529	1048		1048		398	824		258		1068	1137		1137		1319	1200		1200	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   77    32    24   11    63   103  340     4    33  290   102
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   77    32    24   11    63   103  340     4    33  290   102
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   77    32    24   11    63   103  340     4    33  290   102
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2   77    32    24   11    63   103  340     4    33  290     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   77    32    24   11    63   103  340     4    33  290     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    2   77    32    24   11    63   103  340     4    33  290     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.69  0.29  0.69 0.31  1.00  0.23 0.76  0.01  0.10 0.90  1.00
Final Sat.:     9  343   143   315  144   530   144  476     6    63  550   702
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.22 0.22  0.22  0.08 0.08  0.12  0.71 0.71  0.71  0.53 0.53  0.00
Crit Moves:       ****                    ****       ****              ****
Delay/Veh:   11.2 11.2  11.2  10.3 10.3   9.4  21.1 21.1  21.1  14.3 14.3   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.2 11.2  11.2  10.3 10.3   9.4  21.1 21.1  21.1  14.3 14.3   0.0
LOS by Move:    B    B     B     B    B     A     C    C     C     B    B     *
ApproachDel:      11.2              9.7             21.1             14.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       11.2              9.7             21.1             14.3
LOS by Appr:         B                A                C                B
AllWayAvgQ:   5.7  5.7   5.7   1.7  1.7   2.6  53.9 53.9  53.9  25.0 25.0   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



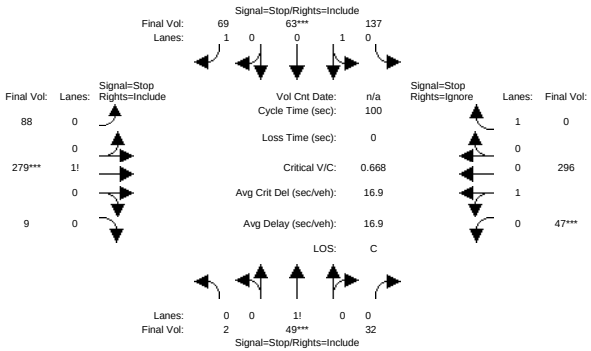
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   77    32    24   11    63   103  340     4    33  290   102
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             872
Minor Approach Volume:           111
Minor Approach Volume Threshold: 332
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   49    32   137   63    69    88  279     9    47  296    88
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   49    32   137   63    69    88  279     9    47  296    88
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   49    32   137   63    69    88  279     9    47  296    88
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2   49    32   137   63    69    88  279     9    47  296     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   49    32   137   63    69    88  279     9    47  296     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    2   49    32   137   63    69    88  279     9    47  296     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.69 0.31  1.00  0.23 0.75  0.02  0.14 0.86  1.00
Final Sat.:    11  267   175   329  151   557   132  417    13    77  483   632
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18  0.18  0.42 0.42  0.12  0.67 0.67  0.67  0.61 0.61  0.00
Crit Moves:        ****              ****              ****        ****
Delay/Veh:   11.3 11.3  11.3  14.2 14.2   9.5  20.2 20.2  20.2  17.7 17.7   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.3 11.3  11.3  14.2 14.2   9.5  20.2 20.2  20.2  17.7 17.7   0.0
LOS by Move:    B    B     B     B    B     A     C    C     C     C    C     *
ApproachDel:       11.3              13.0              20.2              17.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        11.3              13.0              20.2              17.7
LOS by Appr:          B                 B                 C                 C
AllWayAvgQ:   4.2  4.2   4.2  15.0 15.0   3.0  43.0 43.0  43.0  34.1 34.1   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   49    32   137   63    69    88  279     9    47  296    88
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             807
Minor Approach Volume:           269
Minor Approach Volume Threshold: 466
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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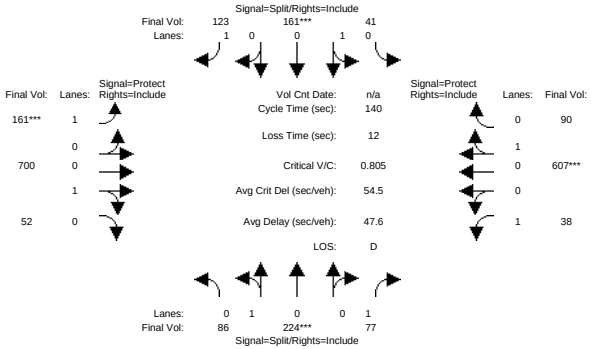
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1018: Childs Ave / Martin Luther King Wy



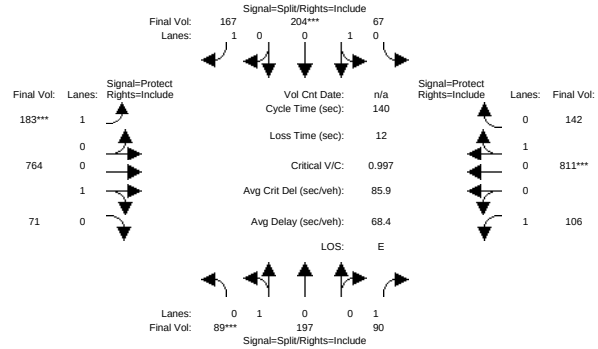
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	224	77	41	161	123	161	662	51	38	588	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	224	77	41	161	123	161	662	51	38	588	90
Added Vol:	0	0	0	0	0	0	0	38	1	0	19	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	86	224	77	41	161	123	161	700	52	38	607	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	224	77	41	161	123	161	700	52	38	607	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	224	77	41	161	123	161	700	52	38	607	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	224	77	41	161	123	161	700	52	38	607	90
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.99	0.99	0.85	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.20	0.80	1.00	1.00	0.93	0.07	1.00	0.87	0.13
Final Sat.:	520	1354	1615	382	1499	1615	1805	1751	130	1805	1623	241
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.05	0.11	0.11	0.08	0.09	0.40	0.40	0.02	0.37	0.37
Crit Moves:		****			****		****				****	
Green/Cycle:	0.21	0.21	0.21	0.13	0.13	0.13	0.11	0.51	0.51	0.06	0.46	0.46
Volume/Cap:	0.81	0.81	0.23	0.81	0.81	0.57	0.81	0.78	0.78	0.33	0.81	0.81
Delay/Veh:	64.7	64.7	46.8	76.0	76.0	60.5	81.5	32.1	32.1	64.3	37.6	37.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.7	64.7	46.8	76.0	76.0	60.5	81.5	32.1	32.1	64.3	37.6	37.6
LOS by Move:	E	E	D	E	E	E	F	C	C	E	D	D
HCM2kAvgQ:	364	364	70	261	261	142	220	675	675	38	650	650

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1018: Childs Ave / Martin Luther King Wy



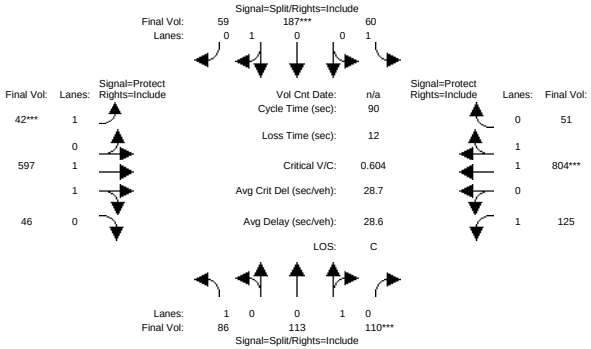
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	197	90	67	204	167	183	745	71	106	773	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	197	90	67	204	167	183	745	71	106	773	142
Added Vol:	1	0	0	0	0	0	0	19	0	0	38	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	197	90	67	204	167	183	764	71	106	811	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	197	90	67	204	167	183	764	71	106	811	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	197	90	67	204	167	183	764	71	106	811	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	197	90	67	204	167	183	764	71	106	811	142
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.99	0.99	0.85	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.31	0.69	1.00	0.25	0.75	1.00	1.00	0.91	0.09	1.00	0.85	0.15
Final Sat.:	582	1289	1615	464	1413	1615	1805	1716	159	1805	1581	277
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.06	0.14	0.14	0.10	0.10	0.45	0.45	0.06	0.51	0.51
Crit Moves:	****				****		****				****	
Green/Cycle:	0.15	0.15	0.15	0.14	0.14	0.14	0.10	0.54	0.54	0.07	0.51	0.51
Volume/Cap:	1.00	1.00	0.36	1.00	1.00	0.71	1.00	0.82	0.82	0.82	1.00	1.00
Delay/Veh:	111.5	111	54.1	113.5	113	67.1	128.3	31.5	31.5	95.9	62.2	62.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	111.5	111	54.1	113.5	113	67.1	128.3	31.5	31.5	95.9	62.2	62.2
LOS by Move:	F	F	D	F	F	E	F	C	C	F	E	E
HCM2kAvgQ:	426	426	92	408	408	205	297	763	763	122	1157	1157

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1019: 13th St / Martin Luther King Wy

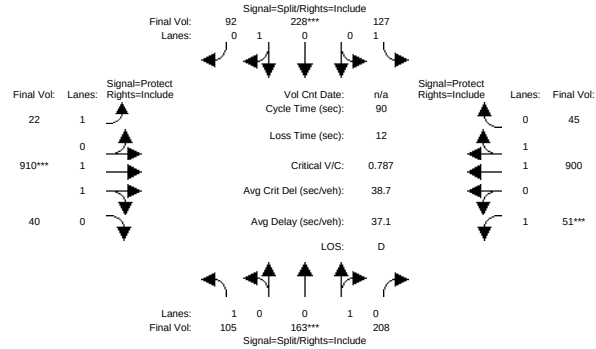



```
Street Name:           13th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      86  113   110   58  187    50   24  597    46  125  804    51
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   86  113   110   58  187    50   24  597    46  125  804    51
Added Vol:      0    0     0    2    0     9   18    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   86  113   110   60  187    59   42  597    46  125  804    51
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    86  113   110   60  187    59   42  597    46  125  804    51
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   86  113   110   60  187    59   42  597    46  125  804    51
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   86  113   110   60  187    59   42  597    46  125  804    51
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.93  0.93 0.95 0.96  0.96 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.51  0.49 1.00 0.76  0.24 1.00 1.86  0.14 1.00 1.88  0.12
Final Sat.:  1805  892   868 1805 1392   439 1805 3315   255 1805 3364   213
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.13  0.13 0.03 0.13  0.13 0.02 0.18  0.18 0.07 0.24  0.24
Crit Moves:              ****      ****       ****                ****
Green/Cycle: 0.20 0.20  0.20 0.21 0.21  0.21 0.08 0.32  0.32 0.14 0.38  0.38
Volume/Cap:  0.24 0.63  0.63 0.16 0.63  0.63 0.30 0.57  0.57 0.50 0.63  0.63
Delay/Veh:   30.6 36.7  36.7 29.1 35.7  35.7 40.4 26.2  26.2 37.7 23.9  23.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  30.6 36.7  36.7 29.1 35.7  35.7 40.4 26.2  26.2 37.7 23.9  23.9
LOS by Move:    C    D     D    C    D     D    D    C     C    D    C     C
HCM2kAvgQ:     48  142   142   31  145   145   27  191   191   79  253   253
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1019: 13th St / Martin Luther King Wy

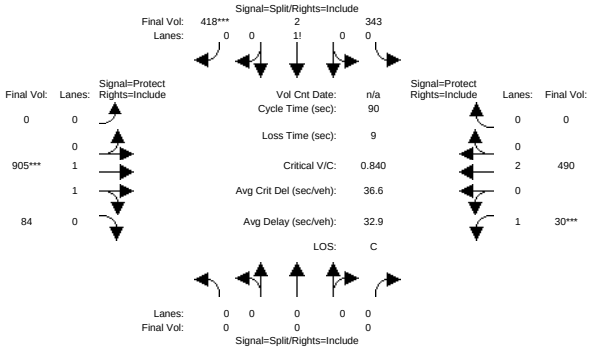



```
Street Name:           13th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     105  163   208  118  228    74   13  910    40   51  900    45
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  105  163   208  118  228    74   13  910    40   51  900    45
Added Vol:      0    0     0    9    0    18    9    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  105  163   208  127  228    92   22  910    40   51  900    45
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  105  163   208  127  228    92   22  910    40   51  900    45
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  105  163   208  127  228    92   22  910    40   51  900    45
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  105  163   208  127  228    92   22  910    40   51  900    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.92  0.92 0.95 0.96  0.96 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.44  0.56 1.00 0.71  0.29 1.00 1.92  0.08 1.00 1.90  0.10
Final Sat.:  1805  765   976 1805 1296   523 1805 3437   151 1805 3414   171
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.21  0.21 0.07 0.18  0.18 0.01 0.26  0.26 0.03 0.26  0.26
Crit Moves:              ****      ****       ****                ****
Green/Cycle: 0.26 0.26  0.26 0.21 0.21  0.21 0.09 0.32  0.32 0.08 0.31  0.31
Volume/Cap:  0.23 0.83  0.83 0.33 0.83  0.83 0.13 0.83  0.83 0.36 0.86  0.86
Delay/Veh:   26.6 43.8  43.8 30.5 47.8  47.8 38.1 33.5  33.5 41.0 36.4  36.4
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  26.6 43.8  43.8 30.5 47.8  47.8 38.1 33.5  33.5 41.0 36.4  36.4
LOS by Move:    C    D     D    C    D     D    D    C     C    D    D     D
HCM2kAvgQ:     54  257   257   68  199   199   13  338   338   33  351   351
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy



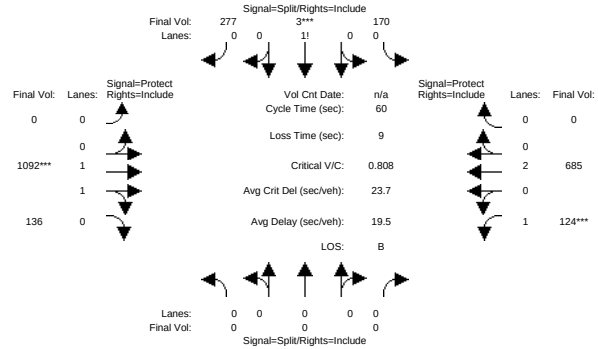
Street Name:	SR-99 SB Ramp						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	0	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	263	2	418	0	905	82	30	490	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	263	2	418	0	905	82	30	490	0
Added Vol:	0	0	0	80	0	0	0	0	2	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	343	2	418	0	905	84	30	490	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	343	2	418	0	905	84	30	490	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	343	2	418	0	905	84	30	490	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	343	2	418	0	905	84	30	490	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.87	0.87	0.87	1.00	0.94	0.94	0.95	0.95	1.00
Lanes:	0.00	0.00	0.00	0.45	0.01	0.54	0.00	1.83	0.17	1.00	2.00	0.00
Final Sat.:	0	0	0	743	4	905	0	3260	303	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.46	0.46	0.46	0.00	0.28	0.28	0.02	0.14	0.00
Crit Moves:						****		****		****		
Green/Cycle:	0.00	0.00	0.00	0.51	0.51	0.51	0.00	0.31	0.31	0.08	0.39	0.00
Volume/Cap:	0.00	0.00	0.00	0.90	0.90	0.90	0.00	0.90	0.90	0.21	0.35	0.00
Delay/Veh:	0.0	0.0	0.0	32.2	32.2	32.2	0.0	39.8	39.8	39.7	19.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	32.2	32.2	32.2	0.0	39.8	39.8	39.7	19.8	0.0
LOS by Move:	A	A	A	C	C	C	A	D	D	D	B	A
HCM2kAvgQ:	0	0	0	576	576	576	0	377	377	19	120	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy



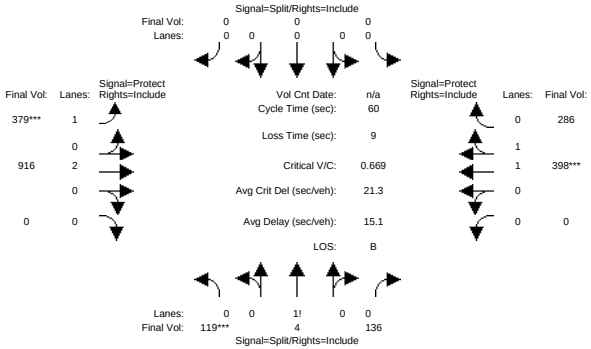
Street Name:	SR-99 SB Ramp						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	150	3	277	0	1092	127	124	685	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	150	3	277	0	1092	127	124	685	0
Added Vol:	0	0	0	20	0	0	0	0	9	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	170	3	277	0	1092	136	124	685	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	170	3	277	0	1092	136	124	685	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	170	3	277	0	1092	136	124	685	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	170	3	277	0	1092	136	124	685	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.87	0.87	0.87	1.00	0.93	0.93	0.95	0.95	1.00
Lanes:	0.00	0.00	0.00	0.38	0.01	0.61	0.00	1.78	0.22	1.00	2.00	0.00
Final Sat.:	0	0	0	625	11	1018	0	3156	393	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.27	0.27	0.27	0.00	0.35	0.35	0.07	0.19	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.32	0.32	0.32	0.00	0.41	0.41	0.12	0.53	0.00
Volume/Cap:	0.00	0.00	0.00	0.84	0.84	0.84	0.00	0.84	0.84	0.59	0.36	0.00
Delay/Veh:	0.0	0.0	0.0	30.5	30.5	30.5	0.0	20.6	20.6	29.5	8.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	30.5	30.5	30.5	0.0	20.6	20.6	29.5	8.4	0.0
LOS by Move:	A	A	A	C	C	C	A	C	C	C	A	A
HCM2kAvgQ:	0	0	0	272	272	272	0	269	269	52	91	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy



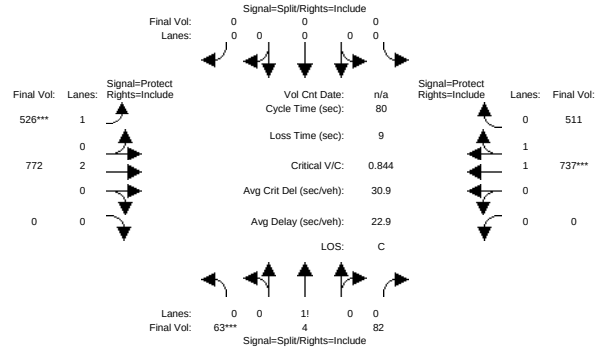
Street Name:	SR-99 NB Ramps						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	119	4	136	0	0	0	379	836	0	0	398	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	119	4	136	0	0	0	379	836	0	0	398	274
Added Vol:	0	0	0	0	0	0	0	80	0	0	0	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	119	4	136	0	0	0	379	916	0	0	398	286
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	119	4	136	0	0	0	379	916	0	0	398	286
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	119	4	136	0	0	0	379	916	0	0	398	286
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	119	4	136	0	0	0	379	916	0	0	398	286
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.89	0.89
Lanes:	0.46	0.02	0.52	0.00	0.00	0.00	1.00	2.00	0.00	0.00	1.16	0.84
Final Sat.:	761	26	869	0	0	0	1805	3610	0	0	1968	1414
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.16	0.00	0.00	0.00	0.21	0.25	0.00	0.00	0.20	0.20
Crit Moves:	****						****				****	
Green/Cycle:	0.23	0.23	0.23	0.00	0.00	0.00	0.31	0.62	0.00	0.00	0.30	0.30
Volume/Cap:	0.67	0.67	0.67	0.00	0.00	0.00	0.67	0.41	0.00	0.00	0.67	0.67
Delay/Veh:	25.3	25.3	25.3	0.0	0.0	0.0	21.0	6.0	0.0	0.0	20.0	20.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.3	25.3	25.3	0.0	0.0	0.0	21.0	6.0	0.0	0.0	20.0	20.0
LOS by Move:	C	C	C	A	A	A	C	A	A	A	C	C
HCM2kAvgQ:	143	143	143	0	0	0	143	107	0	0	148	148

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy



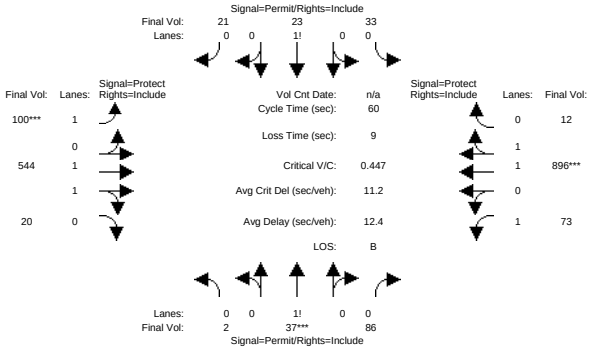
Street Name:	SR-99 NB Ramps						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	63	4	82	0	0	0	526	752	0	0	737	464
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	63	4	82	0	0	0	526	752	0	0	737	464
Added Vol:	0	0	0	0	0	0	0	20	0	0	0	47
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	63	4	82	0	0	0	526	772	0	0	737	511
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	4	82	0	0	0	526	772	0	0	737	511
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	4	82	0	0	0	526	772	0	0	737	511
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	4	82	0	0	0	526	772	0	0	737	511
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.89	0.89
Lanes:	0.42	0.03	0.55	0.00	0.00	0.00	1.00	2.00	0.00	0.00	1.18	0.82
Final Sat.:	702	45	913	0	0	0	1805	3610	0	0	2002	1388
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.00	0.00	0.00	0.29	0.21	0.00	0.00	0.37	0.37
Crit Moves:	****						****				****	
Green/Cycle:	0.13	0.13	0.13	0.00	0.00	0.00	0.34	0.76	0.00	0.00	0.43	0.43
Volume/Cap:	0.72	0.72	0.72	0.00	0.00	0.00	0.87	0.28	0.00	0.00	0.87	0.87
Delay/Veh:	45.1	45.1	45.1	0.0	0.0	0.0	37.2	2.9	0.0	0.0	26.6	26.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.1	45.1	45.1	0.0	0.0	0.0	37.2	2.9	0.0	0.0	26.6	26.6
LOS by Move:	D	D	D	A	A	A	D	A	A	A	C	C
HCM2kAvgQ:	130	130	130	0	0	0	303	72	0	0	388	388

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1022: 14th St / Martin Luther King Wy



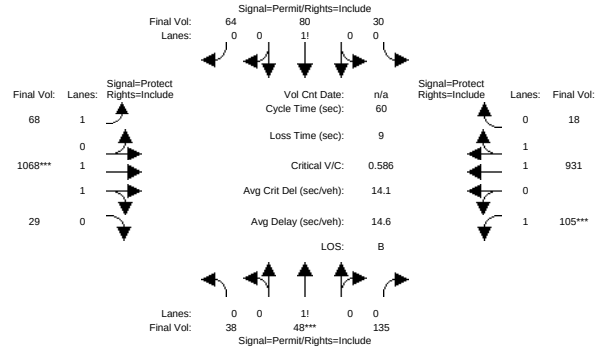
Street Name:	14th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	2	28	86	33	23	9	20	544	20	73	896	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	28	86	33	23	9	20	544	20	73	896	12
Added Vol:	0	9	0	0	0	12	80	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	37	86	33	23	21	100	544	20	73	896	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	37	86	33	23	21	100	544	20	73	896	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	37	86	33	23	21	100	544	20	73	896	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	37	86	33	23	21	100	544	20	73	896	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.90	0.90	0.84	0.84	0.84	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.02	0.29	0.69	0.43	0.30	0.27	1.00	1.93	0.07	1.00	1.97	0.03
Final Sat.:	27	508	1181	687	479	437	1805	3465	127	1805	3555	48
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.05	0.05	0.05	0.06	0.16	0.16	0.04	0.25	0.25
Crit Moves:		****					****				****	
Green/Cycle:	0.17	0.17	0.17	0.17	0.17	0.17	0.12	0.40	0.40	0.28	0.56	0.56
Volume/Cap:	0.44	0.44	0.44	0.29	0.29	0.29	0.45	0.39	0.39	0.14	0.45	0.45
Delay/Veh:	23.5	23.5	23.5	22.5	22.5	22.5	25.9	12.9	12.9	16.3	7.9	7.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.5	23.5	23.5	22.5	22.5	22.5	25.9	12.9	12.9	16.3	7.9	7.9
LOS by Move:	C	C	C	C	C	C	C	B	B	B	A	A
HCM2kAvgQ:	52	52	52	31	31	31	43	94	94	24	127	127

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1022: 14th St / Martin Luther King Wy



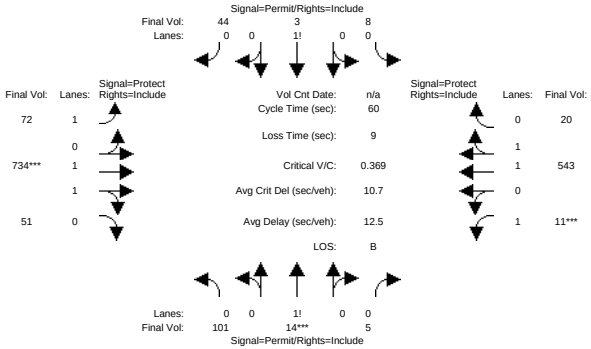
Street Name:	14th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	38	46	135	30	80	17	48	1068	29	105	931	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	38	46	135	30	80	17	48	1068	29	105	931	18
Added Vol:	0	2	0	0	0	47	20	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	48	135	30	80	64	68	1068	29	105	931	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	48	135	30	80	64	68	1068	29	105	931	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	48	135	30	80	64	68	1068	29	105	931	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	38	48	135	30	80	64	68	1068	29	105	931	18
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.86	0.86	0.86	0.88	0.88	0.88	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.17	0.22	0.61	0.17	0.46	0.37	1.00	1.95	0.05	1.00	1.96	0.04
Final Sat.:	282	356	1000	290	773	618	1805	3501	95	1805	3531	68
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.13	0.10	0.10	0.10	0.04	0.31	0.31	0.06	0.26	0.26
Crit Moves:		****						****		****		
Green/Cycle:	0.22	0.22	0.22	0.22	0.22	0.22	0.19	0.51	0.51	0.12	0.43	0.43
Volume/Cap:	0.60	0.60	0.60	0.46	0.46	0.46	0.20	0.60	0.60	0.50	0.61	0.61
Delay/Veh:	23.6	23.6	23.6	21.0	21.0	21.0	20.6	11.0	11.0	26.7	13.8	13.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.6	23.6	23.6	21.0	21.0	21.0	20.6	11.0	11.0	26.7	13.8	13.8
LOS by Move:	C	C	C	C	C	C	C	B	B	C	B	B
HCM2kAvgQ:	93	93	93	69	69	69	25	189	189	45	174	174

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1023: 15th St / Martin Luther King Wy



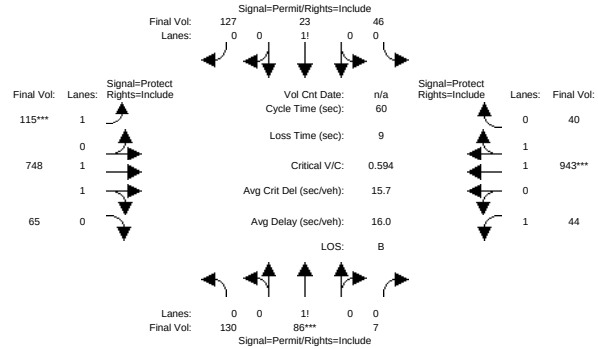
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	101	14	5	8	3	44	72	734	51	11	543	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	14	5	8	3	44	72	734	51	11	543	20
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	101	14	5	8	3	44	72	734	51	11	543	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	14	5	8	3	44	72	734	51	11	543	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	14	5	8	3	44	72	734	51	11	543	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	14	5	8	3	44	72	734	51	11	543	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.72	0.72	0.86	0.86	0.86	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.84	0.12	0.04	0.15	0.05	0.80	1.00	1.87	0.13	1.00	1.93	0.07
Final Sat.:	1152	160	57	237	89	1302	1805	3342	232	1805	3464	128
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.03	0.03	0.03	0.04	0.22	0.22	0.01	0.16	0.16
Crit Moves:		****						****		****		
Green/Cycle:	0.21	0.21	0.21	0.21	0.21	0.21	0.26	0.52	0.52	0.12	0.38	0.38
Volume/Cap:	0.42	0.42	0.42	0.16	0.16	0.16	0.15	0.42	0.42	0.05	0.42	0.42
Delay/Veh:	21.6	21.6	21.6	19.6	19.6	19.6	17.1	8.9	8.9	23.7	14.0	14.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.6	21.6	21.6	19.6	19.6	19.6	17.1	8.9	8.9	23.7	14.0	14.0
LOS by Move:	C	C	C	B	B	B	B	A	A	C	B	B
HCM2kAvgQ:	61	61	61	24	24	24	24	114	114	4	96	96

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1023: 15th St / Martin Luther King Wy



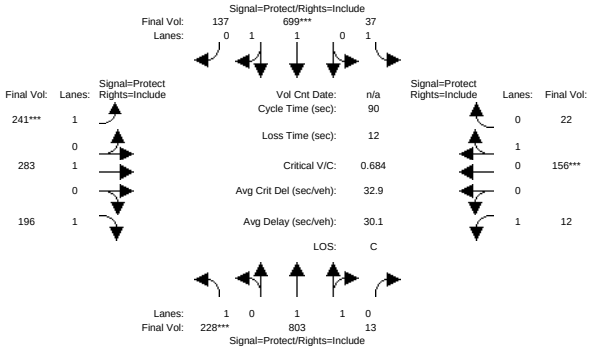
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	130	86	7	46	23	127	115	748	65	44	943	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	130	86	7	46	23	127	115	748	65	44	943	40
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	130	86	7	46	23	127	115	748	65	44	943	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	130	86	7	46	23	127	115	748	65	44	943	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	86	7	46	23	127	115	748	65	44	943	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	130	86	7	46	23	127	115	748	65	44	943	40
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.70	0.70	0.70	0.83	0.83	0.83	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	0.58	0.39	0.03	0.23	0.12	0.65	1.00	1.84	0.16	1.00	1.92	0.08
Final Sat.:	777	514	42	370	185	1022	1805	3282	285	1805	3442	146
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.17	0.12	0.12	0.12	0.06	0.23	0.23	0.02	0.27	0.27
Crit Moves:		****					****				****	
Green/Cycle:	0.28	0.28	0.28	0.28	0.28	0.28	0.12	0.38	0.38	0.19	0.46	0.46
Volume/Cap:	0.60	0.60	0.60	0.45	0.45	0.45	0.55	0.60	0.60	0.13	0.60	0.60
Delay/Veh:	21.5	21.5	21.5	18.6	18.6	18.6	28.0	15.8	15.8	20.2	12.9	12.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.5	21.5	21.5	18.6	18.6	18.6	28.0	15.8	15.8	20.2	12.9	12.9
LOS by Move:	C	C	C	B	B	B	C	B	B	C	B	B
HCM2kAvgQ:	116	116	116	87	87	87	50	156	156	15	163	163

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1024: 16th St / Martin Luther King Wy



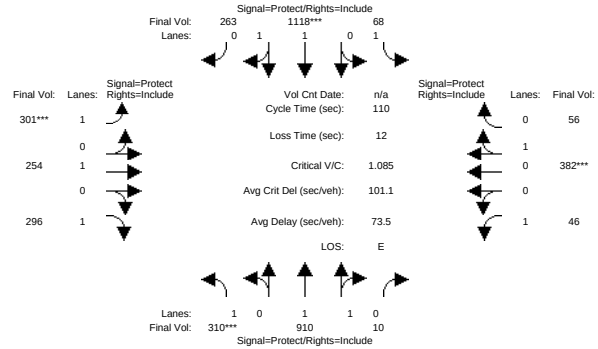
Street Name:	16th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	228	609	13	37	484	137	241	283	196	12	156	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	228	609	13	37	484	137	241	283	196	12	156	22
Added Vol:	0	194	0	0	215	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	228	803	13	37	699	137	241	283	196	12	156	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	228	803	13	37	699	137	241	283	196	12	156	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	803	13	37	699	137	241	283	196	12	156	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	228	803	13	37	699	137	241	283	196	12	156	22
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.93	0.93	0.95	1.00	0.85	0.95	0.98	0.98
Lanes:	1.00	1.97	0.03	1.00	1.67	0.33	1.00	1.00	1.00	1.00	0.88	0.12
Final Sat.:	1805	3545	57	1805	2943	577	1805	1900	1615	1805	1634	230
Capacity Analysis Module:												
Vol/Sat:	0.13	0.23	0.23	0.02	0.24	0.24	0.13	0.15	0.12	0.01	0.10	0.10
Crit Moves:	****				****		****				****	
Green/Cycle:	0.18	0.40	0.40	0.14	0.35	0.35	0.20	0.22	0.22	0.11	0.14	0.14
Volume/Cap:	0.68	0.57	0.57	0.15	0.68	0.68	0.68	0.68	0.55	0.06	0.68	0.68
Delay/Veh:	40.0	21.8	21.8	34.6	26.8	26.8	39.1	36.6	33.0	35.6	44.2	44.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.0	21.8	21.8	34.6	26.8	26.8	39.1	36.6	33.0	35.6	44.2	44.2
LOS by Move:	D	C	C	C	C	C	D	D	C	D	D	D
HCM2kAvgQ:	180	242	242	21	252	252	157	181	119	7	121	121

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1024: 16th St / Martin Luther King Wy



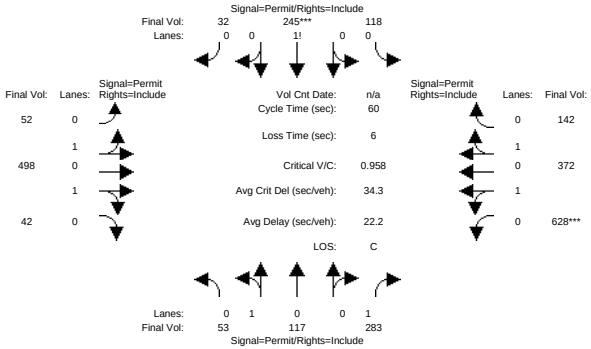
Street Name:	16th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	310	695	10	68	924	263	301	254	296	46	382	56
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	310	695	10	68	924	263	301	254	296	46	382	56
Added Vol:	0	215	0	0	194	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	310	910	10	68	1118	263	301	254	296	46	382	56
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	310	910	10	68	1118	263	301	254	296	46	382	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	310	910	10	68	1118	263	301	254	296	46	382	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	310	910	10	68	1118	263	301	254	296	46	382	56
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	1.00	0.85	0.95	0.98	0.98
Lanes:	1.00	1.98	0.02	1.00	1.62	0.38	1.00	1.00	1.00	1.00	0.87	0.13
Final Sat.:	1805	3564	39	1805	2841	668	1805	1900	1615	1805	1626	238
Capacity Analysis Module:												
Vol/Sat:	0.17	0.26	0.26	0.04	0.39	0.39	0.17	0.13	0.18	0.03	0.23	0.23
Crit Moves:	****				****		****				****	
Green/Cycle:	0.16	0.42	0.42	0.10	0.36	0.36	0.15	0.27	0.27	0.10	0.22	0.22
Volume/Cap:	1.09	0.61	0.61	0.36	1.09	1.09	1.09	0.49	0.67	0.27	1.09	1.09
Delay/Veh:	124.3	25.9	25.9	47.1	86.9	86.9	125.3	34.1	39.3	47.0	113	112.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	124.3	25.9	25.9	47.1	86.9	86.9	125.3	34.1	39.3	47.0	113	112.8
LOS by Move:	F	C	C	D	F	F	F	C	D	D	F	F
HCM2kAvgQ:	435	328	328	50	793	793	356	172	218	35	522	522

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1025: 13th St / G St



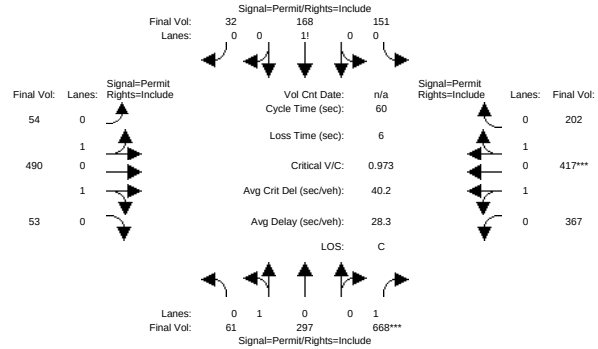
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	117	283	118	245	32	52	497	42	628	372	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	117	283	118	245	32	52	497	42	628	372	142
Added Vol:	0	0	0	0	0	0	0	1	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	117	283	118	245	32	52	498	42	628	372	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	117	283	118	245	32	52	498	42	628	372	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	117	283	118	245	32	52	498	42	628	372	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	117	283	118	245	32	52	498	42	628	372	142
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.77	0.85	0.81	0.81	0.81	0.76	0.76	0.76	0.55	0.55	0.55
Lanes:	0.31	0.69	1.00	0.30	0.62	0.08	0.18	1.68	0.14	1.00	0.72	0.28
Final Sat.:	455	1004	1615	460	955	125	255	2439	206	1038	751	287
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.18	0.26	0.26	0.26	0.20	0.20	0.20	0.61	0.50	0.50
Crit Moves:					****					****		
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.63	0.63	0.63	0.63	0.63	0.63
Volume/Cap:	0.43	0.43	0.65	0.96	0.96	0.96	0.32	0.32	0.32	0.96	0.78	0.78
Delay/Veh:	19.0	19.0	23.1	55.0	55.0	55.0	5.2	5.2	5.2	27.2	10.9	10.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.0	19.0	23.1	55.0	55.0	55.0	5.2	5.2	5.2	27.2	10.9	10.9
LOS by Move:	B	B	C	E	E	E	A	A	A	C	B	B
HCM2kAvgQ:	77	77	148	224	224	224	72	72	72	360	197	197

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1025: 13th St / G St



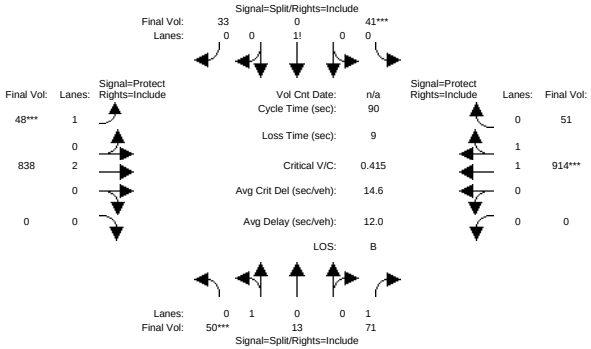
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	61	297	668	151	168	32	54	490	53	367	416	202
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	297	668	151	168	32	54	490	53	367	416	202
Added Vol:	0	0	0	0	0	0	0	0	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	297	668	151	168	32	54	490	53	367	417	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	297	668	151	168	32	54	490	53	367	417	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	297	668	151	168	32	54	490	53	367	417	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	297	668	151	168	32	54	490	53	367	417	202
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.90	0.85	0.63	0.63	0.63	0.76	0.76	0.76	0.56	0.56	0.56
Lanes:	0.17	0.83	1.00	0.43	0.48	0.09	0.18	1.64	0.18	0.74	0.85	0.41
Final Sat.:	291	1415	1615	511	569	108	262	2381	257	794	902	437
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.41	0.30	0.30	0.30	0.21	0.21	0.21	0.46	0.46	0.46
Crit Moves:			****								****	
Green/Cycle:	0.43	0.43	0.43	0.43	0.43	0.43	0.47	0.47	0.47	0.47	0.47	0.47
Volume/Cap:	0.49	0.49	0.97	0.69	0.69	0.69	0.43	0.43	0.43	0.97	0.97	0.97
Delay/Veh:	13.1	13.1	44.5	18.3	18.3	18.3	10.6	10.6	10.6	37.2	37.2	37.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.1	13.1	44.5	18.3	18.3	18.3	10.6	10.6	10.6	37.2	37.2	37.2
LOS by Move:	B	B	D	B	B	B	B	B	B	D	D	D
HCM2kAvgQ:	132	132	474	128	128	128	105	105	105	300	300	300

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1026: SR-99 - 14th St / G St

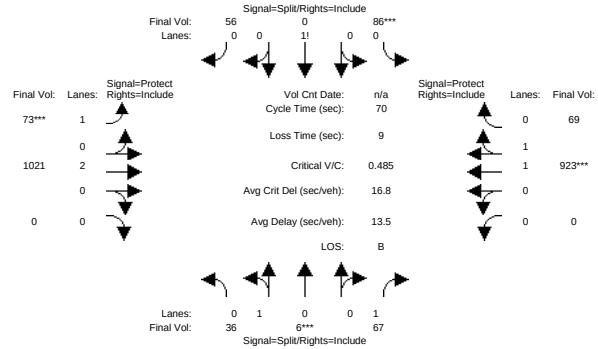



```
Street Name: SR-99 NB Off-Ramp - 14th Street              G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10    0    10    7   10     0     0   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      50    4    71   41    0    33   48  837     0     0  908    51
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   50    4    71   41    0    33   48  837     0     0  908    51
Added Vol:      0    9     0    0    0     0    0    1     0     0    6     0
PasserByVol:    0    0     0    0    0     0    0    0     0     0    0     0
Initial Fut:   50   13    71   41    0    33   48  838     0     0  914    51
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    50   13    71   41    0    33   48  838     0     0  914    51
Reduct Vol:     0    0     0    0    0     0    0    0     0     0    0     0
Reduced Vol:   50   13    71   41    0    33   48  838     0     0  914    51
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   50   13    71   41    0    33   48  838     0     0  914    51
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900  1900 1900  1900
Adjustment:  0.96 0.96  0.85 0.91 1.00  0.91 0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       0.79 0.21  1.00 0.55 0.00  0.45 1.00 2.00  0.00  0.00 1.89  0.11
Final Sat.:  1451  377  1615  963    0   775 1805 3610     0     0 3392   189
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.03  0.04 0.04 0.00  0.04 0.03 0.23  0.00  0.00 0.27  0.27
Crit Moves:  ****            ****            ****                 ****
Green/Cycle: 0.11 0.11  0.11 0.11 0.00  0.11 0.08 0.68  0.00  0.00 0.60  0.60
Volume/Cap:  0.31 0.31  0.40 0.38 0.00  0.38 0.34 0.34  0.00  0.00 0.45  0.45
Delay/Veh:   37.7 37.7  38.6 38.4  0.0  38.4 40.8  6.2   0.0   0.0 10.0  10.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  37.7 37.7  38.6 38.4  0.0  38.4 40.8  6.2   0.0   0.0 10.0  10.0
LOS by Move:    D    D     D    D    A     D    D    A     A     A    B     B
HCM2kAvgQ:     47   47    57   47    0    47   31  126     0     0  179   179
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1026: SR-99 - 14th St / G St

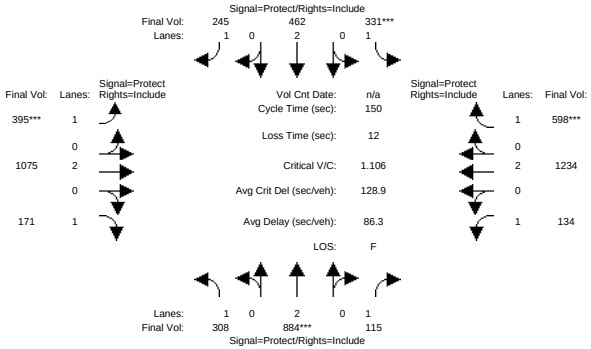



```
Street Name: SR-99 NB Off-Ramp - 14th Street              G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10    0    10    7   10     0     0   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36    4    67   86    0    56   73 1021     0     0  914    69
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36    4    67   86    0    56   73 1021     0     0  914    69
Added Vol:      0    2     0    0    0     0    0    0     0     0    9     0
PasserByVol:    0    0     0    0    0     0    0    0     0     0    0     0
Initial Fut:   36    6    67   86    0    56   73 1021     0     0  923    69
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    36    6    67   86    0    56   73 1021     0     0  923    69
Reduct Vol:     0    0     0    0    0     0    0    0     0     0    0     0
Reduced Vol:   36    6    67   86    0    56   73 1021     0     0  923    69
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   36    6    67   86    0    56   73 1021     0     0  923    69
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900  1900 1900  1900
Adjustment:  0.96 0.96  0.85 0.92 1.00  0.92 0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       0.86 0.14  1.00 0.61 0.00  0.39 1.00 2.00  0.00  0.00 1.86  0.14
Final Sat.:  1562  260  1615 1058    0   689 1805 3610     0     0 3325   249
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.02  0.04 0.08 0.00  0.08 0.04 0.28  0.00  0.00 0.28  0.28
Crit Moves:       ****       ****            ****                 ****
Green/Cycle: 0.14 0.14  0.14 0.14 0.00  0.14 0.10 0.59  0.00  0.00 0.49  0.49
Volume/Cap:  0.16 0.16  0.29 0.57 0.00  0.57 0.40 0.48  0.00  0.00 0.57  0.57
Delay/Veh:   26.6 26.6  27.5 31.1  0.0  31.1 31.0  8.6   0.0   0.0 13.3  13.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  26.6 26.6  27.5 31.1  0.0  31.1 31.0  8.6   0.0   0.0 13.3  13.3
LOS by Move:    C    C     C    C    A     C    C    A     A     A    B     B
HCM2kAvgQ:     23   23    39   72    0    72   37  164     0     0  184   184
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1028: Olive Ave / G St

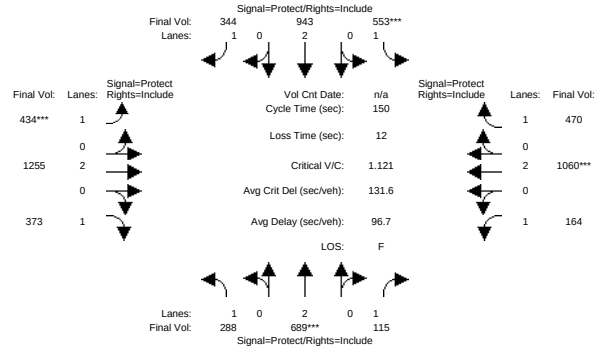



```
Street Name:           Olive Avenue                          G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     302 884 115   331 462 245   395 1072 168   134 1229 598
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  302 884 115   331 462 245   395 1072 168   134 1229 598
Added Vol:      6   0   0     0   0   0     0    3   3     0    5   0
PasserByVol:    0   0   0     0   0   0     0    0   0     0    0   0
Initial Fut:  308 884 115   331 462 245   395 1075 171   134 1234 598
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   308 884 115   331 462 245   395 1075 171   134 1234 598
Reduct Vol:     0   0   0     0   0   0     0    0   0     0    0   0
Reduced Vol:  308 884 115   331 462 245   395 1075 171   134 1234 598
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  308 884 115   331 462 245   395 1075 171   134 1234 598
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 0.95 0.85 0.95 0.95 0.85
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 3610 1615 1805 3610 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.24 0.07 0.18 0.13 0.15 0.22 0.30 0.11 0.07 0.34 0.37
Crit Moves:        ****        ****        ****                    ****
Green/Cycle: 0.21 0.22 0.22 0.17 0.18 0.18 0.20 0.43 0.43 0.11 0.33 0.33
Volume/Cap:  0.83 1.11 0.32 1.11 0.70 0.83 1.11 0.70 0.25 0.70 1.02 1.11
Delay/Veh:   71.9  123 49.5 146.0 60.9 77.1 139.4 36.6 27.8 75.5 81.2 120.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  71.9  123 49.5 146.0 60.9 77.1 139.4 36.6 27.8 75.5 81.2 120.9
LOS by Move:    E    F    D     F    E    E     F    D    C     E    F     F
HCM2kAvgQ:    394  757  112   454  240  251   656  535  122   181  923   946
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1028: Olive Ave / G St

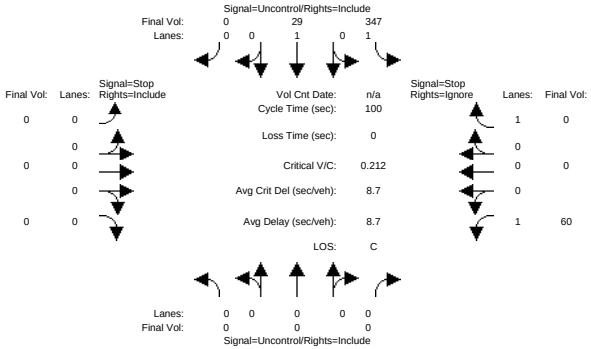



```
Street Name:           Olive Avenue                          G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     285 689 115   553 943 344   434 1250 367   164 1057 470
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  285 689 115   553 943 344   434 1250 367   164 1057 470
Added Vol:      3   0   0     0   0   0     0    5   6     0    3   0
PasserByVol:    0   0   0     0   0   0     0    0   0     0    0   0
Initial Fut:  288 689 115   553 943 344   434 1255 373   164 1060 470
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   288 689 115   553 943 344   434 1255 373   164 1060 470
Reduct Vol:     0   0   0     0   0   0     0    0   0     0    0   0
Reduced Vol:  288 689 115   553 943 344   434 1255 373   164 1060 470
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  288 689 115   553 943 344   434 1255 373   164 1060 470
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 0.95 0.85 0.95 0.95 0.85
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 3610 1615 1805 3610 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.19 0.07 0.31 0.26 0.21 0.24 0.35 0.23 0.09 0.29 0.29
Crit Moves:        ****        ****        ****                    ****
Green/Cycle: 0.17 0.17 0.17 0.27 0.28 0.28 0.21 0.38 0.38 0.10 0.26 0.26
Volume/Cap:  0.95 1.12 0.42 1.12 0.95 0.77 1.12 0.92 0.61 0.92 1.12 1.11
Delay/Veh:   99.7  137 56.6 132.5 70.8 58.3 141.7 54.9 39.6 112.1  124 132.8
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  99.7  137 56.6 132.5 70.8 58.3 141.7 54.9 39.6 112.1  124 132.8
LOS by Move:    F    F    E     F    F    E     E    D    D     F    F     F
HCM2kAvgQ:    425  618  124   775  528  334   723  811  352   263  904   768
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   336   29     0     0    0     0    60    0   364
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   336   29     0     0    0     0    60    0   364
Added Vol:      0    0     0    11    0     0     0    0     0     0    0    21
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   347   29     0     0    0     0    60    0   385
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   347   29     0     0    0     0    60    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   347   29     0     0    0     0    60    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   723 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   396 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   331 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.21 xxxx  xxxx  xxxx xxxx  xxxx  0.18 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  20.1 xxxx xxxxx  xxxx xxxx xxxxx  16.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx  18.2 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             18.2
ApproachLOS:         *                *                *                C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   347   29     0     0    0     0    60    0   385
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             18.2
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=445]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=821]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

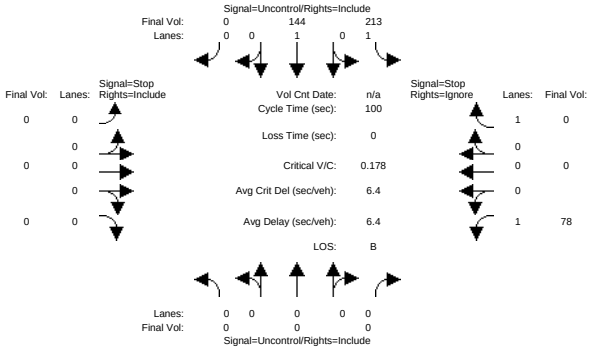
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   347   29     0     0    0     0    60    0   385
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             376
Minor Approach Volume:           445
Minor Approach Volume Threshold: 795
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   192  144     0     0    0     0    78    0   215
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   192  144     0     0    0     0    78    0   215
Added Vol:      0    0     0    21    0     0     0    0     0     0    0    11
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   213  144     0     0    0     0    78    0   226
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   213  144     0     0    0     0    78    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   213  144     0     0    0     0    78    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   570 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   486 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   438 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.13 xxxx  xxxx  xxxx xxxx  xxxx  0.18 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  11.2 xxxx xxxxx  xxxx xxxx xxxxx  16.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  15.0 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             15.0
ApproachLOS:         *                *                *                B
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   213  144     0     0    0     0    78    0   226
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             15.0
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=304]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=661]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

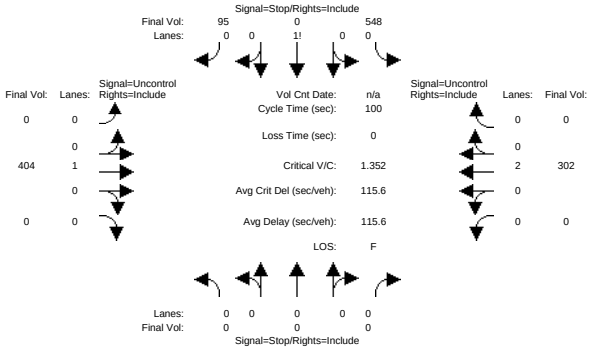
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   213  144     0     0    0     0    78    0   226
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             357
Minor Approach Volume:           304
Minor Approach Volume Threshold: 817
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   548    0    95     0  393     0     0  281     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   548    0    95     0  393     0     0  281     0
Added Vol:      0    0     0     0    0     0     0   11     0     0   21     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   548    0    95     0  404     0     0  302     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   548    0    95     0  404     0     0  302     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   548    0    95     0  404     0     0  302     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   706  706   151  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   405  363   901  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   405  363   901  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.35 0.00  0.11  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  441 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 32.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  243 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            242.5           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0    95     0  404     0     0  302     0
ApproachDel:    xxxxxx            242.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=43.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=643]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1349]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

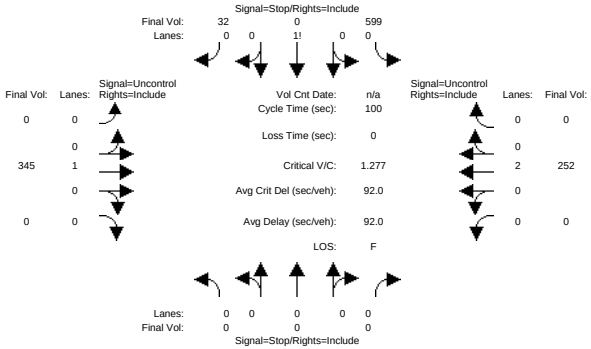
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0    95     0  404     0     0  302     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             706
Minor Approach Volume:           643
Minor Approach Volume Threshold: 405
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   599    0    32     0  324     0     0  241     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   599    0    32     0  324     0     0  241     0
Added Vol:      0    0     0     0    0     0     0   21     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   599    0    32     0  345     0     0  252     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   599    0    32     0  345     0     0  252     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   599    0    32     0  345     0     0  252     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   597  597   126  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   469  419   930  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   469  419   930  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.28 0.00  0.03  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  481 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 27.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  179 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            179.1           xxxxxx           xxxxxx
ApproachLOS:         *              F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    32     0  345     0     0  252     0
ApproachDel:    xxxxxx            179.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=31.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=631]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1228]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

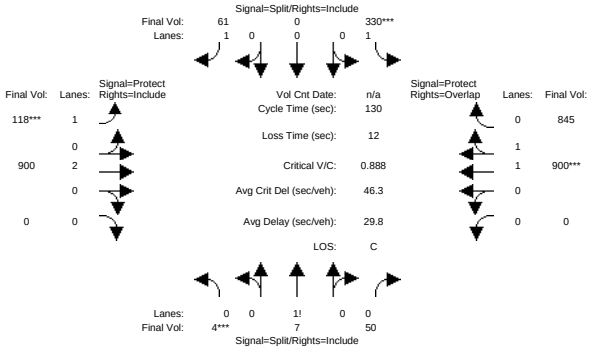
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    32     0  345     0     0  252     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             597
Minor Approach Volume:           631
Minor Approach Volume Threshold: 463
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

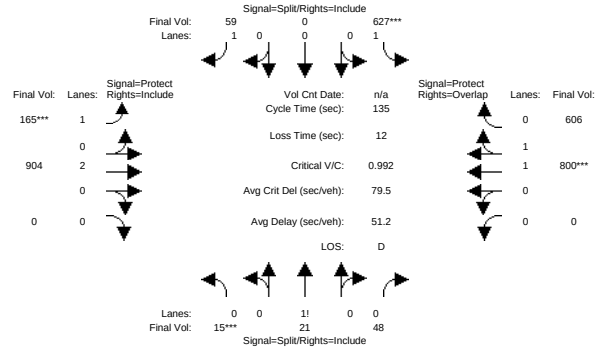



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10    10    0   10     7   10    0     0   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    6   50   330    0   61   118  889    0     0  879  844
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    4    6   50   330    0   61   118  889    0     0  879  844
Added Vol:      0    1    0     0    0    0     0   11    0     0   21    1
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    4    7   50   330    0   61   118  900    0     0  900  845
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     4    7   50   330    0   61   118  900    0     0  900  845
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    4    7   50   330    0   61   118  900    0     0  900  845
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    4    7   50   330    0   61   118  900    0     0  900  845
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.89 0.89 0.89  0.95 1.00 0.85  0.95 0.95 1.00  1.00 0.88 0.88
Lanes:       0.07 0.11 0.82  1.00 0.00 1.00  1.00 2.00 0.00  0.00 1.03 0.97
Final Sat.:   110  193 1380  1805    0 1615  1805 3610    0     0 1726 1620
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.04 0.04  0.18 0.00 0.04  0.07 0.25 0.00  0.00 0.52 0.52
Crit Moves:  ****            ****            ****                 ****
Green/Cycle: 0.08 0.08 0.08  0.20 0.00 0.20  0.07 0.63 0.00  0.00 0.56 0.76
Volume/Cap:  0.47 0.47 0.47  0.93 0.00 0.19  0.93 0.39 0.00  0.00 0.93 0.69
Delay/Veh:   60.2 60.2 60.2  80.9  0.0 43.8 117.5 11.7  0.0   0.0 34.4  8.6
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  60.2 60.2 60.2  80.9  0.0 43.8 117.5 11.7  0.0   0.0 34.4  8.6
LOS by Move:    E    E    E     F    A    D     F    B    A     A    C    A
HCM2kAvgQ:     73   73   73   417    0   52   188  225    0     0  779  420
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

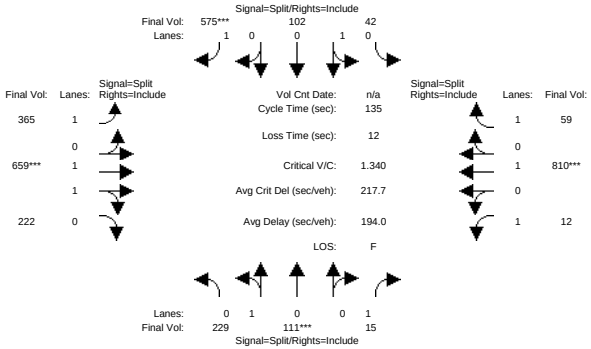



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10    10    0   10     7   10    0     0   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   21   48   626    0   59   165  883    0     0  789  606
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   15   21   48   626    0   59   165  883    0     0  789  606
Added Vol:      0    0    0     1    0    0     0   21    0     0   11    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:   15   21   48   627    0   59   165  904    0     0  800  606
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:    15   21   48   627    0   59   165  904    0     0  800  606
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   15   21   48   627    0   59   165  904    0     0  800  606
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:   15   21   48   627    0   59   165  904    0     0  800  606
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.91 0.91 0.91  0.95 1.00 0.85  0.95 0.95 1.00  1.00 0.89 0.89
Lanes:       0.18 0.25 0.57  1.00 0.00 1.00  1.00 2.00 0.00  0.00 1.14 0.86
Final Sat.:   310  434  993  1805    0 1615  1805 3610    0     0 1921 1455
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.05 0.05  0.35 0.00 0.04  0.09 0.25 0.00  0.00 0.42 0.42
Crit Moves:  ****            ****            ****                 ****
Green/Cycle: 0.07 0.07 0.07  0.34 0.00 0.34  0.09 0.50 0.00  0.00 0.41 0.75
Volume/Cap:  0.65 0.65 0.65  1.02 0.00 0.11  1.02 0.50 0.00  0.00 1.02 0.56
Delay/Veh:   72.2 72.2 72.2  86.5  0.0 30.6 138.1 23.0  0.0   0.0 69.9  7.7
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  72.2 72.2 72.2  86.5  0.0 30.6 138.1 23.0  0.0   0.0 69.9  7.7
LOS by Move:    E    E    E     F    A    C     F    C    A     A    E    A
HCM2kAvgQ:    114  114  114   831    0   41   274  324    0     0  785  303
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

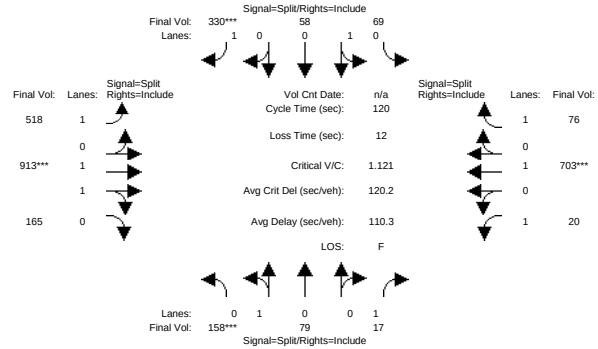



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     229  111    15   42  102   575  365  648   222   12  788    59
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  229  111    15   42  102   575  365  648   222   12  788    59
Added Vol:      0    0     0    0    0     0    0   11     0    0   22     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  229  111    15   42  102   575  365  659   222   12  810    59
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   229  111    15   42  102   575  365  659   222   12  810    59
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  229  111    15   42  102   575  365  659   222   12  810    59
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  229  111    15   42  102   575  365  659   222   12  810    59
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.99 0.99  0.85 0.95 0.91  0.91 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.29 0.71  1.00 1.00 1.50  0.50 1.00 1.00  1.00
Final Sat.:  1237  600  1615  546 1327  1615 1805 2598   875 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.19  0.01 0.08 0.08  0.36 0.20 0.25  0.25 0.01 0.43  0.04
Crit Moves:       ****                 ****      ****            ****
Green/Cycle: 0.14 0.14  0.14 0.27 0.27  0.27 0.19 0.19  0.19 0.32 0.32  0.32
Volume/Cap:  1.34 1.34  0.07 0.29 0.29  1.34 1.07 1.34  1.34 0.02 1.34  0.11
Delay/Veh:  235.4  235  50.7 39.8 39.8 217.7 122.7  218 217.9 31.6  210  32.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 235.4  235  50.7 39.8 39.8 217.7 122.7  218 217.9 31.6  210  32.7
LOS by Move:    F    F     D    D    D     F    F    F     F    C    F     C
HCM2kAvgQ:    665  665    14  117  117  1078  495  841   841    8 1489    42
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

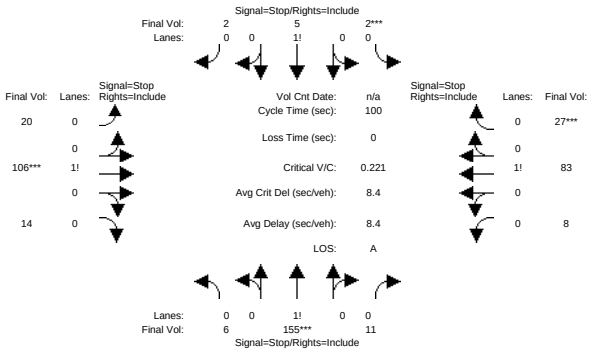



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     158   79    17   69   58   330  518  891   165   20  692    76
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  158   79    17   69   58   330  518  891   165   20  692    76
Added Vol:      0    0     0    0    0     0    0   22     0    0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  158   79    17   69   58   330  518  913   165   20  703    76
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   158   79    17   69   58   330  518  913   165   20  703    76
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  158   79    17   69   58   330  518  913   165   20  703    76
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  158   79    17   69   58   330  518  913   165   20  703    76
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.97 0.97  0.85 0.95 0.93  0.93 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.54 0.46  1.00 1.00 1.69  0.31 1.00 1.00  1.00
Final Sat.:  1226  613  1615 1005  845  1615 1805 2987   540 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.01 0.07 0.07  0.20 0.29 0.31  0.31 0.01 0.37  0.05
Crit Moves:  ****                 ****      ****            ****
Green/Cycle: 0.11 0.11  0.11 0.18 0.18  0.18 0.27 0.27  0.27 0.33 0.33  0.33
Volume/Cap:  1.12 1.12  0.09 0.38 0.38  1.12 1.05 1.12  1.12 0.03 1.12  0.14
Delay/Veh:  151.3  151  47.7 43.8 43.8 138.1  98.7  112 111.9 27.3  114  28.4
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 151.3  151  47.7 43.8 43.8 138.1  98.7  112 111.9 27.3  114  28.4
LOS by Move:    F    F     D    D    D     F    F    F     F    C    F     C
HCM2kAvgQ:    379  379    15  108  108   501  614  741   741   12  967    49
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6    33    11     2     5     2    20   106    14     8    83    13
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    6    33    11     2     5     2    20   106    14     8    83    13
Added Vol:      0   122     0     0     0     0     0     0     0     0     0    14
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    6   155    11     2     5     2    20   106    14     8    83    27
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     6   155    11     2     5     2    20   106    14     8    83    27
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    6   155    11     2     5     2    20   106    14     8    83    27
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    6   155    11     2     5     2    20   106    14     8    83    27
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.03  0.91  0.06  0.22  0.56  0.22  0.14  0.76  0.10  0.07  0.70  0.23
Final Sat.:    27   700    50   164   411   164   113   597    79    54   562   183
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.22  0.22  0.22  0.01  0.01  0.01  0.18  0.18  0.18  0.15  0.15  0.15
Crit Moves:        ****        ****                  ****                        ****
Delay/Veh:    8.6   8.6   8.6   7.6   7.6   7.6   8.3   8.3   8.3   8.1   8.1   8.1
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.6   8.6   8.6   7.6   7.6   7.6   8.3   8.3   8.3   8.1   8.1   8.1
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        8.6               7.6               8.3               8.1
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         8.6               7.6               8.3               8.1
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   6.4   6.4   6.4   0.3   0.3   0.3   5.0   5.0   5.0   4.0   4.0   4.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
```



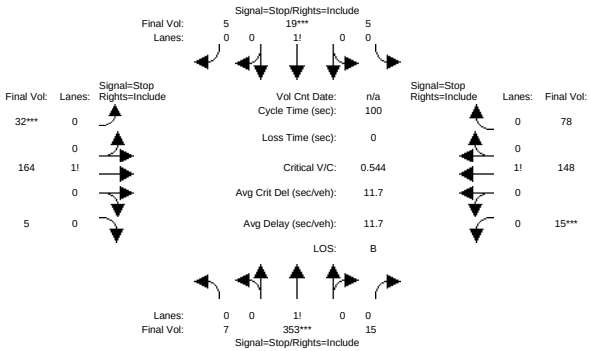
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  155    11     2     5     2    20  106    14     8    83    27
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             258
Minor Approach Volume:           172
Minor Approach Volume Threshold: 581
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                         O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7   107    15     5    19     5    32   164     5    15   148    21
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    7   107    15     5    19     5    32   164     5    15   148    21
Added Vol:      0   246     0     0     0     0     0     0     0     0     0    57
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    7   353    15     5    19     5    32   164     5    15   148    78
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     7   353    15     5    19     5    32   164     5    15   148    78
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    7   353    15     5    19     5    32   164     5    15   148    78
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    7   353    15     5    19     5    32   164     5    15   148    78
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.02  0.94  0.04  0.17  0.66  0.17  0.16  0.82  0.02  0.06  0.62  0.32
Final Sat.:    13   648    28   100   382   100   102   523    16    42   413   218
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.54  0.54  0.54  0.05  0.05  0.05  0.31  0.31  0.31  0.36  0.36  0.36
Crit Moves:        ****              ****        ****              ****
Delay/Veh:   13.4  13.4  13.4   8.7   8.7   8.7  10.5  10.5  10.5  10.6  10.6  10.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  13.4  13.4  13.4   8.7   8.7   8.7  10.5  10.5  10.5  10.6  10.6  10.6
LOS by Move:    B     B     B     A     A     A     B     B     B     B     B     B
ApproachDel:       13.4              8.7             10.5             10.6
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:        13.4              8.7             10.5             10.6
LOS by Appr:          B                A                B                B
AllWayAvgQ:  25.7  25.7  25.7   1.0   1.0   1.0   9.8   9.8   9.8  11.9  11.9  11.9
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
```



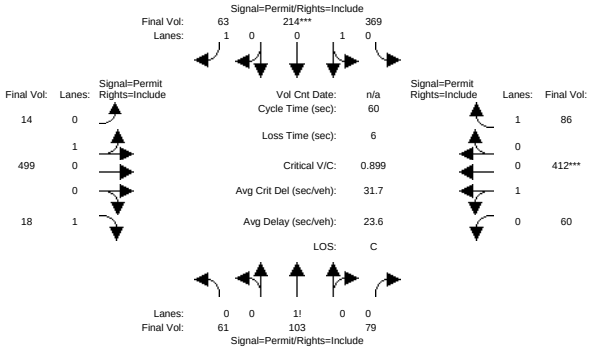
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  353    15     5    19     5    32  164     5    15  148    78
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             442
Minor Approach Volume:           375
Minor Approach Volume Threshold: 437
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1034: 13th St / M St

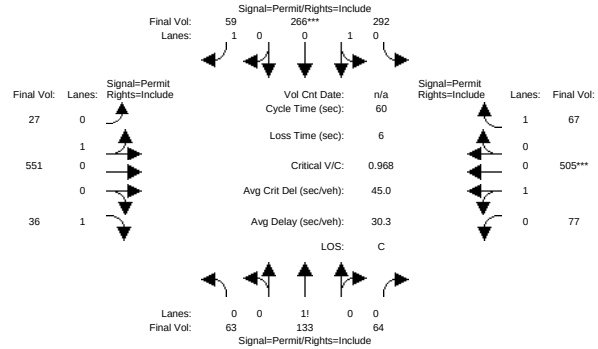



```
Street Name:            13th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61  103    61  141  214    63   14  480    18   48  402    86
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   61  103    61  141  214    63   14  480    18   48  402    86
Added Vol:      0    0    18  228    0     0    0   19     0   12   10     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   61  103    79  369  214    63   14  499    18   60  412    86
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    61  103    79  369  214    63   14  499    18   60  412    86
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   61  103    79  369  214    63   14  499    18   60  412    86
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   61  103    79  369  214    63   14  499    18   60  412    86
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.74 0.74  0.74 0.67 0.67  0.85 0.99 0.99  0.85 0.70 0.70  0.85
Lanes:       0.25 0.42  0.33 0.63 0.37  1.00 0.03 0.97  1.00 0.13 0.87  1.00
Final Sat.:   352  594   455  809  469  1615   51 1820  1615  170 1168  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.17  0.17 0.46 0.46  0.04 0.27 0.27  0.01 0.35 0.35  0.05
Crit Moves:                      ****                             ****
Green/Cycle: 0.51 0.51  0.51 0.51 0.51  0.51 0.39 0.39  0.39 0.39 0.39  0.39
Volume/Cap:  0.34 0.34  0.34 0.90 0.90  0.08 0.70 0.70  0.03 0.90 0.90  0.14
Delay/Veh:    9.1  9.1   9.1 28.8 28.8   7.6 18.2 18.2  11.2 35.3 35.3  11.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   9.1  9.1   9.1 28.8 28.8   7.6 18.2 18.2  11.2 35.3 35.3  11.8
LOS by Move:    A    A     A    C    C     A    B    B     B    D    D     B
HCM2kAvgQ:     65   65    65  354  354    16  232  232     5  242  242    25
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1034: 13th St / M St

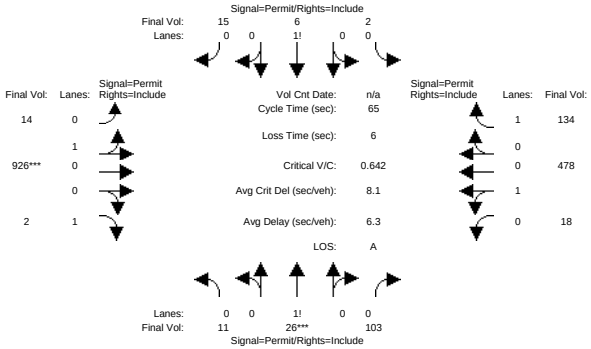



```
Street Name:            13th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63  133    55  172  266    59   27  541    36   50  486    67
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   63  133    55  172  266    59   27  541    36   50  486    67
Added Vol:      0    0     9  120    0     0    0   10     0   27   19     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   63  133    64  292  266    59   27  551    36   77  505    67
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    63  133    64  292  266    59   27  551    36   77  505    67
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   63  133    64  292  266    59   27  551    36   77  505    67
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   63  133    64  292  266    59   27  551    36   77  505    67
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.67 0.67  0.67 0.69 0.69  0.85 0.96 0.96  0.85 0.69 0.69  0.85
Lanes:       0.24 0.51  0.25 0.52 0.48  1.00 0.05 0.95  1.00 0.13 0.87  1.00
Final Sat.:   307  648   312  684  623  1615   86 1746  1615  173 1138  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.21 0.21  0.21 0.43 0.43  0.04 0.32 0.32  0.02 0.44 0.44  0.04
Crit Moves:                      ****                             ****
Green/Cycle: 0.44 0.44  0.44 0.44 0.44  0.44 0.46 0.46  0.46 0.46 0.46  0.46
Volume/Cap:  0.47 0.47  0.47 0.97 0.97  0.08 0.69 0.69  0.05 0.97 0.97  0.09
Delay/Veh:   12.4 12.4  12.4 45.7 45.7   9.8 15.3 15.3   9.0 44.4 44.4   9.2
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  12.4 12.4  12.4 45.7 45.7   9.8 15.3 15.3   9.0 44.4 44.4   9.2
LOS by Move:    B    B     B    D    D     A    B    B     A    D    D     A
HCM2kAvgQ:     80   80    80  408  408    17  242  242    10  337  337    17
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1035: 14th St / M St



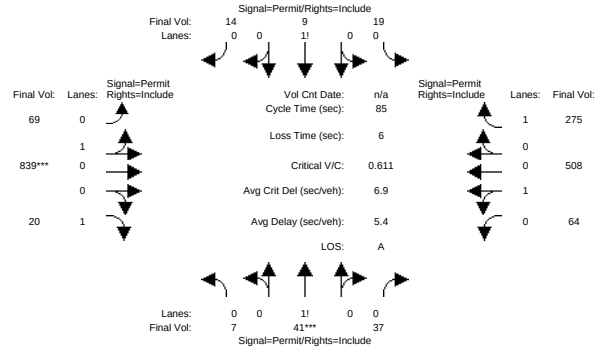
Street Name:	14th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	11		26	13	2		6	15	14		660	2	6		457	12
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	11		26	13	2		6	15	14		660	2	6		457	12
Added Vol:	0		0	90	0		0	0	0		266	0	12		21	122
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	11		26	103	2		6	15	14		926	2	18		478	134
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	11		26	103	2		6	15	14		926	2	18		478	134
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	11		26	103	2		6	15	14		926	2	18		478	134
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	11		26	103	2		6	15	14		926	2	18		478	134
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.88		0.88	0.88	0.89		0.89	0.89	0.99		0.99	0.85	0.96		0.96	0.85
Lanes:	0.08		0.19	0.73	0.09		0.26	0.65	0.01		0.99	1.00	0.04		0.96	1.00
Final Sat.:	132		311	1233	147		442	1104	28		1855	1615	66		1763	1615
Capacity Analysis Module:																
Vol/Sat:	0.08		0.08	0.08	0.01		0.01	0.01	0.50		0.50	0.00	0.27		0.27	0.08
Crit Moves:			****								****					
Green/Cycle:	0.15		0.15	0.15	0.15		0.15	0.15	0.75		0.75	0.75	0.75		0.75	0.75
Volume/Cap:	0.54		0.54	0.54	0.09		0.09	0.09	0.66		0.66	0.00	0.36		0.36	0.11
Delay/Veh:	27.8		27.8	27.8	23.7		23.7	23.7	5.1		5.1	2.0	2.9		2.9	2.2
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	27.8		27.8	27.8	23.7		23.7	23.7	5.1		5.1	2.0	2.9		2.9	2.2
LOS by Move:	C		C	C	C		C	C	A		A	A	A		A	A
HCM2kAvgQ:	65		65	65	11		11	11	231		231	0	82		82	18

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1035: 14th St / M St



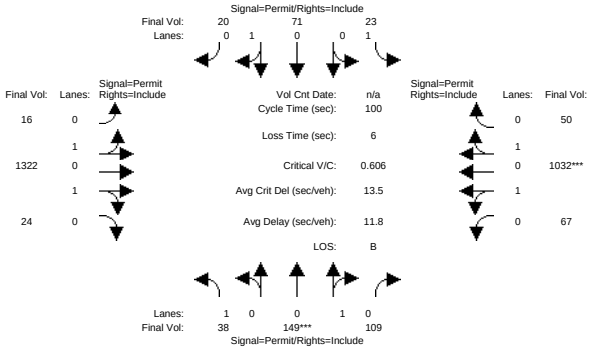
Street Name:	14th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	7		41	15	19		9	14	69		700	20	17		461	29
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	7		41	15	19		9	14	69		700	20	17		461	29
Added Vol:	0		0	22	0		0	0	0		139	0	47		47	246
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	7		41	37	19		9	14	69		839	20	64		508	275
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	7		41	37	19		9	14	69		839	20	64		508	275
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	7		41	37	19		9	14	69		839	20	64		508	275
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	7		41	37	19		9	14	69		839	20	64		508	275
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.92		0.92	0.92	0.85		0.85	0.85	0.92		0.92	0.85	0.84		0.84	0.85
Lanes:	0.08		0.48	0.44	0.46		0.21	0.33	0.08		0.92	1.00	0.11		0.89	1.00
Final Sat.:	144		843	760	731		346	539	133		1617	1615	179		1424	1615
Capacity Analysis Module:																
Vol/Sat:	0.05		0.05	0.05	0.03		0.03	0.03	0.52		0.52	0.01	0.36		0.36	0.17
Crit Moves:			****								****					
Green/Cycle:	0.12		0.12	0.12	0.12		0.12	0.12	0.81		0.81	0.81	0.81		0.81	0.81
Volume/Cap:	0.41		0.41	0.41	0.22		0.22	0.22	0.64		0.64	0.02	0.44		0.44	0.21
Delay/Veh:	36.1		36.1	36.1	34.6		34.6	34.6	4.1		4.1	1.5	2.6		2.6	1.9
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	36.1		36.1	36.1	34.6		34.6	34.6	4.1		4.1	1.5	2.6		2.6	1.9
LOS by Move:	D		D	D	D		C	C	A		A	A	A		A	A
HCM2kAvgQ:	50		50	50	29		29	29	234		234	2	102		102	38

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1036: Main St / M St

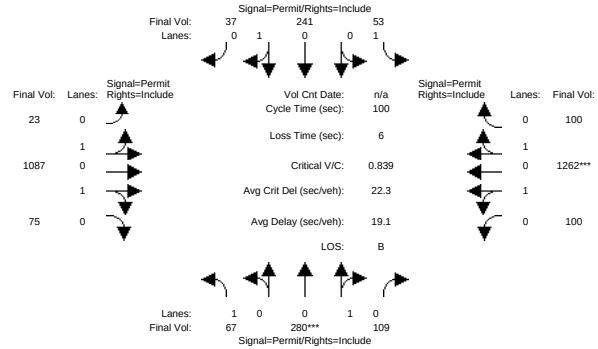



```
Street Name:            Main Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      35  149   109   23   71    20   16 1301    23   67 1017    50
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   35  149   109   23   71    20   16 1301    23   67 1017    50
Added Vol:      3    0     0    0    0     0    0   21     1    0   15     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   38  149   109   23   71    20   16 1322    24   67 1032    50
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    38  149   109   23   71    20   16 1322    24   67 1032    50
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   38  149   109   23   71    20   16 1322    24   67 1032    50
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   38  149   109   23   71    20   16 1322    24   67 1032    50
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.67 0.94  0.94 0.35 0.97  0.97 0.88 0.88  0.88 0.71 0.71  0.71
Lanes:       1.00 0.58  0.42 1.00 0.78  0.22 0.02 1.94  0.04 0.12 1.79  0.09
Final Sat.:  1265 1028   752  669 1433   404   39 3263    59  158 2431   118
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.14  0.14 0.03 0.05  0.05 0.41 0.41  0.41 0.42 0.42  0.42
Crit Moves:        ****                                     ****
Green/Cycle: 0.24 0.24  0.24 0.24 0.24  0.24 0.70 0.70  0.70 0.70 0.70  0.70
Volume/Cap:  0.13 0.61  0.61 0.14 0.21  0.21 0.58 0.58  0.58 0.61 0.61  0.61
Delay/Veh:   30.0 36.3  36.3 30.4 30.7  30.7  7.9  7.9   7.9  8.3  8.3   8.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  30.0 36.3  36.3 30.4 30.7  30.7  7.9  7.9   7.9  8.3  8.3   8.3
LOS by Move:    C    D     D    C    C     C    A    A     A    A    A     A
HCM2kAvgQ:     24  195   195   17   57    57  267  267   267  240  240   240
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1036: Main St / M St

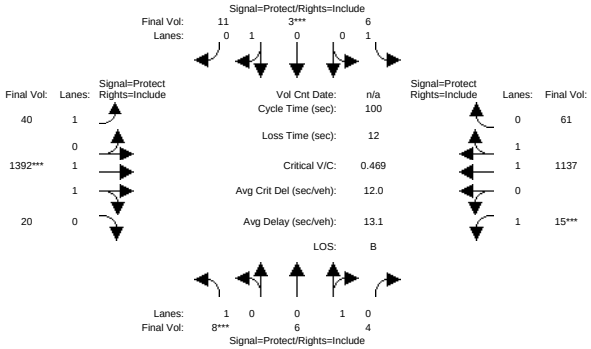



```
Street Name:            Main Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      66  280   109   53  241    37   23 1072    72  100 1241   100
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   66  280   109   53  241    37   23 1072    72  100 1241   100
Added Vol:      1    0     0    0    0     0    0   15     3    0   21     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   67  280   109   53  241    37   23 1087    75  100 1262   100
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    67  280   109   53  241    37   23 1087    75  100 1262   100
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   67  280   109   53  241    37   23 1087    75  100 1262   100
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   67  280   109   53  241    37   23 1087    75  100 1262   100
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.34 0.96  0.96 0.17 0.98  0.98 0.85 0.85  0.85 0.67 0.67  0.67
Lanes:       1.00 0.72  0.28 1.00 0.87  0.13 0.04 1.83  0.13 0.14 1.72  0.14
Final Sat.:   646 1310   510  314 1614   248   63 2957   204  174 2193   174
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.21  0.21 0.17 0.15  0.15 0.37 0.37  0.37 0.58 0.58  0.58
Crit Moves:        ****                                     ****
Green/Cycle: 0.25 0.25  0.25 0.25 0.25  0.25 0.69 0.69  0.69 0.69 0.69  0.69
Volume/Cap:  0.41 0.84  0.84 0.66 0.59  0.59 0.54 0.54  0.54 0.84 0.84  0.84
Delay/Veh:   32.6 48.1  48.1 52.5 34.6  34.6  8.1  8.1   8.1 15.5 15.5  15.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  32.6 48.1  48.1 52.5 34.6  34.6  8.1  8.1   8.1 15.5 15.5  15.5
LOS by Move:    C    D     D    D    C     C    A    A     A    B    B     B
HCM2kAvgQ:     55  349   349   68  203   203  220  220   220  456  456   456
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1037: 18th St / M St



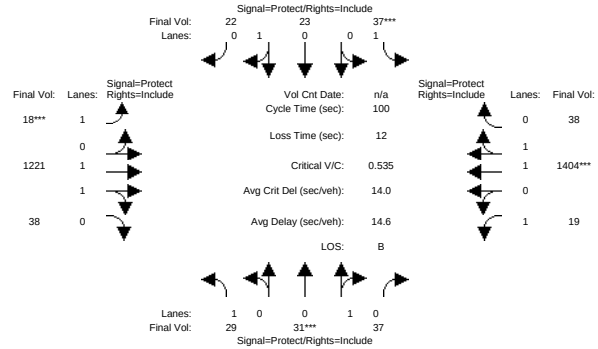
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	4	6	4		6	3	11		40	1387	4		15	1126	61	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	4	6	4		6	3	11		40	1387	4		15	1126	61	
Added Vol:	4	0	0		0	0	0		0	5	16		0	11	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	8	6	4		6	3	11		40	1392	20		15	1137	61	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	8	6	4		6	3	11		40	1392	20		15	1137	61	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	8	6	4		6	3	11		40	1392	20		15	1137	61	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	8	6	4		6	3	11		40	1392	20		15	1137	61	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.94	0.94		0.95	0.88	0.88		0.95	0.95	0.95		0.95	0.94	0.94	
Lanes:	1.00	0.60	0.40		1.00	0.21	0.79		1.00	1.97	0.03		1.00	1.90	0.10	
Final Sat.:	1805	1072	714		1805	359	1317		1805	3552	51		1805	3399	182	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.01	0.01		0.00	0.01	0.01		0.02	0.39	0.39		0.01	0.33	0.33	
Crit Moves:	****					****				****			****			
Green/Cycle:	0.07	0.10	0.10		0.07	0.10	0.10		0.12	0.64	0.64		0.07	0.59	0.59	
Volume/Cap:	0.06	0.06	0.06		0.05	0.08	0.08		0.18	0.61	0.61		0.12	0.57	0.57	
Delay/Veh:	43.6	40.9	40.9		43.5	41.1	41.1		39.7	11.1	11.1		44.0	13.2	13.2	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	43.6	40.9	40.9		43.5	41.1	41.1		39.7	11.1	11.1		44.0	13.2	13.2	
LOS by Move:	D	D	D		D	D	D		D	B	B		D	B	B	
HCM2kAvgQ:	7	8	8		4	9	9		26	331	331		13	304	304	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1037: 18th St / M St



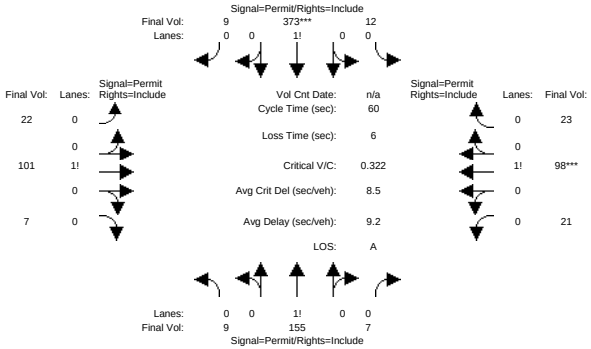
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	13	31	37		37	23	22		18	1210	34		19	1399	38	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	13	31	37		37	23	22		18	1210	34		19	1399	38	
Added Vol:	16	0	0		0	0	0		0	11	4		0	5	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	29	31	37		37	23	22		18	1221	38		19	1404	38	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	29	31	37		37	23	22		18	1221	38		19	1404	38	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	29	31	37		37	23	22		18	1221	38		19	1404	38	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	29	31	37		37	23	22		18	1221	38		19	1404	38	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.92	0.92		0.95	0.93	0.93		0.95	0.95	0.95		0.95	0.95	0.95	
Lanes:	1.00	0.46	0.54		1.00	0.51	0.49		1.00	1.94	0.06		1.00	1.95	0.05	
Final Sat.:	1805	795	949		1805	900	861		1805	3487	109		1805	3501	95	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.04	0.04		0.02	0.03	0.03		0.01	0.35	0.35		0.01	0.40	0.40	
Crit Moves:		****			****				****					****		
Green/Cycle:	0.07	0.10	0.10		0.07	0.10	0.10		0.07	0.59	0.59		0.12	0.64	0.64	
Volume/Cap:	0.23	0.39	0.39		0.29	0.26	0.26		0.14	0.59	0.59		0.09	0.63	0.63	
Delay/Veh:	44.9	43.6	43.6		45.4	42.3	42.3		44.2	13.3	13.3		39.5	11.4	11.4	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	44.9	43.6	43.6		45.4	42.3	42.3		44.2	13.3	13.3		39.5	11.4	11.4	
LOS by Move:	D	D	D		D	D	D		D	B	B		D	B	B	
HCM2kAvgQ:	26	59	59		27	31	31		12	312	312		14	358	358	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1038: 15th St / Canal St



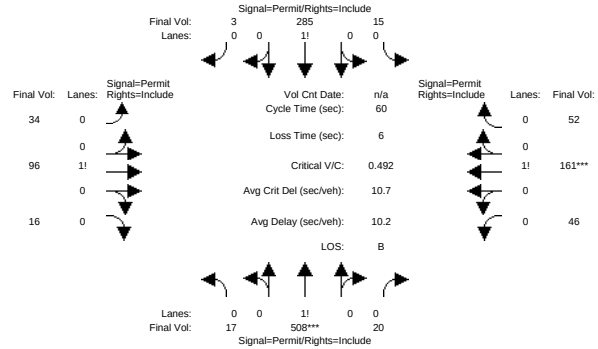
Street Name:	15th Street						Canal Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	9	79	7	12	68	9	22	101	7	21	98	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	79	7	12	68	9	22	101	7	21	98	23
Added Vol:	0	76	0	0	305	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	155	7	12	373	9	22	101	7	21	98	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	9	155	7	12	373	9	22	101	7	21	98	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	155	7	12	373	9	22	101	7	21	98	23
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	155	7	12	373	9	22	101	7	21	98	23
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.98	0.99	0.99	0.99	0.94	0.94	0.94	0.93	0.93	0.93
Lanes:	0.05	0.91	0.04	0.03	0.95	0.02	0.17	0.78	0.05	0.15	0.69	0.16
Final Sat.:	98	1681	76	57	1781	43	301	1382	96	261	1220	286
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.21	0.21	0.21	0.07	0.07	0.07	0.08	0.08	0.08
Crit Moves:					****						****	
Green/Cycle:	0.65	0.65	0.65	0.65	0.65	0.65	0.25	0.25	0.25	0.25	0.25	0.25
Volume/Cap:	0.14	0.14	0.14	0.32	0.32	0.32	0.29	0.29	0.29	0.32	0.32	0.32
Delay/Veh:	4.1	4.1	4.1	4.8	4.8	4.8	18.6	18.6	18.6	18.8	18.8	18.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	4.1	4.1	4.1	4.8	4.8	4.8	18.6	18.6	18.6	18.8	18.8	18.8
LOS by Move:	A	A	A	A	A	A	B	B	B	B	B	B
HCM2kAvgQ:	32	32	32	79	79	79	54	54	54	60	60	60

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1038: 15th St / Canal St



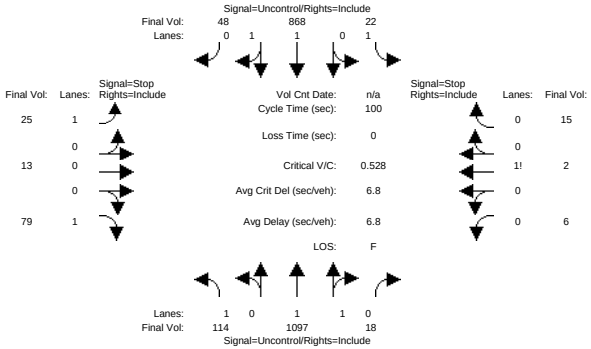
Street Name:	15th Street						Canal Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	17	203	20	15	209	3	34	96	16	46	161	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	17	203	20	15	209	3	34	96	16	46	161	52
Added Vol:	0	305	0	0	76	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	17	508	20	15	285	3	34	96	16	46	161	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	17	508	20	15	285	3	34	96	16	46	161	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	508	20	15	285	3	34	96	16	46	161	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	17	508	20	15	285	3	34	96	16	46	161	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.98	0.97	0.97	0.97	0.89	0.89	0.89	0.90	0.90	0.90
Lanes:	0.03	0.93	0.04	0.05	0.94	0.01	0.23	0.66	0.11	0.18	0.62	0.20
Final Sat.:	58	1741	69	92	1739	18	394	1111	185	305	1069	345
Capacity Analysis Module:												
Vol/Sat:	0.29	0.29	0.29	0.16	0.16	0.16	0.09	0.09	0.09	0.15	0.15	0.15
Crit Moves:		****									****	
Green/Cycle:	0.59	0.59	0.59	0.59	0.59	0.59	0.31	0.31	0.31	0.31	0.31	0.31
Volume/Cap:	0.49	0.49	0.49	0.28	0.28	0.28	0.28	0.28	0.28	0.49	0.49	0.49
Delay/Veh:	7.3	7.3	7.3	6.1	6.1	6.1	16.1	16.1	16.1	17.7	17.7	17.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.3	7.3	7.3	6.1	6.1	6.1	16.1	16.1	16.1	17.7	17.7	17.7
LOS by Move:	A	A	A	A	A	A	B	B	B	B	B	B
HCM2kAvgQ:	154	154	154	66	66	66	56	56	56	112	112	112

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     114  903    18    22  653    48    25   13    79     6    2    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  114  903    18    22  653    48    25   13    79     6    2    15
Added Vol:      0  194     0     0  215     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  114 1097    18    22  868    48    25   13    79     6    2    15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   114 1097    18    22  868    48    25   13    79     6    2    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  114 1097    18    22  868    48    25   13    79     6    2    15
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  916 xxxx xxxxx  1115 xxxx xxxxx  1714 2279   458  1819 2294   558
Potent Cap.:  753 xxxx xxxxx   634 xxxx xxxxx    60   40   555    50   40   479
Move Cap.:    753 xxxx xxxxx   634 xxxx xxxxx    47   33   555    26   32   479
Volume/Cap:  0.15 xxxx  xxxx  0.03 xxxx  xxxx  0.53 0.39  0.14  0.23 0.06  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   13.3 xxxx xxxxx   2.7 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.6 xxxx xxxxx  10.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx    41 xxxx   172  xxxx   70 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.6 xxxx   2.7 xxxxx  1.2 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 265.2 xxxx  47.7 xxxxx 79.1 xxxxx
Shared LOS:     *    *     *     *    *     *     F    *     E     *    F     *
ApproachDel:    xxxxxx           xxxxxx            111.3            79.1
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:  114 1097    18    22  868    48    25   13    79     6    2    15
ApproachDel:    xxxxxx           xxxxxx            111.3            79.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=117]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2307]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2307]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:  114 1097    18    22  868    48    25   13    79     6    2    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2167
Minor Approach Volume:           117
Minor Approach Volume Threshold: 42 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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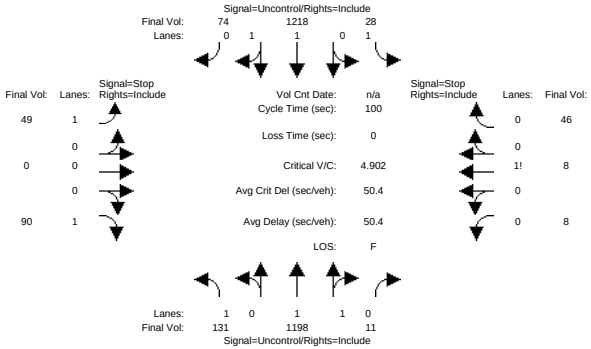
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     131  983    11    28 1024    74    49    0    90     8    8    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  131  983    11    28 1024    74    49    0    90     8    8    46
Added Vol:      0  215     0     0  194     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  131 1198    11    28 1218    74    49    0    90     8    8    46
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   131 1198    11    28 1218    74    49    0    90     8    8    46
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  131 1198    11    28 1218    74    49    0    90     8    8    46
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1292 xxxx xxxxx  1209 xxxx xxxxx  2176 xxxx   646  2131 2814   605
Potent Cap.:  543 xxxx xxxxx   584 xxxx xxxxx    27 xxxx   419    29   18   446
Move Cap.:    543 xxxx xxxxx   584 xxxx xxxxx    10 xxxx   419    18   13   446
Volume/Cap:  0.24 xxxx  xxxx  0.05 xxxx  xxxx  4.90 xxxx  0.21  0.45 0.60  0.10
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   23.4 xxxx xxxxx   3.8 xxxx xxxxx   184 xxxx  20.1  xxxx xxxx xxxxx
Control Del: 13.7 xxxx xxxxx  11.5 xxxx xxxxx  2494 xxxx  15.9 xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     F    *     C     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx   54 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  5.4 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  299 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    F     *
ApproachDel:    xxxxxx           xxxxxx            889.5           298.5
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:  131 1198    11    28 1218    74    49    0    90     8    8    46
ApproachDel:    xxxxxx           xxxxxx            889.5           298.5
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=34.3]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=139]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2861]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2861]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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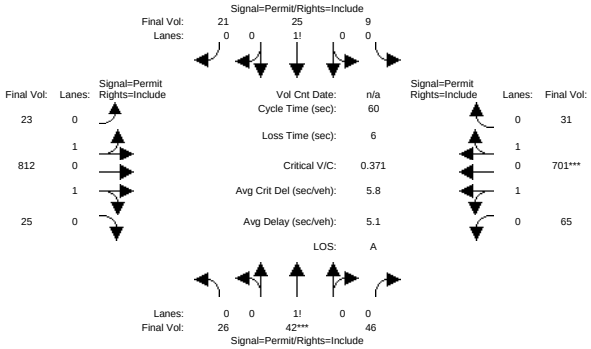
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:  131 1198    11    28 1218    74    49    0    90     8    8    46
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2660
Minor Approach Volume:           139
Minor Approach Volume Threshold: -47 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1040: 11th St / Martin Luther King Wy



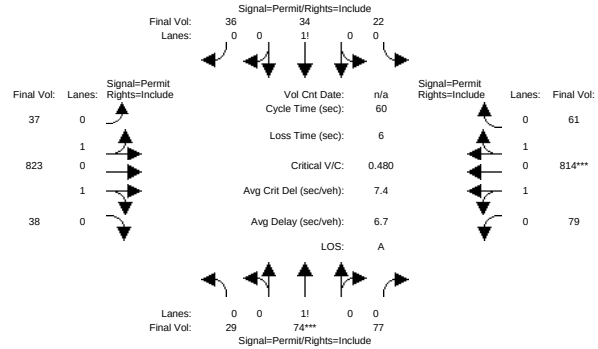
Street Name:	11th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	26	42	46	9	25	11	4	794	25	65	692	31
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	42	46	9	25	11	4	794	25	65	692	31
Added Vol:	0	0	0	0	0	10	19	18	0	0	9	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	42	46	9	25	21	23	812	25	65	701	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	42	46	9	25	21	23	812	25	65	701	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	42	46	9	25	21	23	812	25	65	701	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	42	46	9	25	21	23	812	25	65	701	31
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	0.88	0.88	0.90	0.90	0.90	0.88	0.88	0.88	0.79	0.79	0.79
Lanes:	0.23	0.37	0.40	0.16	0.46	0.38	0.05	1.89	0.06	0.16	1.76	0.08
Final Sat.:	380	614	672	280	779	654	89	3154	97	245	2639	117
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.03	0.03	0.03	0.26	0.26	0.26	0.27	0.27	0.27
Crit Moves:		****									****	
Green/Cycle:	0.18	0.18	0.18	0.18	0.18	0.18	0.72	0.72	0.72	0.72	0.72	0.72
Volume/Cap:	0.37	0.37	0.37	0.17	0.17	0.17	0.36	0.36	0.36	0.37	0.37	0.37
Delay/Veh:	22.2	22.2	22.2	20.9	20.9	20.9	3.4	3.4	3.4	3.4	3.4	3.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.2	22.2	22.2	20.9	20.9	20.9	3.4	3.4	3.4	3.4	3.4	3.4
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	56	56	56	25	25	25	77	77	77	74	74	74

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1040: 11th St / Martin Luther King Wy



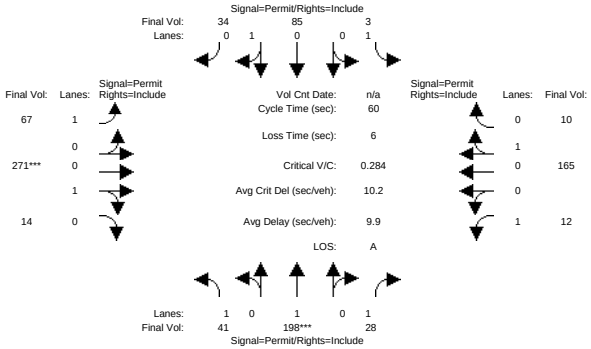
Street Name:	11th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	29	74	77	22	34	17	27	814	38	79	796	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	74	77	22	34	17	27	814	38	79	796	61
Added Vol:	0	0	0	0	0	19	10	9	0	0	18	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	74	77	22	34	36	37	823	38	79	814	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	74	77	22	34	36	37	823	38	79	814	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	74	77	22	34	36	37	823	38	79	814	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	74	77	22	34	36	37	823	38	79	814	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.89	0.87	0.87	0.87	0.85	0.85	0.85	0.77	0.77	0.77
Lanes:	0.16	0.41	0.43	0.24	0.37	0.39	0.08	1.84	0.08	0.16	1.71	0.13
Final Sat.:	272	695	724	397	613	649	132	2947	136	242	2497	187
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.11	0.06	0.06	0.06	0.28	0.28	0.28	0.33	0.33	0.33
Crit Moves:		****									****	
Green/Cycle:	0.22	0.22	0.22	0.22	0.22	0.22	0.68	0.68	0.68	0.68	0.68	0.68
Volume/Cap:	0.48	0.48	0.48	0.25	0.25	0.25	0.41	0.41	0.41	0.48	0.48	0.48
Delay/Veh:	21.3	21.3	21.3	19.6	19.6	19.6	4.4	4.4	4.4	4.8	4.8	4.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.3	21.3	21.3	19.6	19.6	19.6	4.4	4.4	4.4	4.8	4.8	4.8
LOS by Move:	C	C	C	B	B	B	A	A	A	A	A	A
HCM2kAvgQ:	88	88	88	40	40	40	93	93	93	105	105	105

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1041: Main St / Martin Luther King Wy

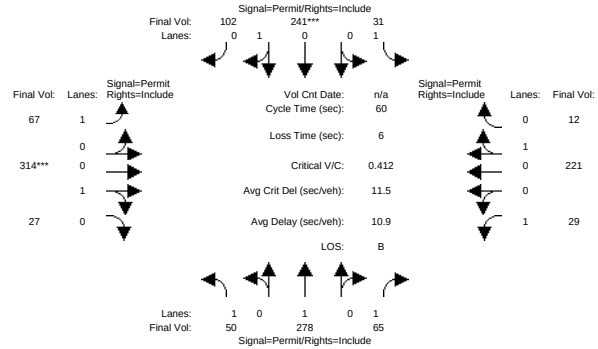



```
Street Name:            Main Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      41  195    28    3   84    34   67  271    14   12  165    10
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   41  195    28    3   84    34   67  271    14   12  165    10
Added Vol:      0    3     0    0    1     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   41  198    28    3   85    34   67  271    14   12  165    10
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    41  198    28    3   85    34   67  271    14   12  165    10
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   41  198    28    3   85    34   67  271    14   12  165    10
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   41  198    28    3   85    34   67  271    14   12  165    10
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.68 1.00  0.85 0.58 0.96  0.96 0.64 0.99  0.99 0.54 0.99  0.99
Lanes:       1.00 1.00  1.00 1.00 0.71  0.29 1.00 0.95  0.05 1.00 0.94  0.06
Final Sat.:  1284 1900  1615 1098 1299   520 1216 1794    93 1022 1775   108
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.10  0.02 0.00 0.07  0.07 0.06 0.15  0.15 0.01 0.09  0.09
Crit Moves:        ****                          ****
Green/Cycle: 0.37 0.37  0.37 0.37 0.37  0.37 0.53 0.53  0.53 0.53 0.53  0.53
Volume/Cap:  0.09 0.28  0.05 0.01 0.18  0.18 0.10 0.28  0.28 0.02 0.17  0.17
Delay/Veh:   12.5 13.6  12.2 12.0 13.0  13.0  7.0  7.9   7.9  6.6  7.3   7.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  12.5 13.6  12.2 12.0 13.0  13.0  7.0  7.9   7.9  6.6  7.3   7.3
LOS by Move:    B    B     B    B    B     B    A    A     A    A    A     A
HCM2kAvgQ:     14   68     9    1   39    39   15   69    69    3   43    43
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1041: Main St / Martin Luther King Wy

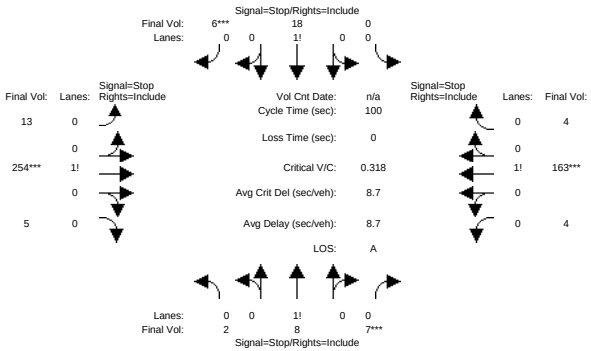



```
Street Name:            Main Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      50  277    65   31  238   102   67  314    27   29  221    12
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   50  277    65   31  238   102   67  314    27   29  221    12
Added Vol:      0    1     0    0    3     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   50  278    65   31  241   102   67  314    27   29  221    12
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    50  278    65   31  241   102   67  314    27   29  221    12
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   50  278    65   31  241   102   67  314    27   29  221    12
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   50  278    65   31  241   102   67  314    27   29  221    12
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.46 1.00  0.85 0.52 0.96  0.96 0.56 0.99  0.99 0.45 0.99  0.99
Lanes:       1.00 1.00  1.00 1.00 0.70  0.30 1.00 0.92  0.08 1.00 0.95  0.05
Final Sat.:   870 1900  1615  988 1275   540 1066 1729   149  857 1788    97
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.15  0.04 0.03 0.19  0.19 0.06 0.18  0.18 0.03 0.12  0.12
Crit Moves:                        ****            ****
Green/Cycle: 0.46 0.46  0.46 0.46 0.46  0.46 0.44 0.44  0.44 0.44 0.44  0.44
Volume/Cap:  0.13 0.32  0.09 0.07 0.41  0.41 0.14 0.41  0.41 0.08 0.28  0.28
Delay/Veh:    9.5 10.5   9.2  9.1 11.2  11.2 10.1 11.8  11.8  9.8 10.9  10.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   9.5 10.5   9.2  9.1 11.2  11.2 10.1 11.8  11.8  9.8 10.9  10.9
LOS by Move:    A    B     A    A    B     B    B    B     B    A    B     B
HCM2kAvgQ:     16   85    18    9  113   113   18  104   104    9   72    72
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2     4     7     0     2     6    13   254     5     4   163     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2     4     7     0     2     6    13   254     5     4   163     4
Added Vol:      0     4     0     0    16     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    2     8     7     0    18     6    13   254     5     4   163     4
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     2     8     7     0    18     6    13   254     5     4   163     4
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    2     8     7     0    18     6    13   254     5     4   163     4
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    2     8     7     0    18     6    13   254     5     4   163     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.12  0.47  0.41  0.00  0.75  0.25  0.05  0.93  0.02  0.02  0.96  0.02
Final Sat.:    84   337   295     0   531   177    41   800    16    20   795    20
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02  0.02  0.02  xxxx  0.03  0.03  0.32  0.32  0.32  0.21  0.21  0.21
Crit Moves:              ****              ****        ****              ****
Delay/Veh:    7.7   7.7   7.7   0.0   7.8   7.8   9.1   9.1   9.1   8.3   8.3   8.3
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.7   7.7   7.7   0.0   7.8   7.8   9.1   9.1   9.1   8.3   8.3   8.3
LOS by Move:    A     A     A     *     A     A     A     A     A     A     A     A
ApproachDel:        7.7               7.8               9.1               8.3
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.7               7.8               9.1               8.3
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   0.5   0.5   0.5   0.7   0.7   0.7  11.3  11.3  11.3   6.2   6.2   6.2
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



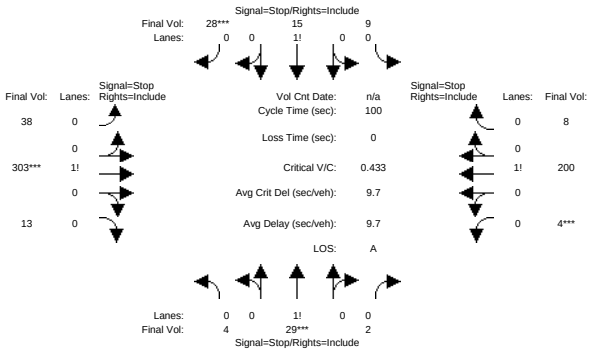
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2     8     7     0    18     6    13   254     5     4   163     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             443
Minor Approach Volume:           24
Minor Approach Volume Threshold: 437
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    13     2     9    11    28    38   303    13     4   200     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4    13     2     9    11    28    38   303    13     4   200     8
Added Vol:      0    16     0     0     4     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    4    29     2     9    15    28    38   303    13     4   200     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4    29     2     9    15    28    38   303    13     4   200     8
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    4    29     2     9    15    28    38   303    13     4   200     8
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    4    29     2     9    15    28    38   303    13     4   200     8
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.11 0.83  0.06  0.17 0.29  0.54  0.11 0.85  0.04  0.02 0.94  0.04
Final Sat.:    72  524    36   116  193   361    88  699    30    15  743    30
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.06  0.06  0.08 0.08  0.08  0.43 0.43  0.43  0.27 0.27  0.27
Crit Moves:        ****                    ****        ****        ****
Delay/Veh:    8.4  8.4   8.4   8.2  8.2   8.2  10.5 10.5  10.5   9.0  9.0   9.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.4  8.4   8.4   8.2  8.2   8.2  10.5 10.5  10.5   9.0  9.0   9.0
LOS by Move:    A    A     A     A    A     A     B    B     B     A    A     A
ApproachDel:       8.4              8.2             10.5              9.0
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.4              8.2             10.5              9.0
LOS by Appr:         A                A                B                A
AllWayAvgQ:   1.2  1.2   1.2   1.7  1.7   1.7  18.1 18.1  18.1   8.6  8.6   8.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



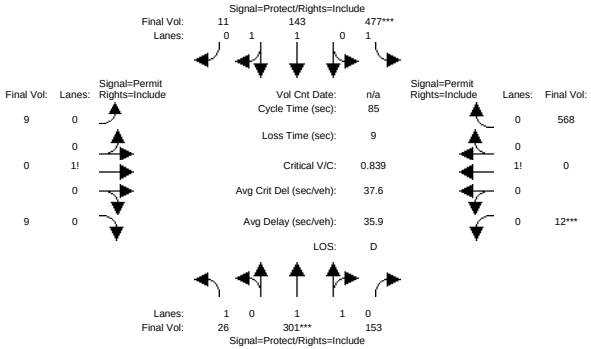
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4   29     2     9   15    28    38  303    13     4  200     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             566
Minor Approach Volume:           52
Minor Approach Volume Threshold: 371
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1043: 16th St / H St



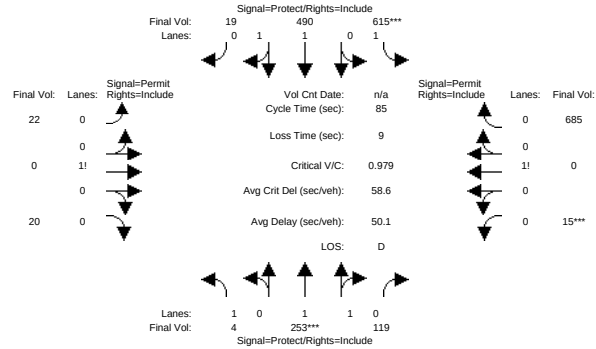
Street Name:	16th Street									H Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	26	273	153		466	132	11		9	0	9		12	0	560	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	26	273	153		466	132	11		9	0	9		12	0	560	
Added Vol:	0	28	0		11	11	0		0	0	0		0	0	8	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	26	301	153		477	143	11		9	0	9		12	0	568	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	26	301	153		477	143	11		9	0	9		12	0	568	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	26	301	153		477	143	11		9	0	9		12	0	568	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	26	301	153		477	143	11		9	0	9		12	0	568	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.90	0.90		0.95	0.94	0.94		0.78	1.00	0.78		0.86	1.00	0.86	
Lanes:	1.00	1.33	0.67		1.00	1.86	0.14		0.50	0.00	0.50		0.02	0.00	0.98	
Final Sat.:	1805	2271	1155		1805	3315	255		744	0	744		34	0	1609	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.13	0.13		0.26	0.04	0.04		0.01	0.00	0.01		0.35	0.00	0.35	
Crit Moves:		****			****								****			
Green/Cycle:	0.19	0.16	0.16		0.32	0.28	0.28		0.42	0.00	0.42		0.42	0.00	0.42	
Volume/Cap:	0.07	0.84	0.84		0.84	0.15	0.15		0.03	0.00	0.03		0.84	0.00	0.84	
Delay/Veh:	28.0	45.9	45.9		37.7	23.2	23.2		14.4	0.0	14.4		31.0	0.0	31.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	28.0	45.9	45.9		37.7	23.2	23.2		14.4	0.0	14.4		31.0	0.0	31.0	
LOS by Move:	C	D	D		D	C	C		B	A	B		C	A	C	
HCM2kAvgQ:	15	219	219		359	41	41		7	0	7		366	0	366	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1043: 16th St / H St



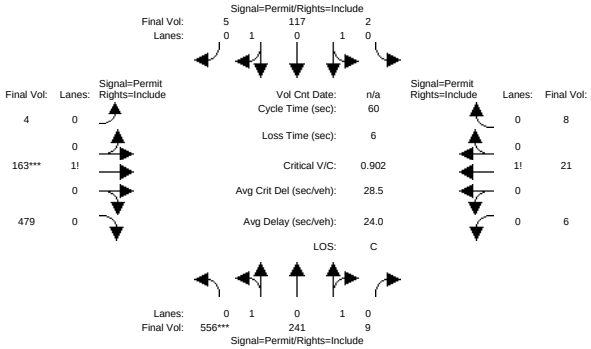
Street Name:	16th Street									H Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	4	236	119		600	469	19		22	0	20		15	0	680	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	4	236	119		600	469	19		22	0	20		15	0	680	
Added Vol:	0	17	0		15	21	0		0	0	0		0	0	5	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	4	253	119		615	490	19		22	0	20		15	0	685	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	4	253	119		615	490	19		22	0	20		15	0	685	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	4	253	119		615	490	19		22	0	20		15	0	685	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	4	253	119		615	490	19		22	0	20		15	0	685	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.90	0.90		0.95	0.94	0.94		0.72	1.00	0.72		0.86	1.00	0.86	
Lanes:	1.00	1.36	0.64		1.00	1.93	0.07		0.52	0.00	0.48		0.02	0.00	0.98	
Final Sat.:	1805	2337	1099		1805	3454	134		714	0	649		35	0	1607	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.11	0.11		0.34	0.14	0.14		0.03	0.00	0.03		0.43	0.00	0.43	
Crit Moves:		****			****								****			
Green/Cycle:	0.17	0.12	0.12		0.34	0.29	0.29		0.43	0.00	0.43		0.43	0.00	0.43	
Volume/Cap:	0.01	0.92	0.92		0.99	0.48	0.48		0.07	0.00	0.07		0.99	0.00	0.99	
Delay/Veh:	29.4	63.1	63.1		60.5	25.1	25.1		14.2	0.0	14.2		54.5	0.0	54.5	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	29.4	63.1	63.1		60.5	25.1	25.1		14.2	0.0	14.2		54.5	0.0	54.5	
LOS by Move:	C	E	E		E	C	C		B	A	B		D	A	D	
HCM2kAvgQ:	2	214	214		568	153	153		16	0	16		568	0	568	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1044: Main St / H St



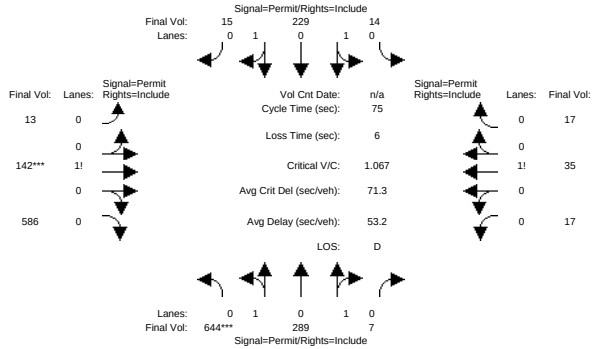
Street Name:	Main Street									H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	548	238	9	2	116	5	4	163	468	6	21	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	548	238	9	2	116	5	4	163	468	6	21	8
Added Vol:	8	3	0	0	1	0	0	0	11	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	556	241	9	2	117	5	4	163	479	6	21	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	556	241	9	2	117	5	4	163	479	6	21	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	556	241	9	2	117	5	4	163	479	6	21	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	556	241	9	2	117	5	4	163	479	6	21	8
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.68	0.68	0.68	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lanes:	1.00	0.96	0.04	0.03	1.89	0.08	0.01	0.25	0.74	0.17	0.60	0.23
Final Sat.:	1283	1236	46	55	3210	137	11	431	1267	293	1024	390
Capacity Analysis Module:												
Vol/Sat:	0.43	0.19	0.19	0.04	0.04	0.04	0.38	0.38	0.38	0.02	0.02	0.02
Crit Moves:	****							****				
Green/Cycle:	0.48	0.48	0.48	0.48	0.48	0.48	0.42	0.42	0.42	0.42	0.42	0.42
Volume/Cap:	0.90	0.41	0.41	0.08	0.08	0.08	0.90	0.90	0.90	0.05	0.05	0.05
Delay/Veh:	26.5	10.2	10.2	8.4	8.4	8.4	30.9	30.9	30.9	10.4	10.4	10.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.5	10.2	10.2	8.4	8.4	8.4	30.9	30.9	30.9	10.4	10.4	10.4
LOS by Move:	C	B	B	A	A	A	C	C	C	B	B	B
HCM2kAvgQ:	273	75	75	17	17	17	327	327	327	10	10	10

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1044: Main St / H St



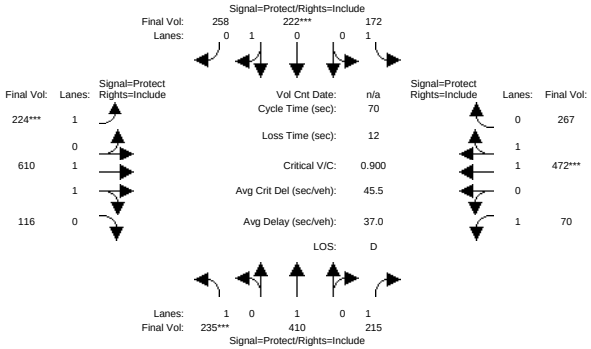
Street Name:	Main Street									H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	639	288	7	14	226	15	13	142	571	17	35	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	639	288	7	14	226	15	13	142	571	17	35	17
Added Vol:	5	1	0	0	3	0	0	0	15	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	644	289	7	14	229	15	13	142	586	17	35	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	644	289	7	14	229	15	13	142	586	17	35	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	644	289	7	14	229	15	13	142	586	17	35	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	644	289	7	14	229	15	13	142	586	17	35	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.62	0.62	0.62	0.85	0.85	0.85	0.89	0.89	0.89	0.84	0.84	0.84
Lanes:	1.00	0.98	0.02	0.11	1.77	0.12	0.02	0.19	0.79	0.25	0.51	0.24
Final Sat.:	1187	1158	28	176	2877	188	30	324	1336	392	806	392
Capacity Analysis Module:												
Vol/Sat:	0.54	0.25	0.25	0.08	0.08	0.08	0.44	0.44	0.44	0.04	0.04	0.04
Crit Moves:	****							****				
Green/Cycle:	0.51	0.51	0.51	0.51	0.51	0.51	0.41	0.41	0.41	0.41	0.41	0.41
Volume/Cap:	1.07	0.49	0.49	0.16	0.16	0.16	1.07	1.07	1.07	0.11	0.11	0.11
Delay/Veh:	68.1	12.2	12.2	9.9	9.9	9.9	75.4	75.4	75.4	13.7	13.7	13.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	68.1	12.2	12.2	9.9	9.9	9.9	75.4	75.4	75.4	13.7	13.7	13.7
LOS by Move:	E	B	B	A	A	A	E	E	E	B	B	B
HCM2kAvgQ:	548	112	112	42	42	42	643	643	643	25	25	25

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1046: Main St / G St



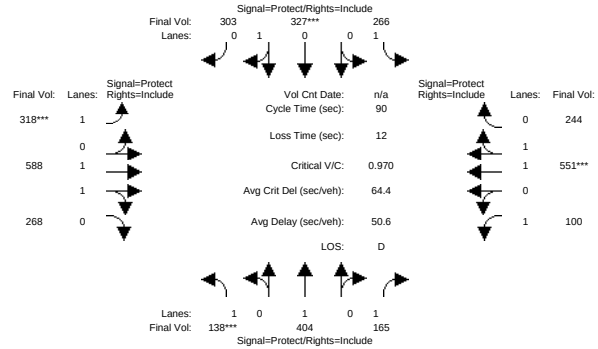
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	235	410	214	166	222	252	224	609	116	70	472	256
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	410	214	166	222	252	224	609	116	70	472	256
Added Vol:	0	0	1	6	0	6	0	1	0	0	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	235	410	215	172	222	258	224	610	116	70	472	267
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	235	410	215	172	222	258	224	610	116	70	472	267
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	410	215	172	222	258	224	610	116	70	472	267
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	410	215	172	222	258	224	610	116	70	472	267
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.00	1.00	1.00	0.46	0.54	1.00	1.68	0.32	1.00	1.28	0.72
Final Sat.:	1805	1900	1615	1805	808	939	1805	2960	563	1805	2181	1234
Capacity Analysis Module:												
Vol/Sat:	0.13	0.22	0.13	0.10	0.27	0.27	0.12	0.21	0.21	0.04	0.22	0.22
Crit Moves:	****				****		****				****	
Green/Cycle:	0.14	0.31	0.31	0.14	0.31	0.31	0.14	0.25	0.25	0.12	0.24	0.24
Volume/Cap:	0.90	0.70	0.43	0.67	0.90	0.90	0.90	0.81	0.81	0.31	0.90	0.90
Delay/Veh:	60.3	25.2	20.0	35.1	41.4	41.4	61.6	30.0	30.0	28.8	38.6	38.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.3	25.2	20.0	35.1	41.4	41.4	61.6	30.0	30.0	28.8	38.6	38.6
LOS by Move:	E	C	B	D	D	D	E	C	C	C	D	D
HCM2kAvgQ:	213	229	102	92	289	289	144	208	208	34	240	240

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1046: Main St / G St



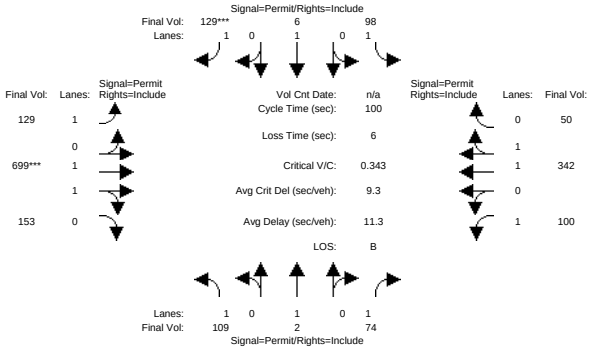
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	138	404	165	255	327	296	318	588	268	99	549	238
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	138	404	165	255	327	296	318	588	268	99	549	238
Added Vol:	0	0	0	11	0	7	0	0	0	1	2	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	138	404	165	266	327	303	318	588	268	100	551	244
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	138	404	165	266	327	303	318	588	268	100	551	244
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	138	404	165	266	327	303	318	588	268	100	551	244
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	138	404	165	266	327	303	318	588	268	100	551	244
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.91	0.91	0.95	0.91	0.91
Lanes:	1.00	1.00	1.00	1.00	0.52	0.48	1.00	1.37	0.63	1.00	1.39	0.61
Final Sat.:	1805	1900	1615	1805	915	848	1805	2363	1077	1805	2387	1057
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.10	0.15	0.36	0.36	0.18	0.25	0.25	0.06	0.23	0.23
Crit Moves:	****				****		****				****	
Green/Cycle:	0.08	0.26	0.26	0.18	0.37	0.37	0.18	0.32	0.32	0.10	0.24	0.24
Volume/Cap:	0.97	0.81	0.39	0.81	0.97	0.97	0.97	0.78	0.78	0.55	0.97	0.97
Delay/Veh:	107.5	40.2	27.7	48.7	55.8	55.8	78.1	31.3	31.3	42.3	58.2	58.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	107.5	40.2	27.7	48.7	55.8	55.8	78.1	31.3	31.3	42.3	58.2	58.2
LOS by Move:	F	D	C	D	E	E	E	C	C	D	E	E
HCM2kAvgQ:	183	318	100	191	521	521	271	290	290	67	356	356

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1047: 18th St / G St



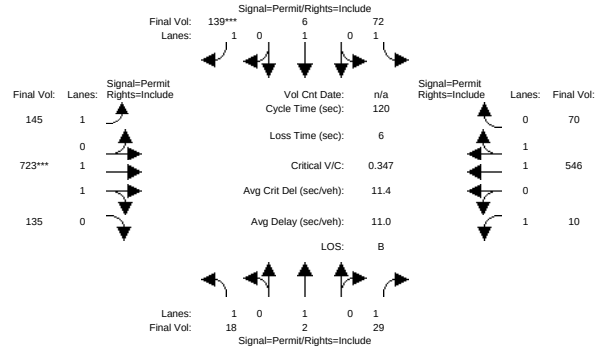
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	109	2	74	98	6	128	126	693	153	100	331	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	109	2	74	98	6	128	126	693	153	100	331	50
Added Vol:	0	0	0	0	0	1	3	6	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	109	2	74	98	6	129	129	699	153	100	342	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	109	2	74	98	6	129	129	699	153	100	342	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	109	2	74	98	6	129	129	699	153	100	342	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	109	2	74	98	6	129	129	699	153	100	342	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.85	0.77	1.00	0.85	0.51	0.92	0.92	0.30	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.64	0.36	1.00	1.74	0.26
Final Sat.:	1452	1900	1615	1457	1900	1615	975	2882	631	564	3090	452
Capacity Analysis Module:												
Vol/Sat:	0.08	0.00	0.05	0.07	0.00	0.08	0.13	0.24	0.24	0.18	0.11	0.11
Crit Moves:						****		****				
Green/Cycle:	0.23	0.23	0.23	0.23	0.23	0.23	0.71	0.71	0.71	0.71	0.71	0.71
Volume/Cap:	0.32	0.00	0.20	0.29	0.01	0.34	0.19	0.34	0.34	0.25	0.16	0.16
Delay/Veh:	32.4	29.5	31.1	32.0	29.5	32.5	5.1	5.7	5.7	5.5	4.9	4.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.4	29.5	31.1	32.0	29.5	32.5	5.1	5.7	5.7	5.5	4.9	4.9
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	74	1	47	66	4	88	32	126	126	33	52	52

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION A_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1047: 18th St / G St



Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	18	2	29	72	6	136	144	712	135	10	540	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	18	2	29	72	6	136	144	712	135	10	540	70
Added Vol:	0	0	0	0	0	3	1	11	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	18	2	29	72	6	139	145	723	135	10	546	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	2	29	72	6	139	145	723	135	10	546	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	2	29	72	6	139	145	723	135	10	546	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	2	29	72	6	139	145	723	135	10	546	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.85	0.77	1.00	0.85	0.39	0.93	0.93	0.29	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.69	0.31	1.00	1.77	0.23
Final Sat.:	1452	1900	1615	1457	1900	1615	739	2969	554	555	3145	403
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.02	0.05	0.00	0.09	0.20	0.24	0.24	0.02	0.17	0.17
Crit Moves:						****		****				
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.70	0.70	0.70	0.70	0.70	0.70
Volume/Cap:	0.05	0.00	0.07	0.20	0.01	0.35	0.28	0.35	0.35	0.03	0.25	0.25
Delay/Veh:	34.4	34.0	34.6	36.0	34.0	37.6	6.9	7.1	7.1	5.5	6.5	6.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.4	34.0	34.6	36.0	34.0	37.6	6.9	7.1	7.1	5.5	6.5	6.5
LOS by Move:	C	C	C	D	C	D	A	A	A	A	A	A
HCM2kAvgQ:	13	1	20	54	4	108	48	155	155	3	106	106

Note: Queue reported is the distance per lane in feet.

MERCED STATION ANALYSIS

INTERSECTION

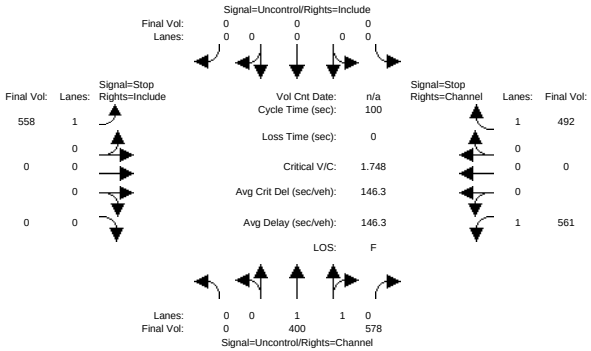
2035 BUILD_OPTION-B CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1001: 16th St / SR-59




```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  371   570     0    0     0   558    0     0   544    0   492
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  371   570     0    0     0   558    0     0   544    0   492
Added Vol:      0   29     8     0    0     0     0    0     0    17    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  400   578     0    0     0   558    0     0   561    0   492
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  400   578     0    0     0   558    0     0   561    0   492
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  400   578     0    0     0   558    0     0   561    0   492
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   200 xxxx xxxxx   689 xxxx   200
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   763 xxxx xxxxx   363 xxxx   846
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   319 xxxx xxxxx   363 xxxx   846
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  1.75 xxxx  xxxx  1.55 xxxx  0.58
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   893 xxxx xxxxx   787 xxxx  95.9
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 377.3 xxxx xxxxx 286.5 xxxx  15.0
LOS by Move:    *    *     *     *    *     *     F    *     *     F    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            377.3           159.7
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  400   578     0    0     0   558    0     0   561    0   492
ApproachDel:    xxxxxx           xxxxxx            377.3           159.7
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=58.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=558]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2589]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=46.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1053]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2589]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

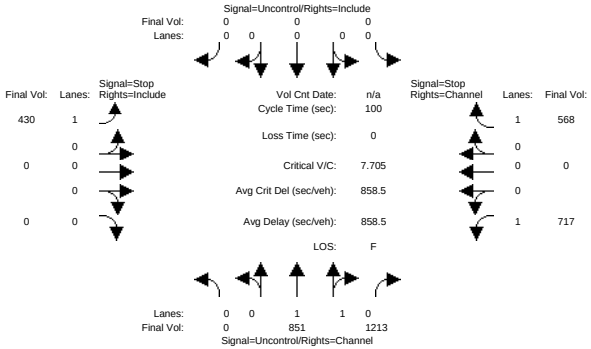
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  400   578     0    0     0   558    0     0   561    0   492
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             978
Minor Approach Volume:           1053
Minor Approach Volume Threshold: 384
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1001: 16th St / SR-59




```
Street Name:            16th Street                     SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  817  1196     0    0     0   430    0     0   709    0   568
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  817  1196     0    0     0   430    0     0   709    0   568
Added Vol:      0   34    17     0    0     0     0    0     0     8    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  851  1213     0    0     0   430    0     0   717    0   568
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  851  1213     0    0     0   430    0     0   717    0   568
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  851  1213     0    0     0   430    0     0   717    0   568
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   426 xxxx xxxxx  1458 xxxx   426
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   543 xxxx xxxxx   109 xxxx   633
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx    56 xxxx xxxxx   109 xxxx   633
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  7.70 xxxx  xxxx  6.60 xxxx  0.90
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  1250 xxxx xxxxx  1986 xxxx 277.0
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  3159 xxxx xxxxx  2598 xxxx  40.8
LOS by Move:    *    *     *     *    *     *     F    *     *     F    *     E
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           3159.0           1467.5
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  851  1213     0    0     0   430    0     0   717    0   568
ApproachDel:    xxxxxx           xxxxxx           3159.0           1467.5
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=377.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=430]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3779]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=523.8]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1285]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3779]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

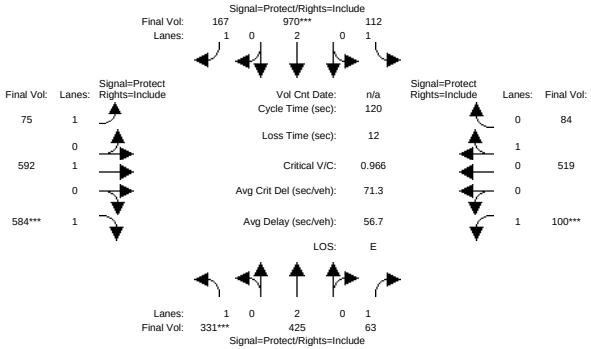
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1001 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  851  1213     0    0     0   430    0     0   717    0   568
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2064
Minor Approach Volume:           1285
Minor Approach Volume Threshold: 62 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

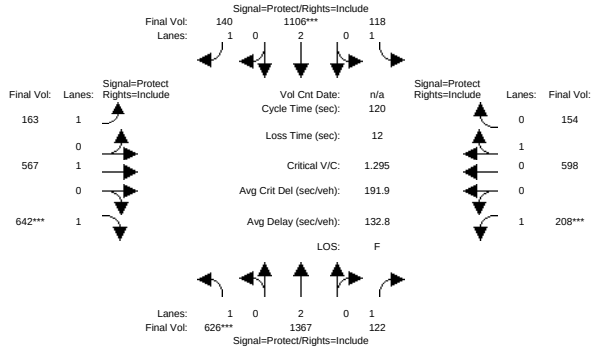



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     331  425    63   112  970   167    75  584   584   100  502    84
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  331  425    63   112  970   167    75  584   584   100  502    84
Added Vol:      0    0     0     0    0     0     0    8     0     0   17     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  331  425    63   112  970   167    75  592   584   100  519    84
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   331  425    63   112  970   167    75  592   584   100  519    84
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  331  425    63   112  970   167    75  592   584   100  519    84
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  331  425    63   112  970   167    75  592   584   100  519    84
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.98  0.98
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.86  0.14
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1601   259
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.12  0.04  0.06 0.27  0.10  0.04 0.31  0.36  0.06 0.32  0.32
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.19 0.31  0.31  0.16 0.28  0.28  0.07 0.37  0.37  0.06 0.37  0.37
Volume/Cap:  0.97 0.38  0.13  0.38 0.97  0.37  0.63 0.83  0.97  0.95 0.88  0.88
Delay/Veh:   87.9 33.0  30.2  45.8 63.5  35.4  65.0 42.5  65.2 127.8 48.8  48.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  87.9 33.0  30.2  45.8 63.5  35.4  65.0 42.5  65.2 127.8 48.8  48.8
LOS by Move:    F    C     C     D    E     D     E    D     E     F    D     D
HCM2kAvgQ:    359  155    40    99  594   127    95  547   662   164  598   598
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

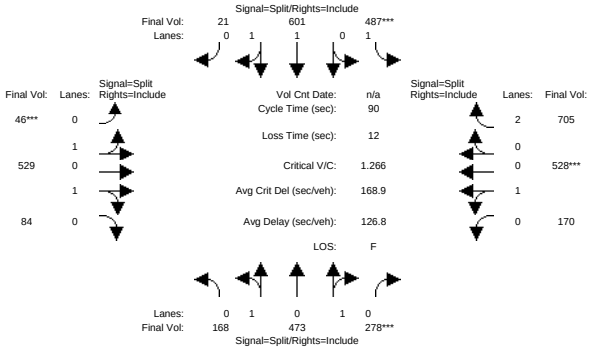



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     626 1367   122   118 1106   140   163  550   642   208  590   154
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  626 1367   122   118 1106   140   163  550   642   208  590   154
Added Vol:      0    0     0     0    0     0     0   17     0     0    8     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  626 1367   122   118 1106   140   163  567   642   208  598   154
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   626 1367   122   118 1106   140   163  567   642   208  598   154
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  626 1367   122   118 1106   140   163  567   642   208  598   154
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  626 1367   122   118 1106   140   163  567   642   208  598   154
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.97  0.97
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.80  0.20
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1464   377
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35 0.38  0.08  0.07 0.31  0.09  0.09 0.30  0.40  0.12 0.41  0.41
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.27 0.43  0.43  0.07 0.24  0.24  0.07 0.31  0.31  0.09 0.32  0.32
Volume/Cap:  1.30 0.88  0.18  0.88 1.30  0.37  1.26 0.97  1.30  1.30 1.26  1.26
Delay/Veh:  191.6 37.6  21.2  99.1  187  38.9 220.6 71.4 188.9 225.8  171 170.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 191.6 37.6  21.2  99.1  187  38.9 220.6 71.4 188.9 225.8  171 170.7
LOS by Move:    F    D     C     F    F     D     F    E     F     F    F     F
HCM2kAvgQ:    973  562    63   172  990   112   313  654  1084   395 1212  1212
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

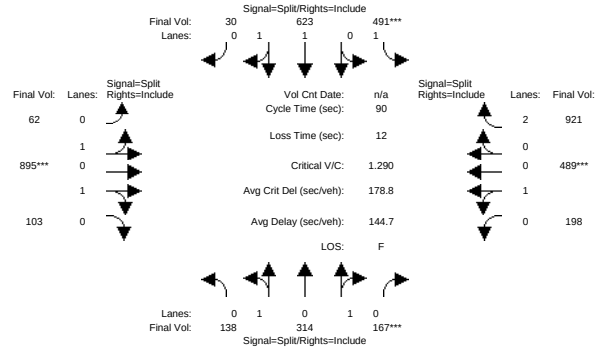



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     113  229   233  484  585    19   45  513    84  170  520   695
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  113  229   233  484  585    19   45  513    84  170  520   695
Added Vol:     55  244    45    3   16     2    1   16     0    0    8    10
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  168  473   278  487  601    21   46  529    84  170  528   705
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   168  473   278  487  601    21   46  529    84  170  528   705
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  168  473   278  487  601    21   46  529    84  170  528   705
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  168  473   278  487  601    21   46  529    84  170  528   705
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.90 0.90  0.90 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.37 1.03  0.60 1.00 1.93  0.07 0.14 1.61  0.25 0.24 0.76  2.00
Final Sat.:   625 1758  1034 1805 3471   121  246 2834   450  457 1420  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.27 0.27  0.27 0.27 0.17  0.17 0.19 0.19  0.19 0.37 0.37  0.25
Crit Moves:             ****  ****             ****                  ****
Green/Cycle: 0.21 0.21  0.21 0.21 0.21  0.21 0.15 0.15  0.15 0.29 0.29  0.29
Volume/Cap:  1.27 1.27  1.27 1.27 0.81  0.81 1.27 1.27  1.27 1.27 1.27  0.84
Delay/Veh:  166.0  166 166.0 174.3 40.3  40.3 172.8  173 172.8 165.4  165  37.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 166.0  166 166.0 174.3 40.3  40.3 172.8  173 172.8 165.4  165  37.8
LOS by Move:    F    F     F    F    D     D    F    F     F    F    F     D
HCM2kAvgQ:    712  712   712  717  275   275  531  531   531  993  993   331
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

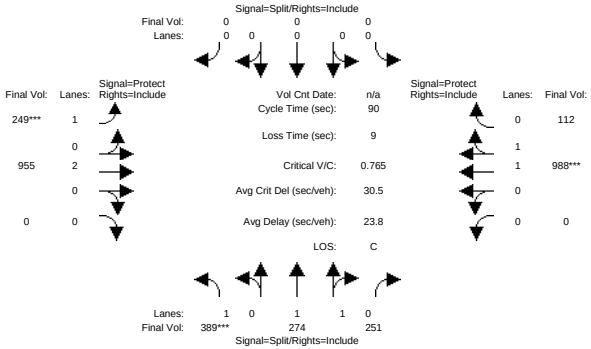



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     104  172   156  489  615    29   60  842   103  198  484   901
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  104  172   156  489  615    29   60  842   103  198  484   901
Added Vol:     34  142    11    2    8     1    2   53     0    0    5    20
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  138  314   167  491  623    30   62  895   103  198  489   921
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   138  314   167  491  623    30   62  895   103  198  489   921
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  138  314   167  491  623    30   62  895   103  198  489   921
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  138  314   167  491  623    30   62  895   103  198  489   921
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.90 0.90  0.90 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.45 1.01  0.54 1.00 1.91  0.09 0.12 1.69  0.19 0.29 0.71  2.00
Final Sat.:   764 1739   925 1805 3420   165  207 2993   344  540 1333  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18  0.18 0.27 0.18  0.18 0.30 0.30  0.30 0.37 0.37  0.32
Crit Moves:             ****  ****             ****                  ****
Green/Cycle: 0.14 0.14  0.14 0.21 0.21  0.21 0.23 0.23  0.23 0.28 0.28  0.28
Volume/Cap:  1.29 1.29  1.29 1.29 0.86  0.86 1.29 1.29  1.29 1.29 1.29  1.14
Delay/Veh:  184.3  184 184.3 184.6 44.4  44.4 174.3  174 174.3 176.5  176 110.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 184.3  184 184.3 184.6 44.4  44.4 174.3  174 174.3 176.5  176 110.0
LOS by Move:    F    F     F    F    D     D    F    F     F    F    F     F
HCM2kAvgQ:    515  515   515  741  307   307  831  831   831 1006 1006   653
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

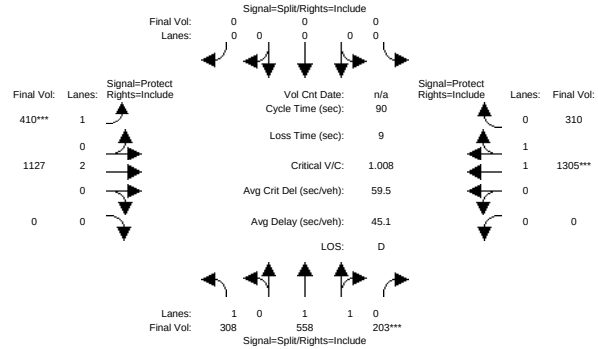



```
Street Name:    14th St - SR-99 NB Onramp                V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     387  147   251     0    0     0   238  891     0     0  971    92
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  387  147   251     0    0     0   238  891     0     0  971    92
Added Vol:      2  127     0     0    0     0    11   64     0     0   17    20
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  389  274   251     0    0     0   249  955     0     0  988   112
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   389  274   251     0    0     0   249  955     0     0  988   112
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  389  274   251     0    0     0   249  955     0     0  988   112
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  389  274   251     0    0     0   249  955     0     0  988   112
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.88  0.88  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       1.00 1.04  0.96  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.80  0.20
Final Sat.:  1615 1748  1602     0    0     0  1805 3610     0     0 3194   362
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24 0.16  0.16  0.00 0.00  0.00  0.14 0.26  0.00  0.00 0.31  0.31
Crit Moves:  ****                             ****                    ****
Green/Cycle: 0.32 0.32  0.32  0.00 0.00  0.00  0.18 0.58  0.00  0.00 0.40  0.40
Volume/Cap:  0.76 0.50  0.50  0.00 0.00  0.00  0.76 0.45  0.00  0.00 0.76  0.76
Delay/Veh:   34.6 25.4  25.4   0.0  0.0   0.0  45.4 10.7   0.0   0.0 25.6  25.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  34.6 25.4  25.4   0.0  0.0   0.0  45.4 10.7   0.0   0.0 25.6  25.6
LOS by Move:    C    C     C     A    A     A     D    B     A     A    C     C
HCM2kAvgQ:    288  164   164     0    0     0   212  198     0     0  350   350
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

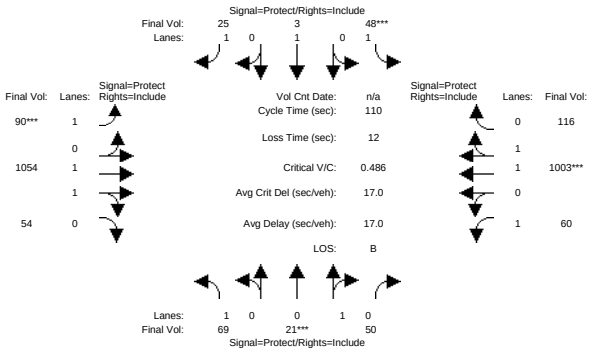



```
Street Name:    14th St - SR-99 NB Onramp                V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     299  331   203     0    0     0   365 1083     0     0 1289   272
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  299  331   203     0    0     0   365 1083     0     0 1289   272
Added Vol:      9  227     0     0    0     0    45   44     0     0   16    38
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  308  558   203     0    0     0   410 1127     0     0 1305   310
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   308  558   203     0    0     0   410 1127     0     0 1305   310
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  308  558   203     0    0     0   410 1127     0     0 1305   310
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  308  558   203     0    0     0   410 1127     0     0 1305   310
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.91  0.91  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.92  0.92
Lanes:       1.00 1.47  0.53  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.62  0.38
Final Sat.:  1615 2541   924     0    0     0  1805 3610     0     0 2832   673
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.22  0.22  0.00 0.00  0.00  0.23 0.31  0.00  0.00 0.46  0.46
Crit Moves:             ****                    ****                    ****
Green/Cycle: 0.22 0.22  0.22  0.00 0.00  0.00  0.23 0.68  0.00  0.00 0.46  0.46
Volume/Cap:  0.88 1.01  1.01  0.00 0.00  0.00  1.01 0.46  0.00  0.00 1.01  1.01
Delay/Veh:   55.0 70.0  70.0   0.0  0.0   0.0  81.6  6.7   0.0   0.0 49.0  49.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  55.0 70.0  70.0   0.0  0.0   0.0  81.6  6.7   0.0   0.0 49.0  49.0
LOS by Move:    E    E     E     A    A     A     F    A     A     A    D     D
HCM2kAvgQ:    287  432   432     0    0     0   441  192     0     0  707   707
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1005: 15th St / V St



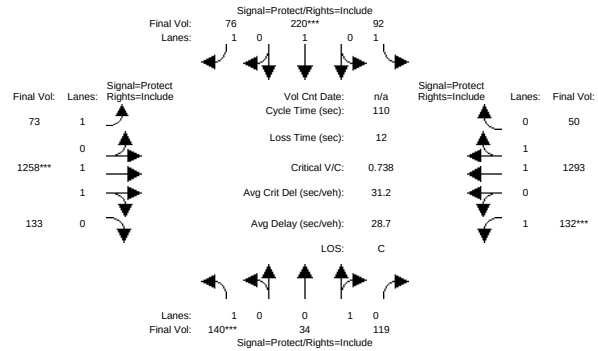
Street Name:	15th Street									V Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	69		21	50	48		3	25	90		990	54	60		967	116
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	69		21	50	48		3	25	90		990	54	60		967	116
Added Vol:	0		0	0	0		0	0	0		64	0	0		36	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	69		21	50	48		3	25	90		1054	54	60		1003	116
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	69		21	50	48		3	25	90		1054	54	60		1003	116
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	69		21	50	48		3	25	90		1054	54	60		1003	116
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	69		21	50	48		3	25	90		1054	54	60		1003	116
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.89	0.89	0.95		1.00	0.85	0.95		0.94	0.94	0.95		0.93	0.93
Lanes:	1.00		0.30	0.70	1.00		1.00	1.00	1.00		1.90	0.10	1.00		1.79	0.21
Final Sat.:	1805		502	1196	1805		1900	1615	1805		3410	175	1805		3184	368
Capacity Analysis Module:																
Vol/Sat:	0.04		0.04	0.04	0.03		0.00	0.02	0.05		0.31	0.31	0.03		0.32	0.32
Crit Moves:			****		****				****						****	
Green/Cycle:	0.06		0.09	0.09	0.06		0.09	0.09	0.10		0.61	0.61	0.13		0.64	0.64
Volume/Cap:	0.60		0.46	0.46	0.42		0.02	0.17	0.50		0.51	0.51	0.26		0.50	0.50
Delay/Veh:	58.7		49.6	49.6	52.0		45.6	46.7	48.9		12.3	12.3	44.1		10.8	10.8
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	58.7		49.6	49.6	52.0		45.6	46.7	48.9		12.3	12.3	44.1		10.8	10.8
LOS by Move:	E		D	D	D		D	D	D		B	B	D		B	B
HCM2kAvgQ:	82		71	71	52		3	23	71		270	270	42		241	241

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1005: 15th St / V St



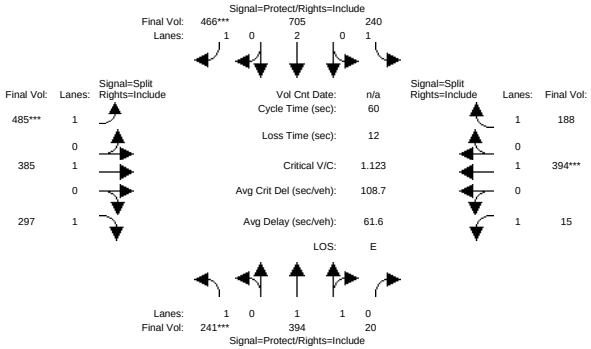
Street Name:	15th Street									V Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	140		34	119	92		220	76	73		1214	133	132		1239	50
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	140		34	119	92		220	76	73		1214	133	132		1239	50
Added Vol:	0		0	0	0		0	0	0		44	0	0		54	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	140		34	119	92		220	76	73		1258	133	132		1293	50
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	140		34	119	92		220	76	73		1258	133	132		1293	50
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	140		34	119	92		220	76	73		1258	133	132		1293	50
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	140		34	119	92		220	76	73		1258	133	132		1293	50
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.88	0.88	0.95		1.00	0.85	0.95		0.94	0.94	0.95		0.94	0.94
Lanes:	1.00		0.22	0.78	1.00		1.00	1.00	1.00		1.81	0.19	1.00		1.93	0.07
Final Sat.:	1805		373	1305	1805		1900	1615	1805		3219	340	1805		3455	134
Capacity Analysis Module:																
Vol/Sat:	0.08		0.09	0.09	0.05		0.12	0.05	0.04		0.39	0.39	0.07		0.37	0.37
Crit Moves:	****						****				****		****			
Green/Cycle:	0.11		0.15	0.15	0.11		0.16	0.16	0.09		0.53	0.53	0.10		0.54	0.54
Volume/Cap:	0.74		0.59	0.59	0.47		0.74	0.30	0.44		0.74	0.74	0.74		0.70	0.70
Delay/Veh:	61.9		46.9	46.9	48.0		53.5	41.7	49.2		21.5	21.5	63.1		19.9	19.9
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	61.9		46.9	46.9	48.0		53.5	41.7	49.2		21.5	21.5	63.1		19.9	19.9
LOS by Move:	E		D	D	D		D	D	D		C	C	E		B	B
HCM2kAvgQ:	156		142	142	87		217	62	57		478	478	100		403	403

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1006: 16th St / V St



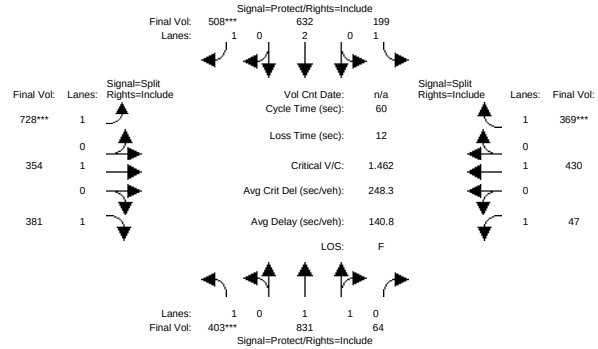
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	212	358	17	239	691	464	485	363	256	14	388	188
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	212	358	17	239	691	464	485	363	256	14	388	188
Added Vol:	29	36	3	1	14	2	0	22	41	1	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	241	394	20	240	705	466	485	385	297	15	394	188
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	241	394	20	240	705	466	485	385	297	15	394	188
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	241	394	20	240	705	466	485	385	297	15	394	188
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	241	394	20	240	705	466	485	385	297	15	394	188
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.90	0.10	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3412	173	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.12	0.12	0.13	0.20	0.29	0.27	0.20	0.18	0.01	0.21	0.12
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.21	0.21	0.17	0.26	0.26	0.24	0.24	0.24	0.18	0.18	0.18
Volume/Cap:	1.12	0.55	0.55	0.80	0.76	1.12	1.12	0.85	0.77	0.04	1.12	0.63
Delay/Veh:	124.7	22.1	22.1	37.8	24.3	104.2	104.0	35.5	30.3	20.2	110	26.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	124.7	22.1	22.1	37.8	24.3	104.2	104.0	35.5	30.3	20.2	110	26.9
LOS by Move:	F	C	C	D	C	F	F	D	C	C	F	C
HCM2kAvgQ:	214	89	89	168	210	480	417	187	136	6	419	111

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1006: 16th St / V St



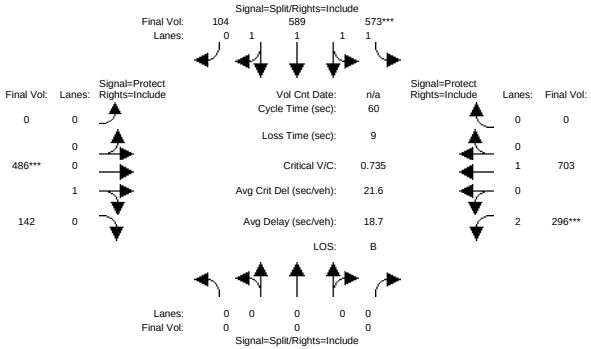
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	371	783	63	199	624	508	726	348	344	44	408	368
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	371	783	63	199	624	508	726	348	344	44	408	368
Added Vol:	32	48	1	0	8	0	2	6	37	3	22	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	403	831	64	199	632	508	728	354	381	47	430	369
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	403	831	64	199	632	508	728	354	381	47	430	369
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	403	831	64	199	632	508	728	354	381	47	430	369
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	403	831	64	199	632	508	728	354	381	47	430	369
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.86	0.14	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3315	255	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.22	0.25	0.25	0.11	0.18	0.31	0.40	0.19	0.24	0.03	0.23	0.23
Crit Moves:	****					****	****					****
Green/Cycle:	0.15	0.25	0.25	0.12	0.21	0.21	0.27	0.27	0.27	0.17	0.17	0.17
Volume/Cap:	1.49	1.02	1.02	0.94	0.83	1.49	1.49	0.69	0.87	0.16	1.36	1.37
Delay/Veh:	262.9	58.8	58.8	72.8	30.0	257.4	251.3	23.4	37.6	21.6	205	213.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	262.9	58.8	58.8	72.8	30.0	257.4	251.3	23.4	37.6	21.6	205	213.8
LOS by Move:	F	E	E	E	C	F	F	C	D	C	F	F
HCM2kAvgQ:	589	293	293	190	218	799	1063	144	180	21	611	540

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1007: 13th St / R St

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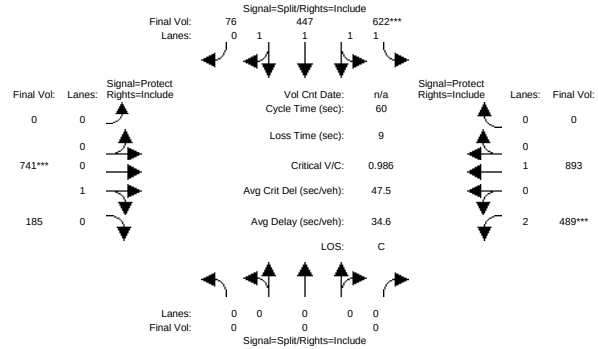
Street Name:            13th Street                     R Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0   10   10   10    0   10   10    7   10    0
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  537  365  104    0  486  142  294  703    0
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:    0    0     0  537  365  104    0  486  142  294  703    0
Added Vol:      0    0     0   36  224    0    0    0    0    2    0    0
PasserByVol:    0    0     0    0    0    0    0    0    0    0    0    0
Initial Fut:    0    0     0  573  589  104    0  486  142  296  703    0
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:     0    0     0  573  589  104    0  486  142  296  703    0
Reduct Vol:     0    0     0    0    0    0    0    0    0    0    0    0
Reduced Vol:    0    0     0  573  589  104    0  486  142  296  703    0
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:    0    0     0  573  589  104    0  486  142  296  703    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  1.00 1.00  1.00 0.84 0.84 0.84 1.00 0.97 0.97 0.92 1.00 1.00
Lanes:       0.00 0.00  0.00 1.81 1.86 0.33 0.00 0.77 0.23 2.00 1.00 0.00
Final Sat.:     0    0     0 2882 2963  523    0 1425  416 3502 1900    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.20 0.20 0.20 0.00 0.34 0.34 0.08 0.37 0.00
Crit Moves:                  ****                ****        ****
Green/Cycle: 0.00 0.00  0.00 0.27 0.27 0.27 0.00 0.46 0.46 0.12 0.58 0.00
Volume/Cap:  0.00 0.00  0.00 0.74 0.74 0.74 0.00 0.74 0.74 0.72 0.64 0.00
Delay/Veh:    0.0  0.0   0.0 21.7 21.7 21.7  0.0 16.5 16.5 31.9  9.7  0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:   0.0  0.0   0.0 21.7 21.7 21.7  0.0 16.5 16.5 31.9  9.7  0.0
LOS by Move:    A    A     A    C    C    C    A    B    B    C    A    A
HCM2kAvgQ:      0    0     0  192  192  192    0  277  277   73  217    0
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1007: 13th St / R St

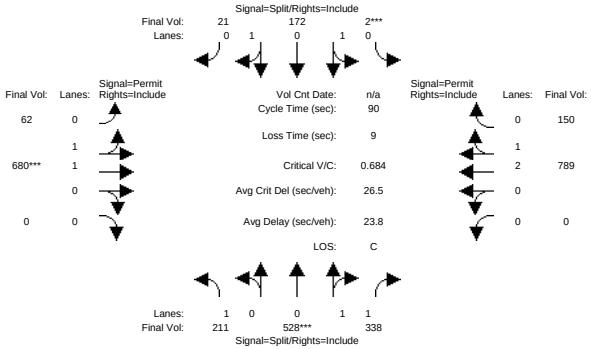



```
Street Name:            13th Street                     R Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0   10   10   10    0   10   10    7   10    0
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  591  328   76    0  741  185  488  893    0
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:    0    0     0  591  328   76    0  741  185  488  893    0
Added Vol:      0    0     0   31  119    0    0    0    0    1    0    0
PasserByVol:    0    0     0    0    0    0    0    0    0    0    0    0
Initial Fut:    0    0     0  622  447   76    0  741  185  489  893    0
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:     0    0     0  622  447   76    0  741  185  489  893    0
Reduct Vol:     0    0     0    0    0    0    0    0    0    0    0    0
Reduced Vol:    0    0     0  622  447   76    0  741  185  489  893    0
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:    0    0     0  622  447   76    0  741  185  489  893    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  1.00 1.00  1.00 0.83 0.83 0.83 1.00 0.97 0.97 0.92 1.00 1.00
Lanes:       0.00 0.00  0.00 2.00 1.71 0.29 0.00 0.80 0.20 2.00 1.00 0.00
Final Sat.:     0    0     0 3146 2689  457    0 1479  369 3502 1900    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.20 0.17 0.17 0.00 0.50 0.50 0.14 0.47 0.00
Crit Moves:                  ****                ****        ****
Green/Cycle: 0.00 0.00  0.00 0.20 0.20 0.20 0.00 0.51 0.51 0.14 0.65 0.00
Volume/Cap:  0.00 0.00  0.00 0.99 0.83 0.83 0.00 0.99 0.99 0.99 0.72 0.00
Delay/Veh:    0.0  0.0   0.0 46.9 27.4 27.4  0.0 40.5 40.5 62.4  9.1  0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:   0.0  0.0   0.0 46.9 27.4 27.4  0.0 40.5 40.5 62.4  9.1  0.0
LOS by Move:    A    A     A    D    C    C    A    D    D    E    A    A
HCM2kAvgQ:      0    0     0  298  198  198    0  630  630  161  278    0
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

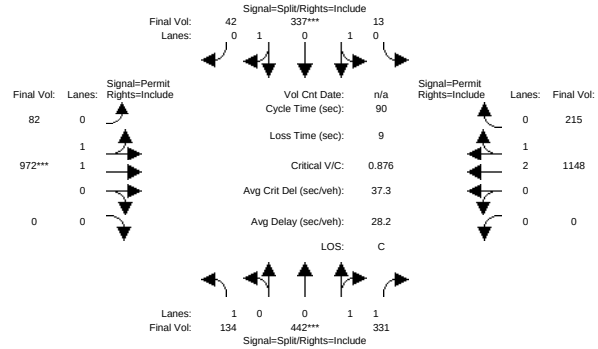



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     211  528   337    2   69    21   62  644     0    0  787   136
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  211  528   337    2   69    21   62  644     0    0  787   136
Added Vol:      0    0     1    0  103     0    0   36     0    0    2    14
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  211  528   338    2  172    21   62  680     0    0  789   150
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   211  528   338    2  172    21   62  680     0    0  789   150
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  211  528   338    2  172    21   62  680     0    0  789   150
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  211  528   338    2  172    21   62  680     0    0  789   150
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.93 0.93  0.93 0.73 0.73  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.02 1.76  0.22 0.17 1.83  0.00 0.00 2.52  0.48
Final Sat.:  1805 1790  1790   36 3133   383  233 2557     0    0 4254   809
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.30  0.19 0.05 0.05  0.05 0.27 0.27  0.00 0.00 0.19  0.19
Crit Moves:        ****        ****            ****
Green/Cycle: 0.41 0.41  0.41 0.11 0.11  0.11 0.37 0.37  0.00 0.00 0.37  0.37
Volume/Cap:  0.28 0.71  0.46 0.49 0.49  0.49 0.71 0.71  0.00 0.00 0.50  0.50
Delay/Veh:   17.7 23.8  19.2 38.6 38.6  38.6 26.3 26.3   0.0  0.0 21.9  21.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  17.7 23.8  19.2 38.6 38.6  38.6 26.3 26.3   0.0  0.0 21.9  21.9
LOS by Move:    B    C     B    D    D     D    C    C     A    A    C     C
HCM2kAvgQ:     97  331   173   83   83    83  225  225     0    0  177   177
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

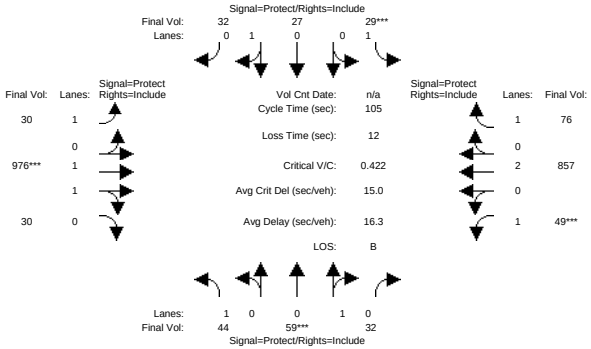



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     134  442   331   13  165    42   82  941     0    0 1147   198
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  134  442   331   13  165    42   82  941     0    0 1147   198
Added Vol:      0    0     0    0  172     0    0   31     0    0    1    17
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  134  442   331   13  337    42   82  972     0    0 1148   215
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   134  442   331   13  337    42   82  972     0    0 1148   215
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  134  442   331   13  337    42   82  972     0    0 1148   215
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  134  442   331   13  337    42   82  972     0    0 1148   215
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.93 0.93  0.93 0.65 0.65  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.07 1.72  0.21 0.16 1.84  0.00 0.00 2.53  0.47
Final Sat.:  1805 1778  1778  118 3048   380  191 2264     0    0 4264   799
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.25  0.19 0.11 0.11  0.11 0.43 0.43  0.00 0.00 0.27  0.27
Crit Moves:        ****        ****            ****
Green/Cycle: 0.28 0.28  0.28 0.13 0.13  0.13 0.49 0.49  0.00 0.00 0.49  0.49
Volume/Cap:  0.26 0.88  0.66 0.88 0.88  0.88 0.88 0.88  0.00 0.00 0.55  0.55
Delay/Veh:   25.2 40.6  29.7 56.0 56.0  56.0 28.0 28.0   0.0  0.0 16.3  16.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  25.2 40.6  29.7 56.0 56.0  56.0 28.0 28.0   0.0  0.0 16.3  16.3
LOS by Move:    C    D     C    E    E     E    C    C     A    A    B     B
HCM2kAvgQ:     74  376   226  216  216   216  321  321     0    0  231   231
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1009: 15th St / R St



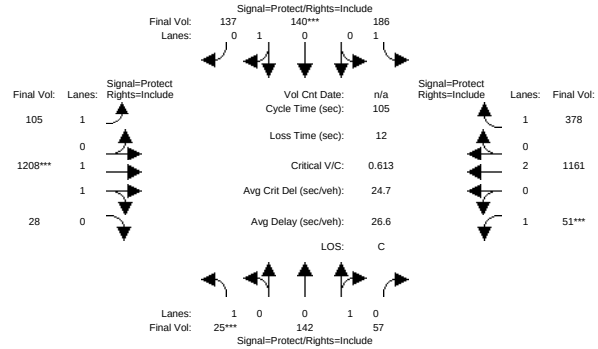
Street Name:	15th Street									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	44		59	31	29		27	32	30		939	30	46		841	76
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	44		59	31	29		27	32	30		939	30	46		841	76
Added Vol:	0		0	1	0		0	0	0		37	0	3		16	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	44		59	32	29		27	32	30		976	30	49		857	76
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	44		59	32	29		27	32	30		976	30	49		857	76
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	44		59	32	29		27	32	30		976	30	49		857	76
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	44		59	32	29		27	32	30		976	30	49		857	76
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	0.95	0.95		0.92	0.92	0.95		0.95	0.95	0.95		0.95	0.85
Lanes:	1.00		0.65	0.35	1.00		0.46	0.54	1.00		1.94	0.06	1.00		2.00	1.00
Final Sat.:	1805		1167	633	1805		799	947	1805		3488	107	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.02		0.05	0.05	0.02		0.03	0.03	0.02		0.28	0.28	0.03		0.24	0.05
Crit Moves:			****		****						****		****			
Green/Cycle:	0.07		0.12	0.12	0.07		0.11	0.11	0.15		0.64	0.64	0.07		0.55	0.55
Volume/Cap:	0.33		0.44	0.44	0.24		0.32	0.32	0.11		0.44	0.44	0.41		0.43	0.09
Delay/Veh:	47.5		44.8	44.8	47.5		44.3	44.3	38.4		9.7	9.7	49.3		14.1	11.2
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	47.5		44.8	44.8	47.5		44.3	44.3	38.4		9.7	9.7	49.3		14.1	11.2
LOS by Move:	D		D	D	D		D	D	D		A	A	D		B	B
HCM2kAvgQ:	42		80	80	28		51	51	19		205	205	37		206	28

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1009: 15th St / R St



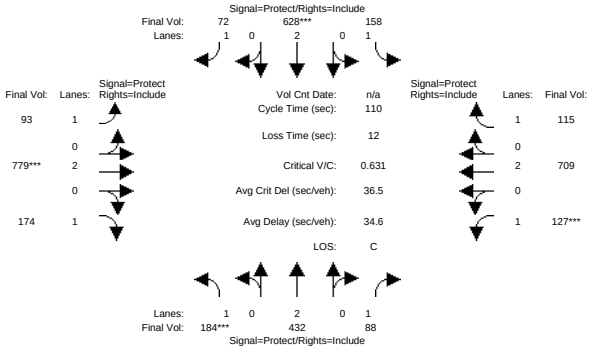
Street Name:	15th Street									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	25		142	54	186		140	137	105		1177	28	50		1143	378
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	25		142	54	186		140	137	105		1177	28	50		1143	378
Added Vol:	0		0	3	0		0	0	0		31	0	1		18	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	25		142	57	186		140	137	105		1208	28	51		1161	378
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	25		142	57	186		140	137	105		1208	28	51		1161	378
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	25		142	57	186		140	137	105		1208	28	51		1161	378
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	25		142	57	186		140	137	105		1208	28	51		1161	378
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.96	0.96	0.95		0.93	0.93	0.95		0.95	0.95	0.95		0.95	0.85
Lanes:	1.00		0.71	0.29	1.00		0.51	0.49	1.00		1.95	0.05	1.00		2.00	1.00
Final Sat.:	1805		1297	521	1805		889	870	1805		3518	82	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.01		0.11	0.11	0.10		0.16	0.16	0.06		0.34	0.34	0.03		0.32	0.23
Crit Moves:	****						****				****		****			
Green/Cycle:	0.07		0.16	0.16	0.15		0.24	0.24	0.10		0.52	0.52	0.07		0.48	0.48
Volume/Cap:	0.21		0.70	0.70	0.70		0.67	0.67	0.58		0.67	0.67	0.42		0.67	0.49
Delay/Veh:	47.2		49.6	49.6	50.7		40.4	40.4	49.9		19.7	19.7	49.5		21.7	18.8
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	47.2		49.6	49.6	50.7		40.4	40.4	49.9		19.7	19.7	49.5		21.7	18.8
LOS by Move:	D		D	D	D		D	D	D		B	B	D		C	B
HCM2kAvgQ:	24		187	187	178		228	228	77		363	363	37		356	193

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1010: 16th St / R St



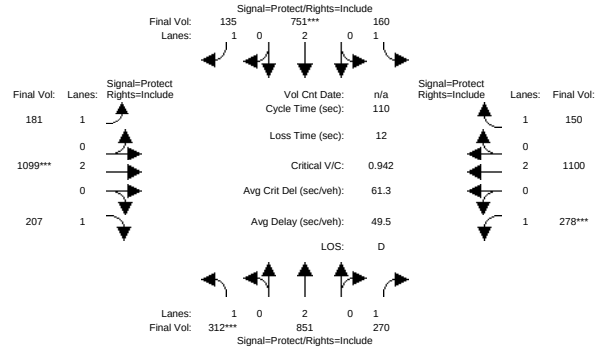
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	170	366	84	158	573	72	92	778	138	122	705	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	170	366	84	158	573	72	92	778	138	122	705	114
Added Vol:	14	66	4	0	55	0	1	1	36	5	4	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	184	432	88	158	628	72	93	779	174	127	709	115
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	184	432	88	158	628	72	93	779	174	127	709	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	432	88	158	628	72	93	779	174	127	709	115
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	184	432	88	158	628	72	93	779	174	127	709	115
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.12	0.05	0.09	0.17	0.04	0.05	0.22	0.11	0.07	0.20	0.07
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.25	0.25	0.18	0.28	0.28	0.11	0.34	0.34	0.11	0.34	0.34
Volume/Cap:	0.63	0.47	0.22	0.47	0.63	0.16	0.46	0.63	0.31	0.63	0.57	0.21
Delay/Veh:	47.5	35.3	32.8	41.1	36.2	30.4	47.5	31.4	27.0	53.0	30.2	25.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.5	35.3	32.8	41.1	36.2	30.4	47.5	31.4	27.0	53.0	30.2	25.8
LOS by Move:	D	D	C	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	170	169	60	113	234	43	72	285	104	105	253	66

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1010: 16th St / R St



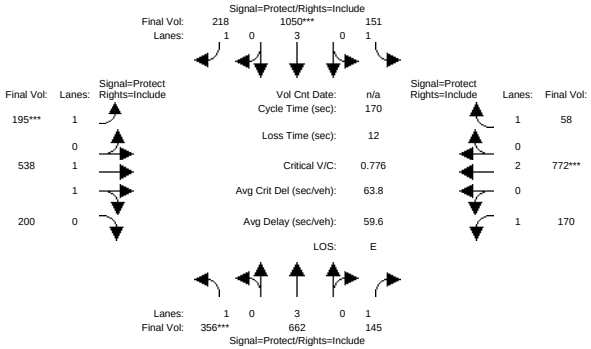
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	295	771	264	159	706	134	181	1096	176	274	1099	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	295	771	264	159	706	134	181	1096	176	274	1099	150
Added Vol:	17	80	6	1	45	1	0	3	31	4	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	312	851	270	160	751	135	181	1099	207	278	1100	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	312	851	270	160	751	135	181	1099	207	278	1100	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	312	851	270	160	751	135	181	1099	207	278	1100	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	312	851	270	160	751	135	181	1099	207	278	1100	150
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.17	0.24	0.17	0.09	0.21	0.08	0.10	0.30	0.13	0.15	0.30	0.09
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.29	0.29	0.11	0.22	0.22	0.12	0.32	0.32	0.16	0.37	0.37
Volume/Cap:	0.94	0.80	0.57	0.80	0.94	0.38	0.83	0.94	0.40	0.94	0.83	0.25
Delay/Veh:	78.9	40.4	34.6	68.1	61.4	37.1	70.3	50.8	29.4	82.6	36.4	24.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.9	40.4	34.6	68.1	61.4	37.1	70.3	50.8	29.4	82.6	36.4	24.6
LOS by Move:	E	D	C	E	E	D	E	D	C	F	D	C
HCM2kAvgQ:	364	398	206	132	348	91	158	520	129	277	469	85

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1011: Olive Ave / R St



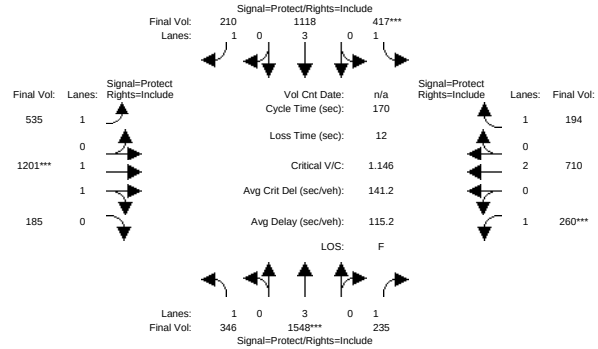
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	356		662		145	151		1050		218	195		533		200	170		761		58
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	356		662		145	151		1050		218	195		533		200	170		761		58
Added Vol:	0		0		0	0		0		0	0		5		0	0		11		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	356		662		145	151		1050		218	195		538		200	170		772		58
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	356		662		145	151		1050		218	195		538		200	170		772		58
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	356		662		145	151		1050		218	195		538		200	170		772		58
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	356		662		145	151		1050		218	195		538		200	170		772		58
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.91		0.91	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.46		0.54	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		2524		938	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.20		0.13		0.09	0.08		0.20		0.13	0.11		0.21		0.21	0.09		0.21		0.04
Crit Moves:	****							****			****							****		
Green/Cycle:	0.25		0.31		0.31	0.20		0.26		0.26	0.14		0.29		0.29	0.13		0.28		0.28
Volume/Cap:	0.78		0.41		0.29	0.41		0.78		0.52	0.78		0.74		0.74	0.74		0.78		0.13
Delay/Veh:	67.1		46.4		44.7	59.5		61.1		54.8	84.7		57.9		57.9	83.7		60.7		46.4
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	67.1		46.4		44.7	59.5		61.1		54.8	84.7		57.9		57.9	83.7		60.7		46.4
LOS by Move:	E		D		D	E		E		D	F		E		E	F		E		D
HCM2kAvgQ:	413		232		133	157		430		223	286		478		478	249		515		55

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1011: Olive Ave / R St



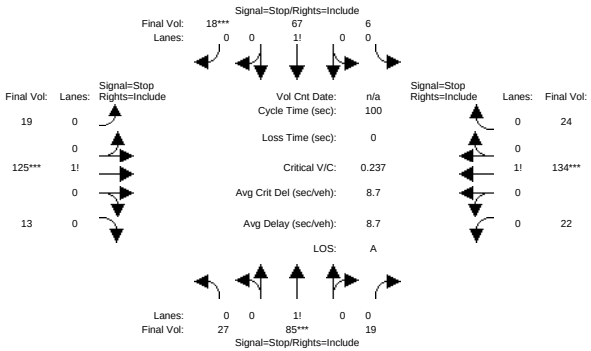
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	346		1548		235	417		1118		210	535		1190		185	260		705		194
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	346		1548		235	417		1118		210	535		1190		185	260		705		194
Added Vol:	0		0		0	0		0		0	0		11		0	0		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	346		1548		235	417		1118		210	535		1201		185	260		710		194
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	346		1548		235	417		1118		210	535		1201		185	260		710		194
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	346		1548		235	417		1118		210	535		1201		185	260		710		194
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	346		1548		235	417		1118		210	535		1201		185	260		710		194
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.93		0.93	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.73		0.27	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		3066		472	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.19		0.30		0.15	0.23		0.22		0.13	0.30		0.39		0.39	0.14		0.20		0.12
Crit Moves:			****			****							****			****				
Green/Cycle:	0.22		0.26		0.26	0.20		0.24		0.24	0.28		0.34		0.34	0.13		0.19		0.19
Volume/Cap:	0.88		1.15		0.56	1.15		0.88		0.53	1.05		1.15		1.15	1.15		1.05		0.64
Delay/Veh:	84.5		138		56.1	161.0		69.4		57.2	116.3		132		131.8	179.1		119		68.7
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	84.5		138		56.1	161.0		69.4		57.2	116.3		132		131.8	179.1		119		68.7
LOS by Move:	F		F		E	F		E		E	F		F		F	F		F		E
HCM2kAvgQ:	405		907		242	668		476		217	884		1286		1286	510		645		252

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #1012: 15th St / O St

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Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15    84    19     6    64    18    19   125    13    22   134    24
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   15    84    19     6    64    18    19   125    13    22   134    24
Added Vol:     12     1     0     0     3     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   27    85    19     6    67    18    19   125    13    22   134    24
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    27    85    19     6    67    18    19   125    13    22   134    24
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   27    85    19     6    67    18    19   125    13    22   134    24
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   27    85    19     6    67    18    19   125    13    22   134    24
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.21  0.65  0.14  0.06  0.74  0.20  0.12  0.80  0.08  0.12  0.75  0.13
Final Sat.:   148   465   104    47   524   141    90   595    62    93   564   101
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18  0.18  0.18  0.13  0.13  0.13  0.21  0.21  0.21  0.24  0.24  0.24
Crit Moves:        ****                    ****        ****              ****
Delay/Veh:    8.7   8.7   8.7   8.4   8.4   8.4   8.8   8.8   8.8   8.9   8.9   8.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.7   8.7   8.7   8.4   8.4   8.4   8.8   8.8   8.8   8.9   8.9   8.9
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:       8.7              8.4              8.8              8.9
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.7              8.4              8.8              8.9
LOS by Appr:         A                A                A                A
AllWayAvgQ:   4.9   4.9   4.9   3.2   3.2   3.2   6.0   6.0   6.0   7.0   7.0   7.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
```



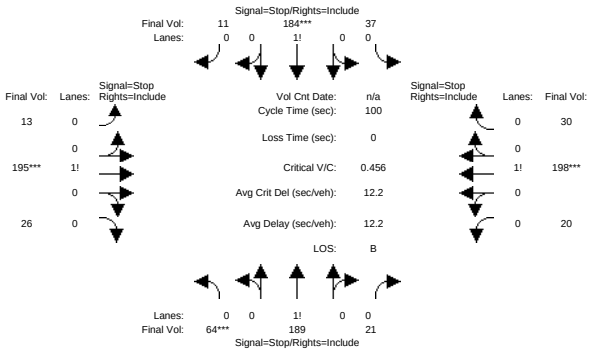
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   27   85   19     6   67   18    19  125   13    22  134   24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             337
Minor Approach Volume:           131
Minor Approach Volume Threshold: 509
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #1012: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17   186    21    37   183    11    13   195    26    20   198    30
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   17   186    21    37   183    11    13   195    26    20   198    30
Added Vol:     47     3     0     0     1     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   64   189    21    37   184    11    13   195    26    20   198    30
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    64   189    21    37   184    11    13   195    26    20   198    30
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   64   189    21    37   184    11    13   195    26    20   198    30
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   64   189    21    37   184    11    13   195    26    20   198    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.23  0.69  0.08  0.16  0.79  0.05  0.06  0.83  0.11  0.08  0.80  0.12
Final Sat.:   140   414    46    94   465    28    33   491    65    48   474    72
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.46  0.46  0.46  0.40  0.40  0.40  0.40  0.40  0.40  0.42  0.42  0.42
Crit Moves:  ****                  ****              ****              ****
Delay/Veh:   12.7  12.7  12.7  11.9  11.9  11.9  11.9  11.9  11.9  12.1  12.1  12.1
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  12.7  12.7  12.7  11.9  11.9  11.9  11.9  11.9  11.9  12.1  12.1  12.1
LOS by Move:    B     B     B     B     B     B     B     B     B     B     B     B
ApproachDel:      12.7              11.9              11.9              12.1
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       12.7              11.9              11.9              12.1
LOS by Appr:         B                 B                 B                 B
AllWayAvgQ:  17.1  17.1  17.1  13.2  13.2  13.2  13.2  13.2  13.2  14.5  14.5  14.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
```



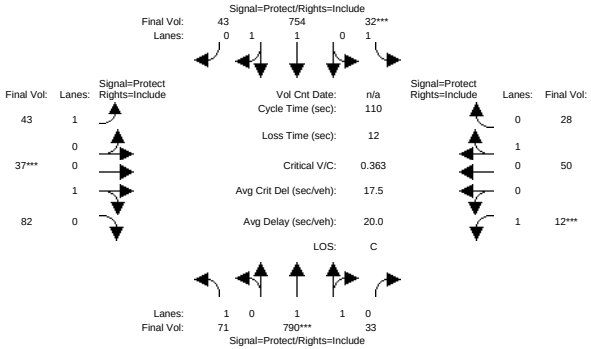
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   64  189    21    37  184    11    13  195    26    20  198    30
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             506
Minor Approach Volume:           248
Minor Approach Volume Threshold: 401
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1013: 16th St / O St



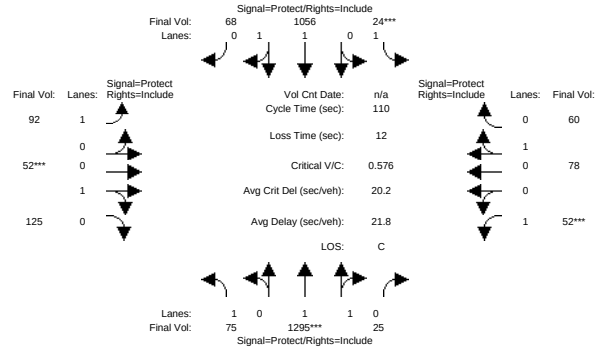
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	71	706	33	32	658	43	43	37	82	12	50	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	706	33	32	658	43	43	37	82	12	50	28
Added Vol:	0	84	0	0	96	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	790	33	32	754	43	43	37	82	12	50	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	790	33	32	754	43	43	37	82	12	50	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	790	33	32	754	43	43	37	82	12	50	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	71	790	33	32	754	43	43	37	82	12	50	28
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.92	0.08	1.00	1.89	0.11	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3444	144	1805	3388	193	1805	530	1174	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.23	0.02	0.22	0.22	0.02	0.07	0.07	0.01	0.04	0.04
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.59	0.59	0.06	0.50	0.50	0.10	0.18	0.18	0.06	0.14	0.14
Volume/Cap:	0.27	0.39	0.39	0.28	0.44	0.44	0.24	0.39	0.39	0.10	0.31	0.31
Delay/Veh:	42.5	12.4	12.4	50.4	17.5	17.5	46.4	40.8	40.8	48.9	43.0	43.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	12.4	12.4	50.4	17.5	17.5	46.4	40.8	40.8	48.9	43.0	43.0
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	58	194	194	33	224	224	38	96	96	12	64	64

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1013: 16th St / O St



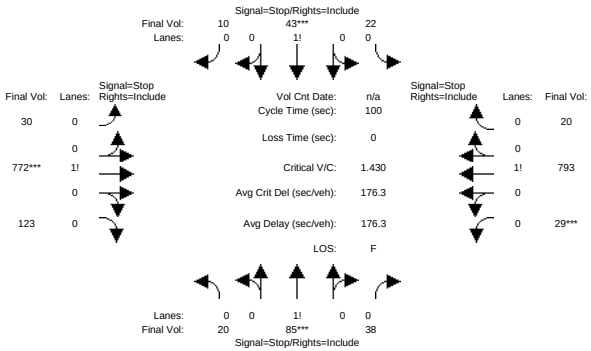
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	75	1192	25	24	976	68	92	52	125	52	78	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	1192	25	24	976	68	92	52	125	52	78	60
Added Vol:	0	103	0	0	80	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	1295	25	24	1056	68	92	52	125	52	78	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	1295	25	24	1056	68	92	52	125	52	78	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	1295	25	24	1056	68	92	52	125	52	78	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	1295	25	24	1056	68	92	52	125	52	78	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.88	0.12	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3531	68	1805	3361	216	1805	499	1200	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.04	0.37	0.37	0.01	0.31	0.31	0.05	0.10	0.10	0.03	0.08	0.08
Crit Moves:		****		****				****		****		
Green/Cycle:	0.11	0.59	0.59	0.06	0.55	0.55	0.10	0.17	0.17	0.06	0.14	0.14
Volume/Cap:	0.37	0.62	0.62	0.21	0.57	0.57	0.53	0.62	0.62	0.45	0.57	0.57
Delay/Veh:	46.5	14.8	14.8	49.8	16.8	16.8	50.6	46.4	46.4	52.5	47.6	47.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.5	14.8	14.8	49.8	16.8	16.8	50.6	46.4	46.4	52.5	47.6	47.6
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	68	379	379	24	331	331	93	162	162	57	129	129

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #1014: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    73    34    22    40    10    30   631    11    14   685    20
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    4    73    34    22    40    10    30   631    11    14   685    20
Added Vol:     16    12     4     0     3     0     0   141   112    15   108     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   20    85    38    22    43    10    30   772   123    29   793    20
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    20    85    38    22    43    10    30   772   123    29   793    20
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   20    85    38    22    43    10    30   772   123    29   793    20
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   20    85    38    22    43    10    30   772   123    29   793    20
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.14  0.59  0.27  0.29  0.58  0.13  0.03  0.84  0.13  0.03  0.95  0.02
Final Sat.:    70   299   134   138   270    63    21   540    86    22   602    15
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.28  0.28  0.28  0.16  0.16  0.16  1.43  1.43  1.43  1.32  1.32  1.32
Crit Moves:        ****              ****              ****        ****
Delay/Veh:   12.8  12.8  12.8  11.8  11.8  11.8 219.0   219 219.0 171.7   172 171.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  12.8  12.8  12.8  11.8  11.8  11.8 219.0   219 219.0 171.7   172 171.7
LOS by Move:    B     B     B     B     B     B     F     F     F     F     F     F
ApproachDel:       12.8             11.8            219.0            171.7
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:        12.8             11.8            219.0            171.7
LOS by Appr:          B                B                F                F
AllWayAvgQ:   9.6   9.6   9.6   4.5   4.5   4.5   945   945 945.4   724   724 724.1
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1014 15th St / M St
*******************************************************************************
```



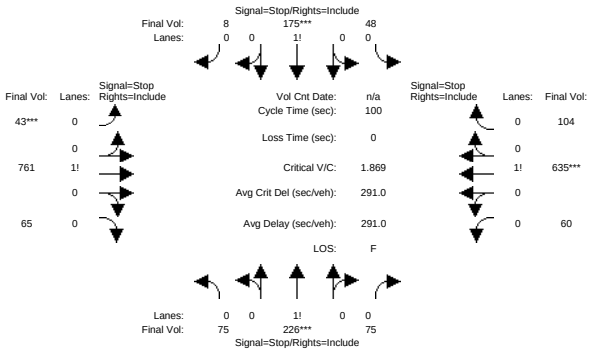
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   20   85    38    22   43    10    30  772   123    29  793    20
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1767
Minor Approach Volume:           143
Minor Approach Volume Threshold: 68 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #1014: 15th St / M St



Street Name:	15th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0	0	0			0	0	0			0	0	0			0	0	0		
Volume Module:																				
Base Vol:	10	176		61		48	174		8		43	647		37		56	500		104	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Initial Bse:	10	176		61		48	174		8		43	647		37		56	500		104	
Added Vol:	65	50		14		0	1		0		0	114		28		4	135		0	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	75	226		75		48	175		8		43	761		65		60	635		104	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Volume:	75	226		75		48	175		8		43	761		65		60	635		104	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	75	226		75		48	175		8		43	761		65		60	635		104	
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
FinalVolume:	75	226		75		48	175		8		43	761		65		60	635		104	
Saturation Flow Module:																				
Adjustment:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Lanes:	0.20	0.60		0.20		0.21	0.76		0.03		0.05	0.88		0.07		0.08	0.79		0.13	
Final Sat.:	89	267		89		83	303		14		23	407		35		35	371		61	
Capacity Analysis Module:																				
Vol/Sat:	0.85	0.85		0.85		0.58	0.58		0.58		1.87	1.87		1.87		1.71	1.71		1.71	
Crit Moves:		****					****				****						****			
Delay/Veh:	41.0	41.0		41.0		22.5	22.5		22.5		417.6	418		417.6		348.6	349		348.6	
Delay Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
AdjDel/Veh:	41.0	41.0		41.0		22.5	22.5		22.5		417.6	418		417.6		348.6	349		348.6	
LOS by Move:	E	E		E		C	C		C		F	F		F		F	F		F	
ApproachDel:		41.0					22.5					417.6					348.6			
Delay Adj:		1.00					1.00					1.00					1.00			
ApprAdjDel:		41.0					22.5					417.6					348.6			
LOS by Appr:		E					C					F					F			
AllWayAvgQ:	92.5	92.5		92.5		29.8	29.8		29.8		1314	1314		1314		1095	1095		1095	

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1014 15th St / M St

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	0	1!	0	0	0	0	1!	0	0	0	0	1!	0	0	0	0	1!	0	0
Initial Vol:	75	226			75	48	175			8	43	761			65	60	635			104

Major Street Volume: 1668
Minor Approach Volume: 376
Minor Approach Volume Threshold: 83 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER

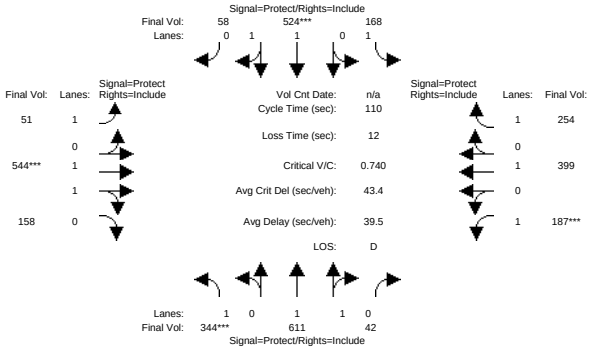
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1015: 16th St / M St



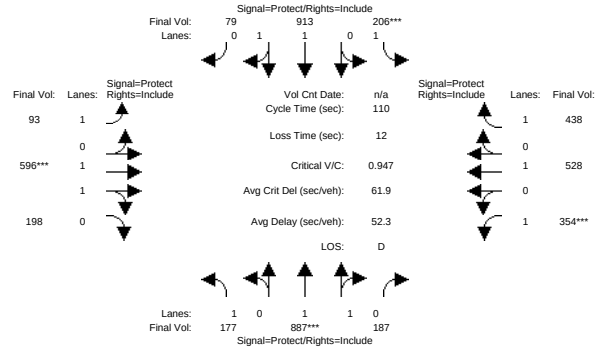
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	237		532	38	167		436	51	47		528	34	182		390	252
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	237		532	38	167		436	51	47		528	34	182		390	252
Added Vol:	107		79	4	1		88	7	4		16	124	5		9	2
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	344		611	42	168		524	58	51		544	158	187		399	254
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	344		611	42	168		524	58	51		544	158	187		399	254
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	344		611	42	168		524	58	51		544	158	187		399	254
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	344		611	42	168		524	58	51		544	158	187		399	254
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.94	0.94	0.95		0.94	0.94	0.95		0.92	0.92	0.95		1.00	0.85
Lanes:	1.00		1.87	0.13	1.00		1.80	0.20	1.00		1.55	0.45	1.00		1.00	1.00
Final Sat.:	1805		3344	230	1805		3201	354	1805		2702	785	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.19		0.18	0.18	0.09		0.16	0.16	0.03		0.20	0.20	0.10		0.21	0.16
Crit Moves:	****						****				****		****			
Green/Cycle:	0.26		0.32	0.32	0.16		0.22	0.22	0.10		0.27	0.27	0.14		0.32	0.32
Volume/Cap:	0.74		0.58	0.58	0.58		0.74	0.74	0.29		0.74	0.74	0.74		0.66	0.50
Delay/Veh:	43.7		32.1	32.1	45.5		43.6	43.6	47.2		39.6	39.6	56.4		35.4	31.3
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	43.7		32.1	32.1	45.5		43.6	43.6	47.2		39.6	39.6	56.4		35.4	31.3
LOS by Move:	D		C	C	D		D	D	D		D	D	E		D	C
HCM2kAvgQ:	258		229	229	150		278	278	46		319	319	154		285	167

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1015: 16th St / M St



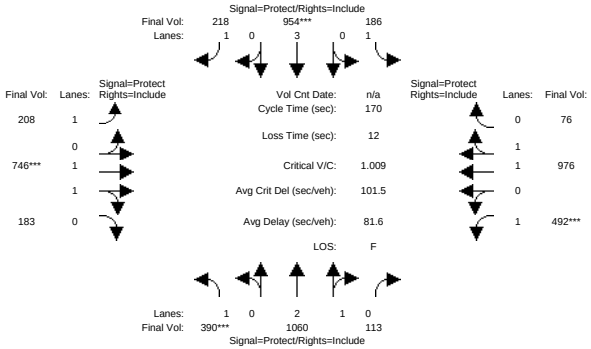
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	57		794	182	205		838	75	84		587	88	350		512	436
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	57		794	182	205		838	75	84		587	88	350		512	436
Added Vol:	120		93	5	1		75	4	9		9	110	4		16	2
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	177		887	187	206		913	79	93		596	198	354		528	438
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	177		887	187	206		913	79	93		596	198	354		528	438
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	177		887	187	206		913	79	93		596	198	354		528	438
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	177		887	187	206		913	79	93		596	198	354		528	438
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.93	0.93	0.95		0.94	0.94	0.95		0.91	0.91	0.95		1.00	0.85
Lanes:	1.00		1.65	0.35	1.00		1.84	0.16	1.00		1.50	0.50	1.00		1.00	1.00
Final Sat.:	1805		2904	612	1805		3283	284	1805		2610	867	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.10		0.31	0.31	0.11		0.28	0.28	0.05		0.23	0.23	0.20		0.28	0.27
Crit Moves:			****		****						****				****	
Green/Cycle:	0.12		0.32	0.32	0.12		0.33	0.33	0.08		0.24	0.24	0.21		0.36	0.36
Volume/Cap:	0.85		0.95	0.95	0.95		0.85	0.85	0.62		0.95	0.95	0.95		0.76	0.74
Delay/Veh:	74.3		52.1	52.1	94.3		40.5	40.5	56.2		60.5	60.5	76.2		35.7	35.6
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	74.3		52.1	52.1	94.3		40.5	40.5	56.2		60.5	60.5	76.2		35.7	35.6
LOS by Move:	E		D	D	F		D	D	E		E	E	E		D	D
HCM2kAvgQ:	136		441	441	266		475	475	103		462	462	314		376	309

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1016: Olive Ave / M St



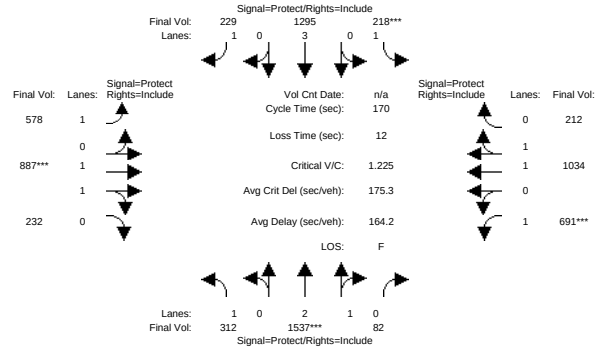
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	390	1060	113		186	954	218		208	741	183		492	965	76	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	390	1060	113		186	954	218		208	741	183		492	965	76	
Added Vol:	0	0	0		0	0	0		0	5	0		0	11	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	390	1060	113		186	954	218		208	746	183		492	976	76	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	390	1060	113		186	954	218		208	746	183		492	976	76	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	390	1060	113		186	954	218		208	746	183		492	976	76	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	390	1060	113		186	954	218		208	746	183		492	976	76	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.90	0.90		0.95	0.91	0.85		0.95	0.92	0.92		0.95	0.94	0.94	
Lanes:	1.00	2.71	0.29		1.00	3.00	1.00		1.00	1.61	0.39		1.00	1.86	0.14	
Final Sat.:	1805	4622	493		1805	5187	1615		1805	2812	690		1805	3312	258	
Capacity Analysis Module:																
Vol/Sat:	0.22	0.23	0.23		0.10	0.18	0.13		0.12	0.27	0.27		0.27	0.29	0.29	
Crit Moves:	****					****				****			****			
Green/Cycle:	0.21	0.27	0.27		0.12	0.18	0.18		0.15	0.26	0.26		0.27	0.38	0.38	
Volume/Cap:	1.01	0.84	0.84		0.84	1.01	0.74		0.77	1.01	1.01		1.01	0.77	0.77	
Delay/Veh:	114.9	62.9	62.9		96.5	101	75.3		82.0	94.6	94.6		105.1	48.6	48.6	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	114.9	62.9	62.9		96.5	101	75.3		82.0	94.6	94.6		105.1	48.6	48.6	
LOS by Move:	F	E	E		F	F	E		F	F	F		F	D	D	
HCM2kAvgQ:	506	486	486		238	506	261		299	780	780		784	645	645	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1016: Olive Ave / M St



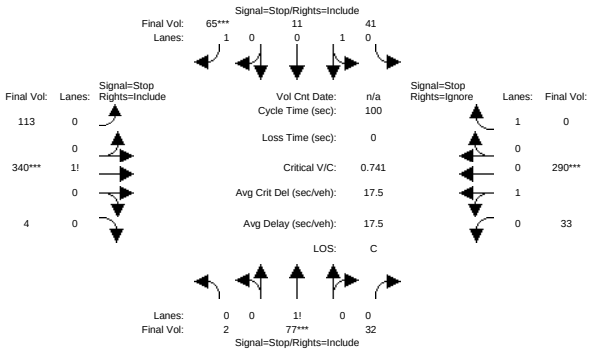
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	312	1537	82		218	1295	229		578	876	232		691	1029	212	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	312	1537	82		218	1295	229		578	876	232		691	1029	212	
Added Vol:	0	0	0		0	0	0		0	11	0		0	5	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	312	1537	82		218	1295	229		578	887	232		691	1034	212	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	312	1537	82		218	1295	229		578	887	232		691	1034	212	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	312	1537	82		218	1295	229		578	887	232		691	1034	212	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	312	1537	82		218	1295	229		578	887	232		691	1034	212	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.90	0.90		0.95	0.91	0.85		0.95	0.92	0.92		0.95	0.93	0.93	
Lanes:	1.00	2.85	0.15		1.00	3.00	1.00		1.00	1.59	0.41		1.00	1.66	0.34	
Final Sat.:	1805	4885	261		1805	5187	1615		1805	2773	725		1805	2921	599	
Capacity Analysis Module:																
Vol/Sat:	0.17	0.31	0.31		0.12	0.25	0.14		0.32	0.32	0.32		0.38	0.35	0.35	
Crit Moves:		****			****					****			****			
Green/Cycle:	0.15	0.26	0.26		0.10	0.21	0.21		0.27	0.26	0.26		0.31	0.30	0.30	
Volume/Cap:	1.19	1.22	1.22		1.22	1.19	0.67		1.17	1.22	1.22		1.22	1.17	1.17	
Delay/Veh:	188.9	171	171.2		217.3	161	67.1		160.2	174	173.6		174.6	148	148.2	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	188.9	171	171.2		217.3	161	67.1		160.2	174	173.6		174.6	148	148.2	
LOS by Move:	F	F	F		F	F	E		F	F	F		F	F	F	
HCM2kAvgQ:	529	1048	1048		398	824	258		1068	1137	1137		1319	1200	1200	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue              Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   77    32    24   11    63   103  340     4    33  290   102
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   77    32    24   11    63   103  340     4    33  290   102
Added Vol:      0    0     0    17    0     2    10    0     0     0    0    56
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   77    32    41   11    65   113  340     4    33  290   158
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2   77    32    41   11    65   113  340     4    33  290     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   77    32    41   11    65   113  340     4    33  290     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    2   77    32    41   11    65   113  340     4    33  290     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.69  0.29  0.79 0.21  1.00  0.25 0.74  0.01  0.10 0.90  1.00
Final Sat.:     9  337   140   358   96   526   152  459     5    61  540   686
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23 0.23  0.23  0.11 0.11  0.12  0.74 0.74  0.74  0.54 0.54  0.00
Crit Moves:       ****                    ****       ****              ****
Delay/Veh:   11.4 11.4  11.4  10.7 10.7   9.5  22.9 22.9  22.9  14.7 14.7   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.4 11.4  11.4  10.7 10.7   9.5  22.9 22.9  22.9  14.7 14.7   0.0
LOS by Move:    B    B     B     B    B     A     C    C     C     B    B     *
ApproachDel:      11.4             10.1             22.9             14.7
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       11.4             10.1             22.9             14.7
LOS by Appr:         B                B                C                B
AllWayAvgQ:   5.8  5.8   5.8   2.6  2.6   2.7  60.3 60.3  60.3  25.8 25.8   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



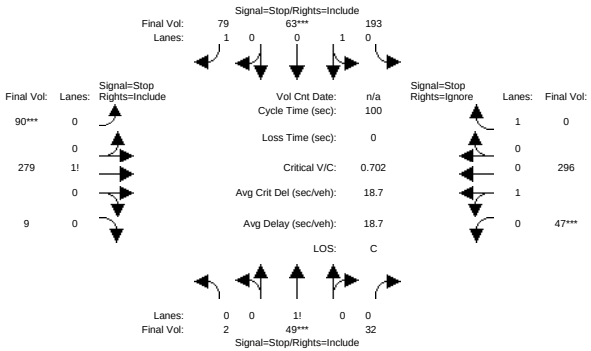
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   77    32    41   11    65   113  340     4    33  290   158
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             938
Minor Approach Volume:           117
Minor Approach Volume Threshold: 402
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   49    32   137   63    69    88  279     9    47  296    88
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   49    32   137   63    69    88  279     9    47  296    88
Added Vol:      0    0     0    56    0    10     2    0     0     0    0    17
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   49    32   193   63    79    90  279     9    47  296   105
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2   49    32   193   63    79    90  279     9    47  296     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   49    32   193   63    79    90  279     9    47  296     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    2   49    32   193   63    79    90  279     9    47  296     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.75 0.25  1.00  0.24 0.74  0.02  0.14 0.86  1.00
Final Sat.:    10  255   166   360  117   556   128  398    13    73  461   598
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.19  0.19  0.54 0.54  0.14  0.70 0.70  0.70  0.64 0.64  0.00
Crit Moves:        ****               ****        ****              ****
Delay/Veh:   11.7 11.7  11.7  17.2 17.2   9.8  22.5 22.5  22.5  19.5 19.5   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.7 11.7  11.7  17.2 17.2   9.8  22.5 22.5  22.5  19.5 19.5   0.0
LOS by Move:    B    B     B     C    C     A     C    C     C     C    C     *
ApproachDel:      11.7             15.4             22.5             19.5
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       11.7             15.4             22.5             19.5
LOS by Appr:         B                C                C                C
AllWayAvgQ:   4.4  4.4   4.4  24.2 24.2   3.7  48.7 48.7  48.7  37.9 37.9   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



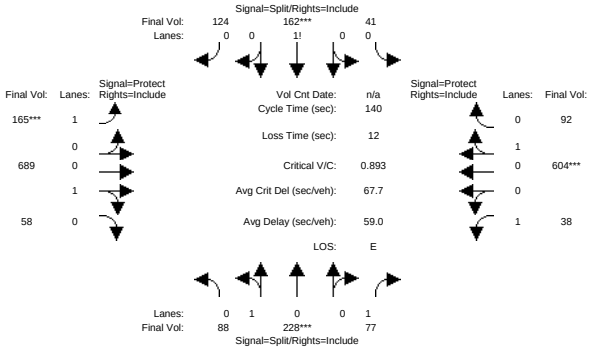
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   49    32   193   63    79    90  279     9    47  296   105
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             826
Minor Approach Volume:           335
Minor Approach Volume Threshold: 456
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1018: Childs Ave / Martin Luther King Wy



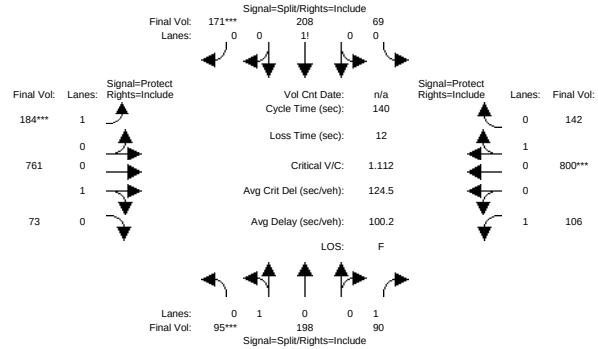
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	224	77	41	161	123	161	662	51	38	588	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	224	77	41	161	123	161	662	51	38	588	90
Added Vol:	2	4	0	0	1	1	4	27	7	0	16	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	228	77	41	162	124	165	689	58	38	604	92
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	228	77	41	162	124	165	689	58	38	604	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	228	77	41	162	124	165	689	58	38	604	92
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	228	77	41	162	124	165	689	58	38	604	92
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.12	0.50	0.38	1.00	0.92	0.08	1.00	0.87	0.13
Final Sat.:	522	1352	1615	225	888	680	1805	1731	146	1805	1616	246
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.05	0.18	0.18	0.18	0.09	0.40	0.40	0.02	0.37	0.37
Crit Moves:		****			****		****				****	
Green/Cycle:	0.19	0.19	0.19	0.20	0.20	0.20	0.10	0.46	0.46	0.06	0.42	0.42
Volume/Cap:	0.89	0.89	0.25	0.89	0.89	0.89	0.89	0.86	0.86	0.36	0.89	0.89
Delay/Veh:	79.0	79.0	48.8	77.2	77.2	77.2	99.8	42.2	42.2	65.6	50.4	50.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	79.0	79.0	48.8	77.2	77.2	77.2	99.8	42.2	42.2	65.6	50.4	50.4
LOS by Move:	E	E	D	E	E	E	F	D	D	E	D	D
HCM2kAvgQ:	408	408	72	419	419	419	245	765	765	38	714	714

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1018: Childs Ave / Martin Luther King Wy



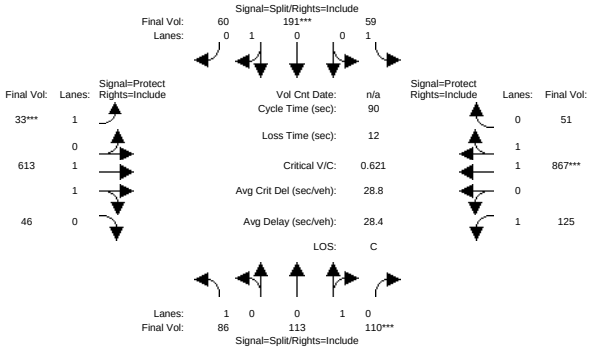
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	197	90	67	204	167	183	745	71	106	773	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	197	90	67	204	167	183	745	71	106	773	142
Added Vol:	7	1	0	2	4	4	1	16	2	0	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	95	198	90	69	208	171	184	761	73	106	800	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	95	198	90	69	208	171	184	761	73	106	800	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	198	90	69	208	171	184	761	73	106	800	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	198	90	69	208	171	184	761	73	106	800	142
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.32	0.68	1.00	0.15	0.47	0.38	1.00	0.91	0.09	1.00	0.85	0.15
Final Sat.:	606	1263	1615	275	830	682	1805	1711	164	1805	1576	280
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.06	0.25	0.25	0.25	0.10	0.44	0.44	0.06	0.51	0.51
Crit Moves:	****					****	****				****	
Green/Cycle:	0.14	0.14	0.14	0.23	0.23	0.23	0.09	0.48	0.48	0.06	0.46	0.46
Volume/Cap:	1.11	1.11	0.40	1.11	1.11	1.11	1.11	0.92	0.92	0.92	1.11	1.11
Delay/Veh:	149.1	149	55.8	133.1	133	133.1	166.8	47.7	47.7	124.0	105	104.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	149.1	149	55.8	133.1	133	133.1	166.8	47.7	47.7	124.0	105	104.5
LOS by Move:	F	F	E	F	F	F	F	D	D	F	F	F
HCM2kAvgQ:	489	489	95	706	706	706	331	918	918	121	1283	1283

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1019: 13th St / Martin Luther King Wy



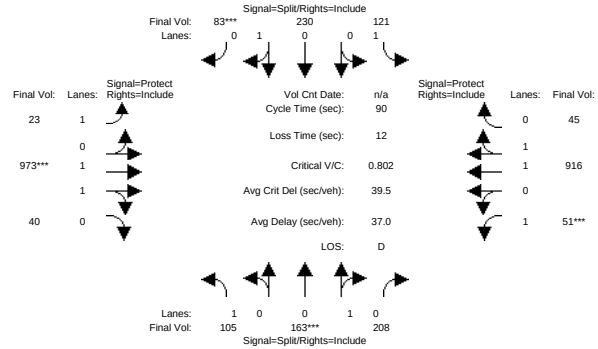
Street Name:	13th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	86		113		110	58		187		50	24		597		46	125		804		51
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	86		113		110	58		187		50	24		597		46	125		804		51
Added Vol:	0		0		0	1		4		10	9		16		0	0		63		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	86		113		110	59		191		60	33		613		46	125		867		51
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	86		113		110	59		191		60	33		613		46	125		867		51
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	86		113		110	59		191		60	33		613		46	125		867		51
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	86		113		110	59		191		60	33		613		46	125		867		51
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.93		0.93	0.95		0.96		0.96	0.95		0.94		0.94	0.95		0.94		0.94
Lanes:	1.00		0.51		0.49	1.00		0.76		0.24	1.00		1.86		0.14	1.00		1.89		0.11
Final Sat.:	1805		892		868	1805		1394		438	1805		3324		249	1805		3382		199
Capacity Analysis Module:																				
Vol/Sat:	0.05		0.13		0.13	0.03		0.14		0.14	0.02		0.18		0.18	0.07		0.26		0.26
Crit Moves:					****			****			****							****		
Green/Cycle:	0.19		0.19		0.19	0.21		0.21		0.21	0.08		0.33		0.33	0.14		0.39		0.39
Volume/Cap:	0.25		0.66		0.66	0.16		0.66		0.66	0.24		0.56		0.56	0.50		0.66		0.66
Delay/Veh:	31.2		38.4		38.4	29.4		37.0		37.0	39.8		25.5		25.5	37.5		23.8		23.8
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	31.2		38.4		38.4	29.4		37.0		37.0	39.8		25.5		25.5	37.5		23.8		23.8
LOS by Move:	C		D		D	C		D		D	D		C		C	D		C		C
HCM2kAvgQ:	54		172		172	35		188		188	20		185		185	79		273		273

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1019: 13th St / Martin Luther King Wy



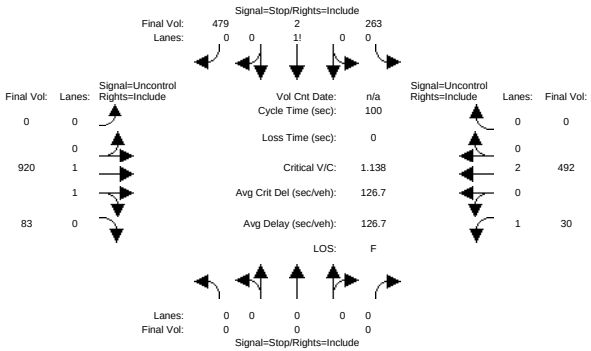
Street Name:	13th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	105		163		208	118		228		74	13		910		40	51		900		45
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	105		163		208	118		228		74	13		910		40	51		900		45
Added Vol:	0		0		0	3		2		9	10		63		0	0		16		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	105		163		208	121		230		83	23		973		40	51		916		45
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	105		163		208	121		230		83	23		973		40	51		916		45
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	105		163		208	121		230		83	23		973		40	51		916		45
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	105		163		208	121		230		83	23		973		40	51		916		45
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.92		0.92	0.95		0.96		0.96	0.95		0.94		0.94	0.95		0.94		0.94
Lanes:	1.00		0.44		0.56	1.00		0.73		0.27	1.00		1.92		0.08	1.00		1.91		0.09
Final Sat.:	1805		765		976	1805		1340		484	1805		3447		142	1805		3417		168
Capacity Analysis Module:																				
Vol/Sat:	0.06		0.21		0.21	0.07		0.17		0.17	0.01		0.28		0.28	0.03		0.27		0.27
Crit Moves:			****							****			****					****		
Green/Cycle:	0.25		0.25		0.25	0.20		0.20		0.20	0.09		0.33		0.33	0.08		0.32		0.32
Volume/Cap:	0.23		0.85		0.85	0.33		0.85		0.85	0.14		0.85		0.85	0.36		0.84		0.84
Delay/Veh:	27.0		46.1		46.1	31.2		50.8		50.8	37.9		33.5		33.5	41.0		34.2		34.2
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	27.0		46.1		46.1	31.2		50.8		50.8	37.9		33.5		33.5	41.0		34.2		34.2
LOS by Move:	C		D		D	C		D		D	D		C		C	D		C		C
HCM2kAvgQ:	60		315		315	77		279		279	13		328		328	33		338		338

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   263    2   418     0  905    82    30  490     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   263    2   418     0  905    82    30  490     0
Added Vol:      0    0     0     0    0    61     0   15     1     0    2     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   263    2   479     0  920    83    30  492     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   263    2   479     0  920    83    30  492     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   263    2   479     0  920    83    30  492     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1012 1555   246  xxxx xxxx xxxxx  1003 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   239  114   760  xxxx xxxx xxxxx   698 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   231  109   760  xxxx xxxx xxxxx   698 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.14 0.02  0.63  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  417 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 46.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  386 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            386.1           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   263    2   479     0  920    83    30  492     0
ApproachDel:    xxxxxx            386.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=79.8]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=744]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2269]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

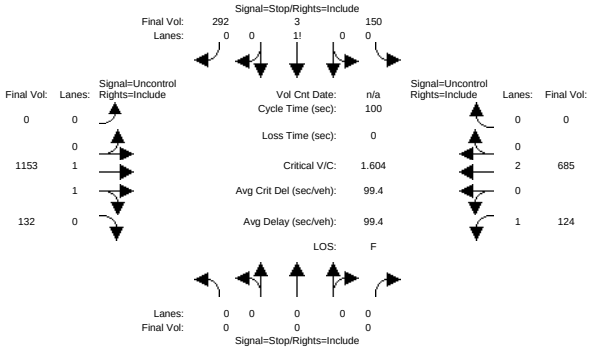
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   263    2   479     0  920    83    30  492     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1525
Minor Approach Volume:           744
Minor Approach Volume Threshold: 139
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   150    3   277     0 1092   127   124  685     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   150    3   277     0 1092   127   124  685     0
Added Vol:      0    0     0     0    0    15     0   61     5     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   150    3   292     0 1153   132   124  685     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   150    3   292     0 1153   132   124  685     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   150    3   292     0 1153   132   124  685     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1510 2218   343  xxxx xxxx xxxxx  1285 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   113   44   659  xxxx xxxx xxxxx   547 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    94   34   659  xxxx xxxx xxxxx   547 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.60 0.09  0.44  xxxx xxxx  xxxx  0.23 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  21.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  13.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  208 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 34.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  564 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            563.5           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   150    3   292     0 1153   132   124  685     0
ApproachDel:    xxxxxx            563.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=69.7]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=445]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2539]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

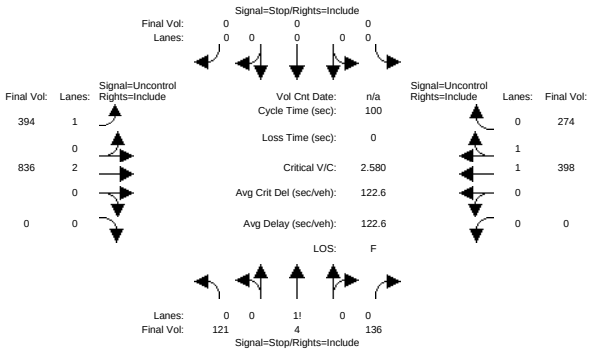
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1020 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   150    3   292     0 1153   132   124  685     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2094
Minor Approach Volume:           445
Minor Approach Volume Threshold: 30 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119    4   136     0    0     0   379  836     0     0  398   274
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  119    4   136     0    0     0   379  836     0     0  398   274
Added Vol:      2    0     0     0    0     0    15    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  121    4   136     0    0     0   394  836     0     0  398   274
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   121    4   136     0    0     0   394  836     0     0  398   274
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  121    4   136     0    0     0   394  836     0     0  398   274
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1823 2296   418  xxxx xxxx xxxxx   672 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   70   39   589  xxxx xxxx xxxxx   928 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     47   23   589  xxxx xxxx xxxxx   928 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  2.58 0.18  0.23  xxxx xxxx  xxxx  0.42 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  53.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.7 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   87 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 25.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  998 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     998.5           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:  121    4   136     0    0     0   394  836     0     0  398   274
ApproachDel:     998.5           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=72.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=261]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2163]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

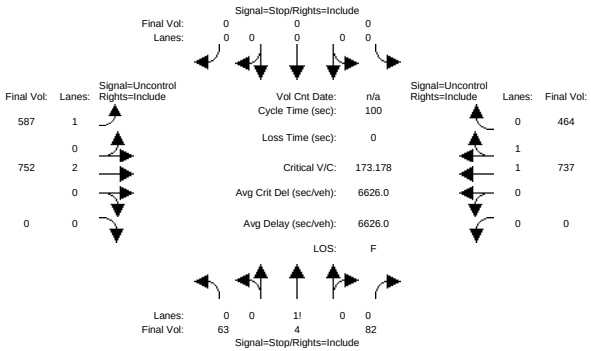
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:  121    4   136     0    0     0   394  836     0     0  398   274
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1902
Minor Approach Volume:           261
Minor Approach Volume Threshold: 63 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63    4    82     0    0     0   526  752     0     0  737   464
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   63    4    82     0    0     0   526  752     0     0  737   464
Added Vol:      0    0     0     0    0     0    61    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   63    4    82     0    0     0   587  752     0     0  737   464
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    63    4    82     0    0     0   587  752     0     0  737   464
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   63    4    82     0    0     0   587  752     0     0  737   464
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2295 3127   376  xxxx xxxx xxxxx  1201 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   34   11   627  xxxx xxxx xxxxx   588 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:      1    0   627  xxxx xxxx xxxxx   588 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap: 67.58 xxxx  0.13  xxxx xxxx  xxxx  1.00 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   369 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  63.1 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     F    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx    1 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 21.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   63    4    82     0    0     0   587  752     0     0  737   464
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4939.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=149]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2689]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

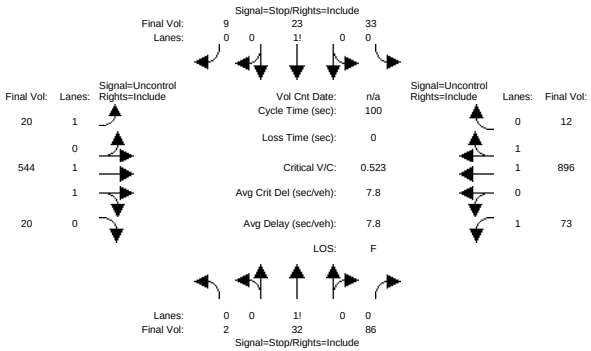
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1021 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   63    4    82     0    0     0   587  752     0     0  737   464
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2540
Minor Approach Volume:           149
Minor Approach Volume Threshold: -36 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   28    86    33   23     9    20  544    20    73  896    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   28    86    33   23     9    20  544    20    73  896    12
Added Vol:      0    4     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   32    86    33   23     9    20  544    20    73  896    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2   32    86    33   23     9    20  544    20    73  896    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2   32    86    33   23     9    20  544    20    73  896    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1200 1648   282  1376 1652   454   908 xxxx xxxxx   564 xxxx xxxxx
Potent Cap.:  143  100   721   106  100   559   758 xxxx xxxxx  1018 xxxx xxxxx
Move Cap.:    105   90   721    63   90   559   758 xxxx xxxxx  1018 xxxx xxxxx
Volume/Cap:  0.02 0.35  0.12  0.52 0.26  0.02  0.03 xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.0 xxxx xxxxx   5.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.9 xxxx xxxxx   8.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  244 xxxxx  xxxx   82 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.5 xxxxx xxxxx  4.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 33.3 xxxxx xxxxx  136 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    F     *     *    *     *     *    *     *
ApproachDel:      33.3            136.5           xxxxxx           xxxxxx
ApproachLOS:         D                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2   32    86    33   23     9    20  544    20    73  896    12
ApproachDel:      33.3            136.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=120]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1750]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=65]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1750]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

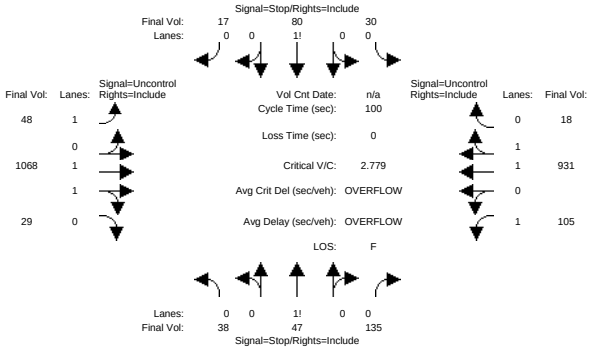
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2   32    86    33   23     9    20  544    20    73  896    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1565
Minor Approach Volume:           120
Minor Approach Volume Threshold: 131
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1022: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      38   46   135    30   80    17    48 1068    29   105  931    18
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   38   46   135    30   80    17    48 1068    29   105  931    18
Added Vol:      0    1     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   38   47   135    30   80    17    48 1068    29   105  931    18
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    38   47   135    30   80    17    48 1068    29   105  931    18
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   38   47   135    30   80    17    48 1068    29   105  931    18
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1894 2338   549  1804 2343   475   949 xxxx xxxxx  1097 xxxx xxxxx
Potent Cap.:   44   37   485    51   37   542   732 xxxx xxxxx   644 xxxx xxxxx
Move Cap.:      0   29   485     0   29   542   732 xxxx xxxxx   644 xxxx xxxxx
Volume/Cap:  xxxx 1.62  0.28  xxxx 2.78  0.03  0.07 xxxx  xxxx  0.16 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.3 xxxx xxxxx  14.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.3 xxxx xxxxx  11.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx    0 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   38   47   135    30   80    17    48 1068    29   105  931    18
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=220]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2546]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=127]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2546]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

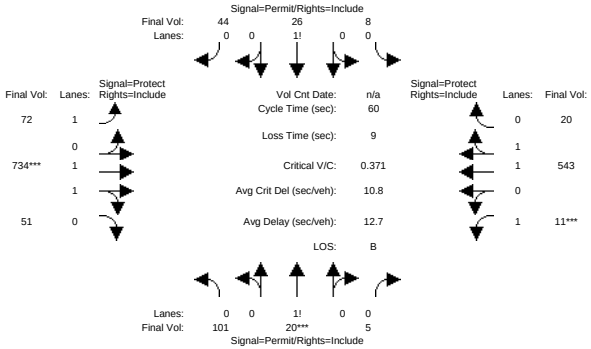
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1022 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   38   47   135    30   80    17    48 1068    29   105  931    18
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2199
Minor Approach Volume:           220
Minor Approach Volume Threshold: 13 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1023: 15th St / Martin Luther King Wy



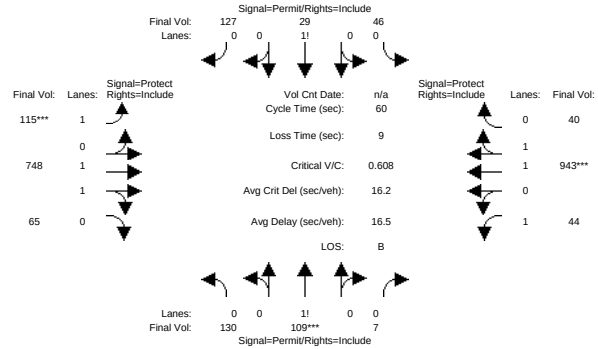
Street Name:	15th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10	10	10			10	10	10			7	10	10			7	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	101	14	5			8	3	44			72	734	51			11	543	20		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	101	14	5			8	3	44			72	734	51			11	543	20		
Added Vol:	0	6	0			0	23	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	101	20	5			8	26	44			72	734	51			11	543	20		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	101	20	5			8	26	44			72	734	51			11	543	20		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	101	20	5			8	26	44			72	734	51			11	543	20		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	101	20	5			8	26	44			72	734	51			11	543	20		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.74	0.74	0.74			0.90	0.90	0.90			0.95	0.94	0.94			0.95	0.95	0.95		
Lanes:	0.80	0.16	0.04			0.10	0.33	0.57			1.00	1.87	0.13			1.00	1.93	0.07		
Final Sat.:	1130	224	56			175	568	962			1805	3342	232			1805	3464	128		
Capacity Analysis Module:																				
Vol/Sat:	0.09	0.09	0.09			0.05	0.05	0.05			0.04	0.22	0.22			0.01	0.16	0.16		
Crit Moves:		****										****				****				
Green/Cycle:	0.21	0.21	0.21			0.21	0.21	0.21			0.26	0.52	0.52			0.12	0.38	0.38		
Volume/Cap:	0.42	0.42	0.42			0.22	0.22	0.22			0.15	0.42	0.42			0.05	0.42	0.42		
Delay/Veh:	21.4	21.4	21.4			19.8	19.8	19.8			17.1	9.0	9.0			23.7	14.1	14.1		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	21.4	21.4	21.4			19.8	19.8	19.8			17.1	9.0	9.0			23.7	14.1	14.1		
LOS by Move:	C	C	C			B	B	B			B	A	A			C	B	B		
HCM2kAvgQ:	63	63	63			34	34	34			24	113	113			4	95	95		

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1023: 15th St / Martin Luther King Wy



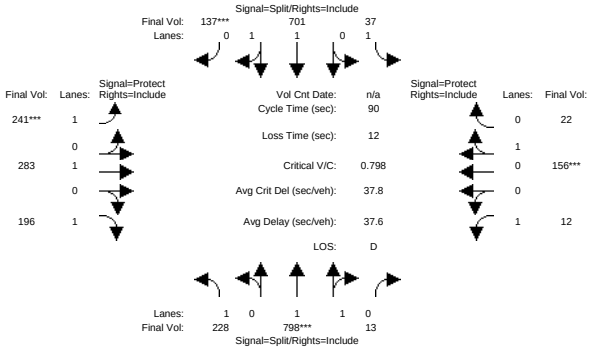
Street Name:	15th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10	10	10			10	10	10			7	10	10			7	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	130	86	7			46	23	127			115	748	65			44	943	40		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	130	86	7			46	23	127			115	748	65			44	943	40		
Added Vol:	0	23	0			0	6	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	130	109	7			46	29	127			115	748	65			44	943	40		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	130	109	7			46	29	127			115	748	65			44	943	40		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	130	109	7			46	29	127			115	748	65			44	943	40		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	130	109	7			46	29	127			115	748	65			44	943	40		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.72	0.72	0.72			0.83	0.83	0.83			0.95	0.94	0.94			0.95	0.94	0.94		
Lanes:	0.53	0.44	0.03			0.23	0.14	0.63			1.00	1.84	0.16			1.00	1.92	0.08		
Final Sat.:	727	610	39			359	227	992			1805	3282	285			1805	3442	146		
Capacity Analysis Module:																				
Vol/Sat:	0.18	0.18	0.18			0.13	0.13	0.13			0.06	0.23	0.23			0.02	0.27	0.27		
Crit Moves:		****										****				****				
Green/Cycle:	0.29	0.29	0.29			0.29	0.29	0.29			0.12	0.37	0.37			0.19	0.44	0.44		
Volume/Cap:	0.62	0.62	0.62			0.44	0.44	0.44			0.55	0.61	0.61			0.13	0.62	0.62		
Delay/Veh:	21.4	21.4	21.4			18.0	18.0	18.0			28.0	16.3	16.3			20.4	13.5	13.5		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	21.4	21.4	21.4			18.0	18.0	18.0			28.0	16.3	16.3			20.4	13.5	13.5		
LOS by Move:	C	C	C			B	B	B			C	B	B			C	B	B		
HCM2kAvgQ:	126	126	126			88	88	88			48	153	153			15	167	167		

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1024: 16th St / Martin Luther King Wy

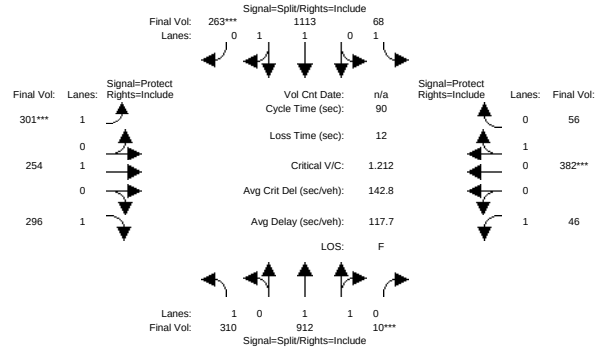



```
Street Name:           16th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     228  609    13   37  484   137  241  283   196   12  156    22
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  228  609    13   37  484   137  241  283   196   12  156    22
Added Vol:      0  189     0    0  217     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  228  798    13   37  701   137  241  283   196   12  156    22
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   228  798    13   37  701   137  241  283   196   12  156    22
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  228  798    13   37  701   137  241  283   196   12  156    22
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  228  798    13   37  701   137  241  283   196   12  156    22
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.93  0.93 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.97  0.03 1.00 1.67  0.33 1.00 1.00  1.00 1.00 0.88  0.12
Final Sat.:  1805 3545    58 1805 2947   576 1805 1900  1615 1805 1634   230
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.23  0.23 0.02 0.24  0.24 0.13 0.15  0.12 0.01 0.10  0.10
Crit Moves:        ****                ****  ****                ****
Green/Cycle: 0.28 0.28  0.28 0.30 0.30  0.30 0.17 0.19  0.19 0.10 0.12  0.12
Volume/Cap:  0.45 0.80  0.80 0.07 0.80  0.80 0.80 0.79  0.64 0.07 0.80  0.80
Delay/Veh:   27.2 34.5  34.5 22.7 33.5  33.5 49.9 46.1  38.4 37.0 56.6  56.6
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  27.2 34.5  34.5 22.7 33.5  33.5 49.9 46.1  38.4 37.0 56.6  56.6
LOS by Move:    C    C     C    C    C     C    D    D     D    D    E     E
HCM2kAvgQ:    137  327   327   17  280   280  171  197   127    7  132   132
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1024: 16th St / Martin Luther King Wy

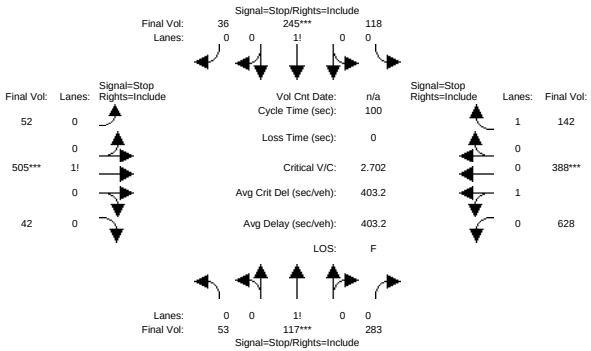



```
Street Name:           16th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     310  695    10   68  924   263  301  254   296   46  382    56
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  310  695    10   68  924   263  301  254   296   46  382    56
Added Vol:      0  217     0    0  189     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  310  912    10   68 1113   263  301  254   296   46  382    56
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   310  912    10   68 1113   263  301  254   296   46  382    56
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  310  912    10   68 1113   263  301  254   296   46  382    56
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  310  912    10   68 1113   263  301  254   296   46  382    56
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.92  0.92 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.98  0.02 1.00 1.62  0.38 1.00 1.00  1.00 1.00 0.87  0.13
Final Sat.:  1805 3564    39 1805 2835   670 1805 1900  1615 1805 1626   238
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.26  0.26 0.04 0.39  0.39 0.17 0.13  0.18 0.03 0.23  0.23
Crit Moves:             ****             ****  ****                ****
Green/Cycle: 0.21 0.21  0.21 0.32 0.32  0.32 0.14 0.23  0.23 0.10 0.19  0.19
Volume/Cap:  0.81 1.21  1.21 0.12 1.21  1.21 1.21 0.57  0.79 0.26 1.21  1.21
Delay/Veh:   46.4  143 142.8 21.5  134 134.1 165.3 32.4  43.0 38.3  155 154.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  46.4  143 142.8 21.5  134 134.1 165.3 32.4  43.0 38.3  155 154.5
LOS by Move:    D    F     F    C    F     F    F    C     D    D    F     F
HCM2kAvgQ:    265  671   671   31  876   876  380  151   198   29  557   557
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #1025: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      53   117   283   118   245    32    52   497    42   628   372   142
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   53   117   283   118   245    32    52   497    42   628   372   142
Added Vol:      0     0     0     0     0     4     0     8     0     0    16     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   53   117   283   118   245    36    52   505    42   628   388   142
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    53   117   283   118   245    36    52   505    42   628   388   142
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   53   117   283   118   245    36    52   505    42   628   388   142
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   53   117   283   118   245    36    52   505    42   628   388   142
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.12  0.26  0.62  0.30  0.61  0.09  0.09  0.84  0.07  0.62  0.38  1.00
Final Sat.:    48   106   256   117   242    36    34   330    27   232   144   420
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.10  1.10  1.10  1.01  1.01  1.01  1.53  1.53  1.53  2.70  2.70  0.34
Crit Moves:        ****              ****              ****              ****
Delay/Veh:  105.1   105 105.1  79.3  79.3  79.3 275.0   275 275.0 793.0   793  15.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh: 105.1   105 105.1  79.3  79.3  79.3 275.0   275 275.0 793.0   793  15.6
LOS by Move:    F     F     F     F     F     F     F     F     F     F     F     C
ApproachDel:     105.1             79.3             275.0             697.6
Delay Adj:        1.00             1.00              1.00              1.00
ApprAdjDel:      105.1             79.3             275.0             697.6
LOS by Appr:         F                F                 F                 F
AllWayAvgQ:    266   266 266.1   184   184 183.7   714   714 714.3  2039  2039  12.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1025 13th St / G St
*******************************************************************************
```



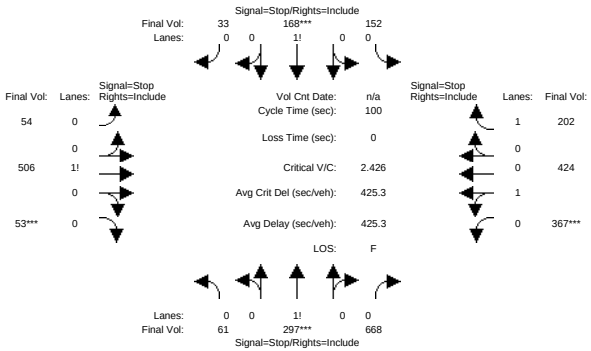
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   53  117   283   118  245    36    52  505    42   628  388   142
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1757
Minor Approach Volume:           453
Minor Approach Volume Threshold: 91 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #1025: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61  297   668   151  168    32    54  490    53   367  416   202
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   61  297   668   151  168    32    54  490    53   367  416   202
Added Vol:      0    0     0     1    0     1     0   16     0     0    8     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   61  297   668   152  168    33    54  506    53   367  424   202
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    61  297   668   152  168    33    54  506    53   367  424   202
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   61  297   668   152  168    33    54  506    53   367  424   202
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   61  297   668   152  168    33    54  506    53   367  424   202
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.06 0.29  0.65  0.43 0.48  0.09  0.09 0.82  0.09  0.46 0.54  1.00
Final Sat.:    25  122   275   170  187    37    35  332    35   179  207   430
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     2.43 2.43  2.43  0.90 0.90  0.90  1.52 1.52  1.52  2.05 2.05  0.47
Crit Moves:        ****              ****                 ****  ****
Delay/Veh:  667.2  667 667.2  54.1 54.1  54.1 271.8  272 271.8 500.0  500  18.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 667.2  667 667.2  54.1 54.1  54.1 271.8  272 271.8 500.0  500  18.3
LOS by Move:    F    F     F     F    F     F     F    F     F     F    F     C
ApproachDel:     667.2             54.1            271.8            402.0
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:      667.2             54.1            271.8            402.0
LOS by Appr:         F                F                F                F
AllWayAvgQ:  1926 1926  1926   115  115 114.7   725  725 725.5  1311 1311  21.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1025 13th St / G St
*******************************************************************************
```



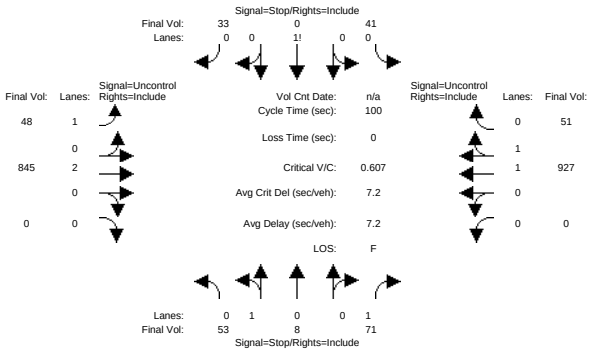
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   61  297   668   152  168    33    54  506    53   367  424   202
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1606
Minor Approach Volume:           1026
Minor Approach Volume Threshold: 122
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      50    4    71    41    0    33    48  837     0     0  908    51
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   50    4    71    41    0    33    48  837     0     0  908    51
Added Vol:      3    4     0     0    0     0     0    8     0     0   19     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   53    8    71    41    0    33    48  845     0     0  927    51
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    53    8    71    41    0    33    48  845     0     0  927    51
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   53    8    71    41    0    33    48  845     0     0  927    51
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1405 1919   423  1475 1894   489   978 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  101   68   585    90   71   530   714 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     90   64   585    68   66   530   714 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.59 0.13  0.12  0.61 0.00  0.06  0.07 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  10.3  xxxx xxxx xxxxx   5.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  12.0 xxxxx xxxx xxxxx  10.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:   85 xxxx xxxxx  xxxx  111 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  3.5 xxxx xxxxx xxxxx  3.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:116.2 xxxx xxxxx xxxxx 86.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     F    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      60.1             86.9           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   53    8    71    41    0    33    48  845     0     0  927    51
ApproachDel:      60.1             86.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=132]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2077]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=74]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2077]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

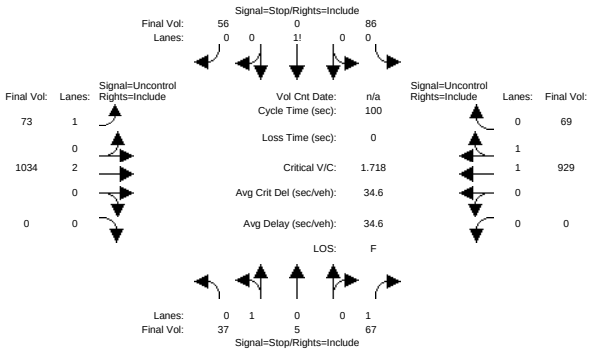
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   53    8    71    41    0    33    48  845     0     0  927    51
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1871
Minor Approach Volume:           132
Minor Approach Volume Threshold: 105 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1026: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36    4    67    86    0    56    73 1021     0     0  914    69
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36    4    67    86    0    56    73 1021     0     0  914    69
Added Vol:      1    1     0     0    0     0     0   13     0     0   15     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   37    5    67    86    0    56    73 1034     0     0  929    69
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    37    5    67    86    0    56    73 1034     0     0  929    69
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   37    5    67    86    0    56    73 1034     0     0  929    69
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1645 2178   517  1629 2144   499   998 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   67   47   509    69   49   522   701 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     55   42   509    50   44   522   701 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.67 0.12  0.13  1.72 0.00  0.11  0.10 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  11.3  xxxx xxxx xxxxx   8.7 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  13.2 xxxxx xxxx xxxxx  10.7 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:   53 xxxx xxxxx  xxxx   78 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  3.3 xxxx xxxxx xxxxx 12.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:188.1 xxxx xxxxx xxxxx  506 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     F    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      80.6            506.1           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   37    5    67    86    0    56    73 1034     0     0  929    69
ApproachDel:      80.6            506.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=109]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2356]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=20.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=142]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2356]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

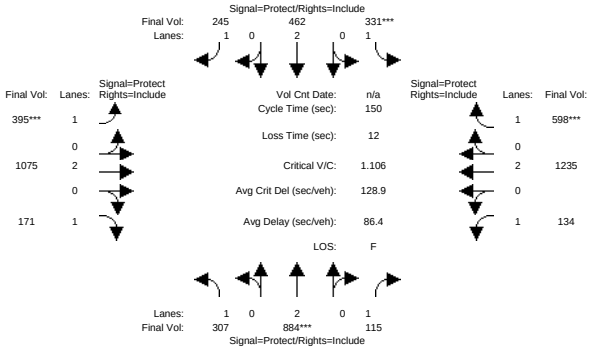
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1026 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   37    5    67    86    0    56    73 1034     0     0  929    69
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2105
Minor Approach Volume:           142
Minor Approach Volume Threshold: 28 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1028: Olive Ave / G St



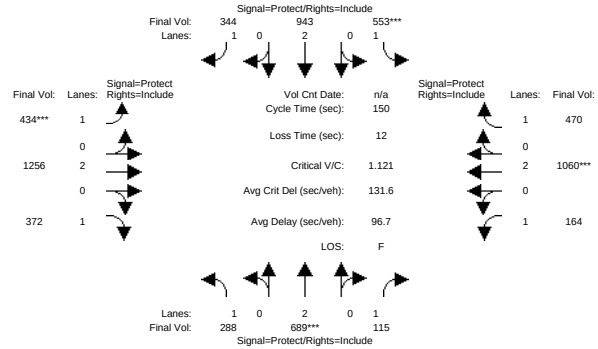
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	302	884	115	331	462	245	395	1072	168	134	1229	598
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	302	884	115	331	462	245	395	1072	168	134	1229	598
Added Vol:	5	0	0	0	0	0	0	3	3	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	307	884	115	331	462	245	395	1075	171	134	1235	598
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	307	884	115	331	462	245	395	1075	171	134	1235	598
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	307	884	115	331	462	245	395	1075	171	134	1235	598
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	307	884	115	331	462	245	395	1075	171	134	1235	598
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.17	0.24	0.07	0.18	0.13	0.15	0.22	0.30	0.11	0.07	0.34	0.37
Crit Moves:		****		****			****					****
Green/Cycle:	0.20	0.22	0.22	0.17	0.18	0.18	0.20	0.43	0.43	0.11	0.33	0.33
Volume/Cap:	0.83	1.11	0.32	1.11	0.70	0.83	1.11	0.70	0.25	0.70	1.02	1.11
Delay/Veh:	71.8	123	49.5	146.0	60.8	76.8	139.4	36.6	27.8	75.5	81.4	120.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	71.8	123	49.5	146.0	60.8	76.8	139.4	36.6	27.8	75.5	81.4	120.9
LOS by Move:	E	F	D	F	E	E	F	D	C	E	F	F
HCM2kAvgQ:	392	757	112	454	240	251	656	535	122	181	925	946

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1028: Olive Ave / G St



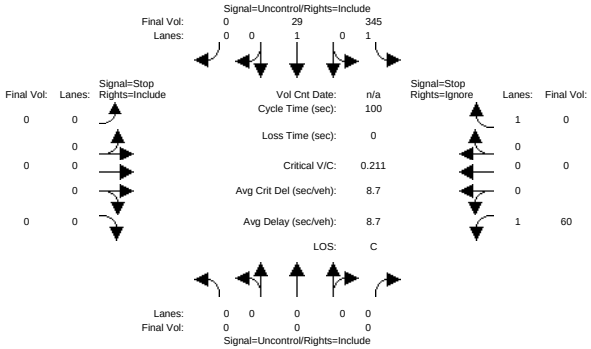
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	285	689	115	553	943	344	434	1250	367	164	1057	470
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	285	689	115	553	943	344	434	1250	367	164	1057	470
Added Vol:	3	0	0	0	0	0	0	6	5	0	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	288	689	115	553	943	344	434	1256	372	164	1060	470
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	288	689	115	553	943	344	434	1256	372	164	1060	470
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	288	689	115	553	943	344	434	1256	372	164	1060	470
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	288	689	115	553	943	344	434	1256	372	164	1060	470
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.16	0.19	0.07	0.31	0.26	0.21	0.24	0.35	0.23	0.09	0.29	0.29
Crit Moves:		****		****			****					****
Green/Cycle:	0.17	0.17	0.17	0.27	0.28	0.28	0.21	0.38	0.38	0.10	0.26	0.26
Volume/Cap:	0.95	1.12	0.42	1.12	0.95	0.77	1.12	0.92	0.61	0.92	1.12	1.11
Delay/Veh:	99.7	137	56.6	132.5	70.8	58.3	141.7	54.9	39.5	112.3	124	132.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	99.7	137	56.6	132.5	70.8	58.3	141.7	54.9	39.5	112.3	124	132.8
LOS by Move:	F	F	E	F	E	E	F	D	D	F	F	F
HCM2kAvgQ:	425	618	124	775	528	334	723	812	350	263	904	768

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   336   29     0     0    0     0    60    0   364
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   336   29     0     0    0     0    60    0   364
Added Vol:      0    0     0     9    0     0     0    0     0     0    0    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   345   29     0     0    0     0    60    0   378
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   345   29     0     0    0     0    60    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   345   29     0     0    0     0    60    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   719 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   398 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   334 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.21 xxxx  xxxx  xxxx xxxx  xxxx  0.18 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  19.9 xxxx xxxxx  xxxx xxxx xxxxx  16.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx  18.1 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             18.1
ApproachLOS:         *                *                *                C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   345   29     0     0    0     0    60    0   378
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             18.1
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=438]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=812]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

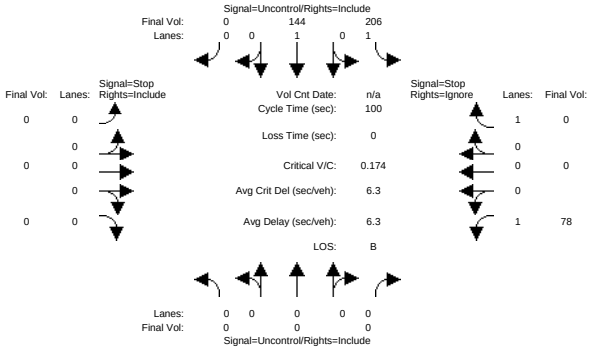
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   345   29     0     0    0     0    60    0   378
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             374
Minor Approach Volume:           438
Minor Approach Volume Threshold: 797
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   192  144     0     0    0     0    78    0   215
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   192  144     0     0    0     0    78    0   215
Added Vol:      0    0     0    14    0     0     0    0     0     0    0     9
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   206  144     0     0    0     0    78    0   224
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   206  144     0     0    0     0    78    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   206  144     0     0    0     0    78    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   556 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   496 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   448 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.13 xxxx  xxxx  xxxx xxxx  xxxx  0.17 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  10.8 xxxx xxxxx  xxxx xxxx xxxxx  15.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  14.7 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             14.7
ApproachLOS:         *                *                *                B
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   206  144     0     0    0     0    78    0   224
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             14.7
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=302]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=652]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

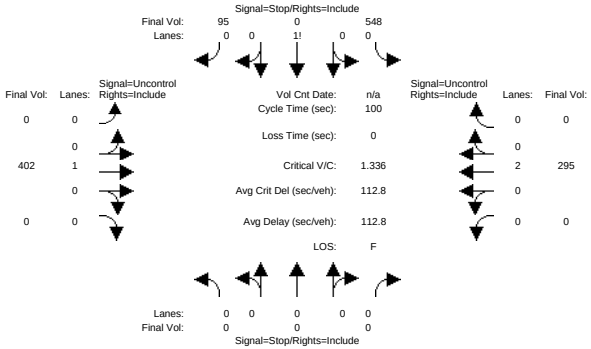
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   206  144     0     0    0     0    78    0   224
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             350
Minor Approach Volume:           302
Minor Approach Volume Threshold: 826
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   548    0    95     0  393     0     0  281     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   548    0    95     0  393     0     0  281     0
Added Vol:      0    0     0     0    0     0     0    9     0     0   14     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   548    0    95     0  402     0     0  295     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   548    0    95     0  402     0     0  295     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   548    0    95     0  402     0     0  295     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   697  697   148  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   410  367   905  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   410  367   905  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.34 0.00  0.11  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  446 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 32.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  235 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            235.1           xxxxxx           xxxxxx
ApproachLOS:         *              F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0    95     0  402     0     0  295     0
ApproachDel:    xxxxxx            235.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=42.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=643]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1340]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

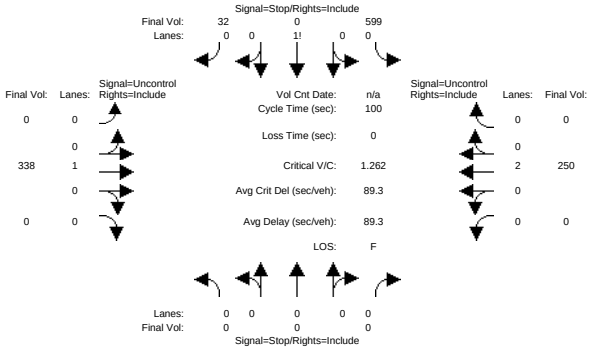
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0    95     0  402     0     0  295     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             697
Minor Approach Volume:           643
Minor Approach Volume Threshold: 409
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   599    0    32     0  324     0     0  241     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   599    0    32     0  324     0     0  241     0
Added Vol:      0    0     0     0    0     0     0   14     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   599    0    32     0  338     0     0  250     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   599    0    32     0  338     0     0  250     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   599    0    32     0  338     0     0  250     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   588  588   125  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   475  424   931  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   475  424   931  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.26 0.00  0.03  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  487 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 26.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  173 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            172.5           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    32     0  338     0     0  250     0
ApproachDel:    xxxxxx            172.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=30.2]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=631]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1219]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

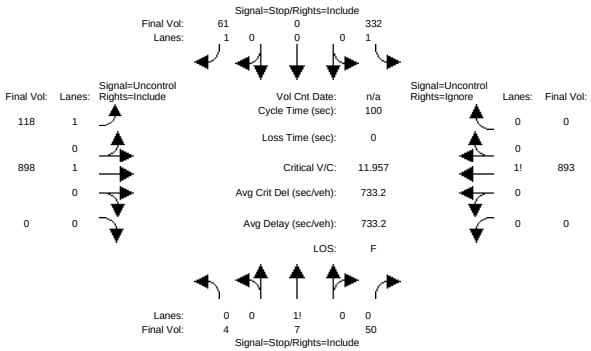
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    32     0  338     0     0  250     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             588
Minor Approach Volume:           631
Minor Approach Volume Threshold: 468
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    6    50   330    0    61   118  889     0     0  879   844
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4    6    50   330    0    61   118  889     0     0  879   844
Added Vol:      0    1     0     2    0     0     0    9     0     0   14     8
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4    7    50   332    0    61   118  898     0     0  893   852
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     4    7    50   332    0    61   118  898     0     0  893     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4    7    50   332    0    61   118  898     0     0  893     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2058 2027   898  2056 xxxx   893   893 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   41   58   341    41 xxxx   343   768 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     30   49   341    28 xxxx   343   768 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.13 0.14  0.15 11.96 xxxx  0.18  0.15 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  1027 xxxx  15.9  13.5 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  5203 xxxx  17.7  10.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     C     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  144 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 47.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *     *    *     *     *    *     *     *    *     *
ApproachDel:      47.1           4398.1           xxxxxx           xxxxxx
ApproachLOS:         E                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    4    7    50   332    0    61   118  898     0     0  893   852
ApproachDel:      47.1           4398.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=61]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3215]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=480.1]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=393]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3215]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

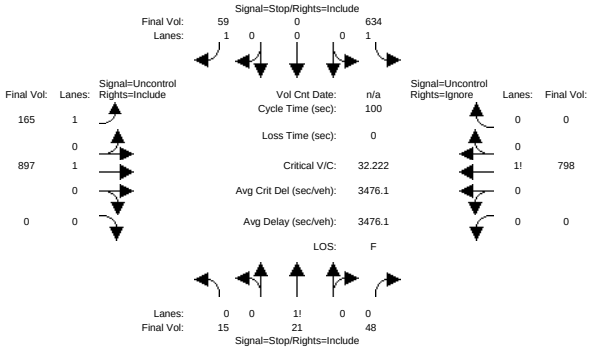
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    4    7    50   332    0    61   118  898     0     0  893   852
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2761
Minor Approach Volume:           393
Minor Approach Volume Threshold: -63 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   21    48   626    0    59   165  883     0     0  789   606
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15   21    48   626    0    59   165  883     0     0  789   606
Added Vol:      0    0     0     8    0     0     0   14     0     0    9     2
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   15   21    48   634    0    59   165  897     0     0  798   608
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:    15   21    48   634    0    59   165  897     0     0  798     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   15   21    48   634    0    59   165  897     0     0  798     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2055 2025   897  2060 xxxx   798   798 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   41   58   341    41 xxxx   389   833 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     30   47   341    20 xxxx   389   833 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.50 0.45  0.14 32.22 xxxx  0.15  0.20 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  1994 xxxx  13.2  18.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 14424 xxxx  15.9  10.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     C     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   77 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  6.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  226 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     226.0           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 F                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:   15   21    48   634    0    59   165  897     0     0  798   608
ApproachDel:     226.0           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=84]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3245]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2540.5]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=693]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3245]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

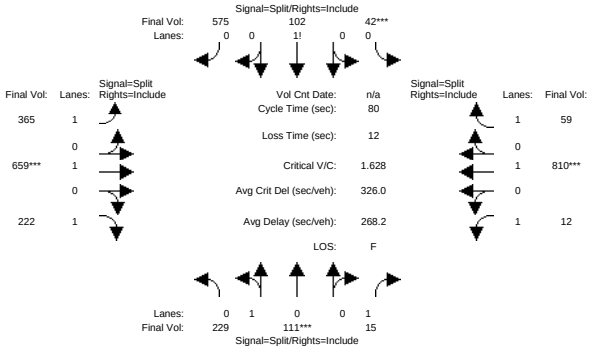
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1031 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:   15   21    48   634    0    59   165  897     0     0  798   608
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2468
Minor Approach Volume:           693
Minor Approach Volume Threshold: -14 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

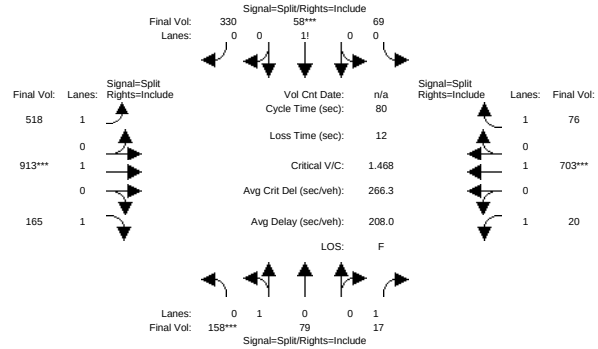



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     229  111    15   42  102   575  365  648   222   12  788    59
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  229  111    15   42  102   575  365  648   222   12  788    59
Added Vol:      0    0     0    0    0     0    0   11     0    0   22     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  229  111    15   42  102   575  365  659   222   12  810    59
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   229  111    15   42  102   575  365  659   222   12  810    59
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  229  111    15   42  102   575  365  659   222   12  810    59
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  229  111    15   42  102   575  365  659   222   12  810    59
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.89 0.89  0.89 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.06 0.14  0.80 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1237  600  1615   99  240  1351 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.19  0.01 0.43 0.43  0.43 0.20 0.35  0.14 0.01 0.43  0.04
Crit Moves:        ****        ****             ****             ****
Green/Cycle: 0.13 0.13  0.13 0.26 0.26  0.26 0.21 0.21  0.21 0.26 0.26  0.26
Volume/Cap:  1.48 1.48  0.07 1.65 1.65  1.65 0.96 1.65  0.66 0.03 1.65  0.14
Delay/Veh:  273.1  273  31.1 333.8  334 333.8  68.0  337  33.6 22.2  333  23.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 273.1  273  31.1 333.8  334 333.8  68.0  337  33.6 22.2  333  23.0
LOS by Move:    F    F     C     F    F     F    E    F     C    C    F     C
HCM2kAvgQ:    599  599     9  1347 1347  1347  350 1239   156    6 1510    29
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

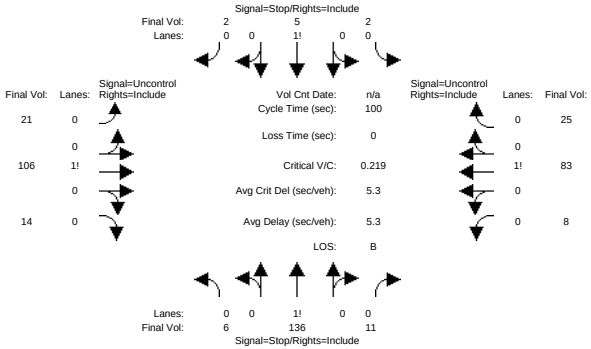



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     158   79    17   69   58   330  518  891   165   20  692    76
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  158   79    17   69   58   330  518  891   165   20  692    76
Added Vol:      0    0     0    0    0     0    0   22     0    0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  158   79    17   69   58   330  518  913   165   20  703    76
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   158   79    17   69   58   330  518  913   165   20  703    76
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  158   79    17   69   58   330  518  913   165   20  703    76
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  158   79    17   69   58   330  518  913   165   20  703    76
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.90 0.90  0.90 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.15 0.13  0.72 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1226  613  1615  257  216  1230 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.01 0.27 0.27  0.27 0.29 0.48  0.10 0.01 0.37  0.05
Crit Moves:  ****             ****             ****             ****
Green/Cycle: 0.13 0.13  0.13 0.17 0.17  0.17 0.31 0.31  0.31 0.24 0.24  0.24
Volume/Cap:  1.03 1.03  0.08 1.54 1.54  1.54 0.92 1.54  0.33 0.05 1.54  0.20
Delay/Veh:  102.6  103  31.1 293.6  294 293.6  47.3  280  21.5 23.4  286  24.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 102.6  103  31.1 293.6  294 293.6  47.3  280  21.5 23.4  286  24.5
LOS by Move:    F    F     C     F    F     F    D    F     C    C    F     C
HCM2kAvgQ:    279  279    11   820  820   820  422 1578    82   10 1229    40
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   33    11     2    5     2    20  106    14     8   83    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   33    11     2    5     2    20  106    14     8   83    13
Added Vol:      0  103     0     0    0     0     1    0     0     0    0    12
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6  136    11     2    5     2    21  106    14     8   83    25
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6  136    11     2    5     2    21  106    14     8   83    25
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6  136    11     2    5     2    21  106    14     8   83    25
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  270  279   113   340  274    96   108 xxxx xxxxx   120 xxxx xxxxx
Potent Cap.:  687  632   945   618  637   967  1495 xxxx xxxxx  1480 xxxx xxxxx
Move Cap.:    671  620   945   500  624   967  1495 xxxx xxxxx  1480 xxxx xxxxx
Volume/Cap:  0.01 0.22  0.01  0.00 0.01  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  638 xxxxx  xxxx  639 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.4 xxxxx xxxxx 10.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      12.4             10.7            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  136    11     2    5     2    21  106    14     8   83    25
ApproachDel:      12.4             10.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=153]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=419]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=419]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

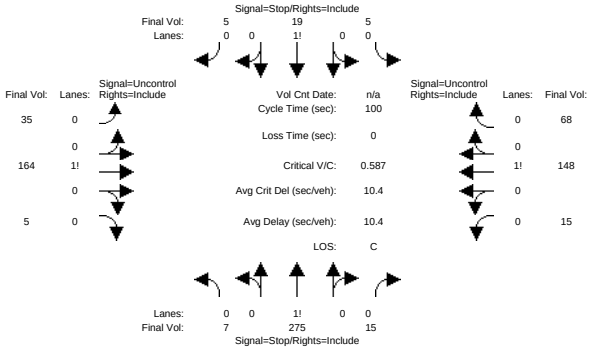
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  136    11     2    5     2    21  106    14     8   83    25
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             257
Minor Approach Volume:           153
Minor Approach Volume Threshold: 582
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                          O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  107    15     5   19     5    32  164     5    15  148    21
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7  107    15     5   19     5    32  164     5    15  148    21
Added Vol:      0  168     0     0    0     0     3    0     0     0    0    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7  275    15     5   19     5    35  164     5    15  148    68
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7  275    15     5   19     5    35  164     5    15  148    68
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7  275    15     5   19     5    35  164     5    15  148    68
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  461  483   167   594  451   182   216 xxxx xxxxx   169 xxxx xxxxx
Potent Cap.:  515  487   883   420  507   866  1366 xxxx xxxxx  1421 xxxx xxxxx
Move Cap.:    483  469   883   215  488   866  1366 xxxx xxxxx  1421 xxxx xxxxx
Volume/Cap:  0.01 0.59  0.02  0.02 0.04  0.01  0.03 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.0 xxxx xxxxx   0.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx   7.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  480 xxxxx  xxxx  427 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  4.1 xxxxx xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 23.9 xxxxx xxxxx 14.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     *    *     *     *    *     *
ApproachDel:      23.9             14.1           xxxxxx           xxxxxx
ApproachLOS:         C                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  275    15     5   19     5    35  164     5    15  148    68
ApproachDel:      23.9             14.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=297]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=761]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=29]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=761]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

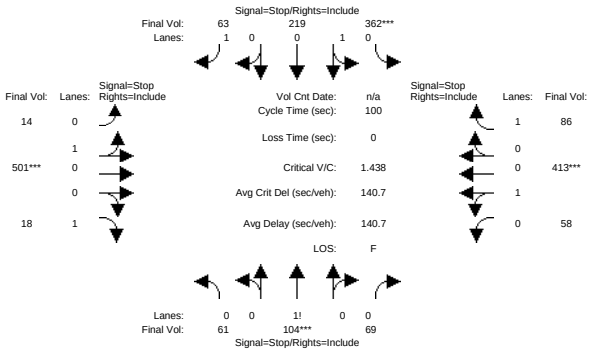
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  275    15     5   19     5    35  164     5    15  148    68
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             435
Minor Approach Volume:           297
Minor Approach Volume Threshold: 441
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61  103    61   141  214    63    14  480    18    48  402    86
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   61  103    61   141  214    63    14  480    18    48  402    86
Added Vol:      0    1     8   221    5     0     0   21     0    10   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   61  104    69   362  219    63    14  501    18    58  413    86
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    61  104    69   362  219    63    14  501    18    58  413    86
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   61  104    69   362  219    63    14  501    18    58  413    86
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   61  104    69   362  219    63    14  501    18    58  413    86
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.26 0.45  0.29  0.62 0.38  1.00  0.03 0.97  1.00  0.12 0.88  1.00
Final Sat.:    98  167   111   252  152   456    11  405   454    51  364   455
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.62 0.62  0.62  1.44 1.44  0.14  1.24 1.24  0.04  1.13 1.13  0.19
Crit Moves:        ****        ****                ****              ****
Delay/Veh:   27.3 27.3  27.3 234.7  235  11.9 151.8  152  11.0 114.5  114  12.4
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  27.3 27.3  27.3 234.7  235  11.9 151.8  152  11.0 114.5  114  12.4
LOS by Move:    D    D     D     F    F     B     F    F     B     F    F     B
ApproachDel:      27.3            212.9            147.1             98.7
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       27.3            212.9            147.1             98.7
LOS by Appr:         D                F                F                F
AllWayAvgQ:  38.2 38.2  38.2   626  626   4.0   406  406   1.0   297  297   5.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



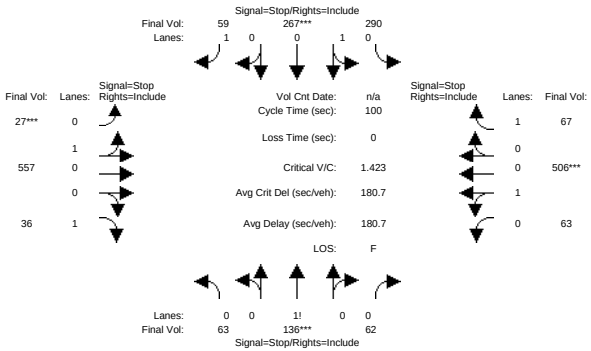
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   61  104    69   362  219    63    14  501    18    58  413    86
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1090
Minor Approach Volume:           644
Minor Approach Volume Threshold: 337
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #1034: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63   133    55   172   266    59    27   541    36    50   486    67
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   63   133    55   172   266    59    27   541    36    50   486    67
Added Vol:      0     3     7   118     1     0     0    16     0    13    20     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   63   136    62   290   267    59    27   557    36    63   506    67
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    63   136    62   290   267    59    27   557    36    63   506    67
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   63   136    62   290   267    59    27   557    36    63   506    67
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   63   136    62   290   267    59    27   557    36    63   506    67
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.24  0.52  0.24  0.52  0.48  1.00  0.05  0.95  1.00  0.11  0.89  1.00
Final Sat.:    90   195    89   208   192   448    19   391   447    45   364   448
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.70  0.70  0.70  1.39  1.39  0.13  1.42  1.42  0.08  1.39  1.39  0.15
Crit Moves:        ****              ****        ****                    ****
Delay/Veh:   32.1  32.1  32.1 215.6   216  11.9 228.0   228  11.5 214.4   214  12.2
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  32.1  32.1  32.1 215.6   216  11.9 228.0   228  11.5 214.4   214  12.2
LOS by Move:    D     D     D     F     F     B     F     F     B     F     F     B
ApproachDel:       32.1             196.1             215.4             193.1
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        32.1             196.1             215.4             193.1
LOS by Appr:          D                 F                 F                 F
AllWayAvgQ:  50.6  50.6  50.6   567   567   3.8   617   617   2.2   576   576   4.4
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1034 13th St / M St
*******************************************************************************
```



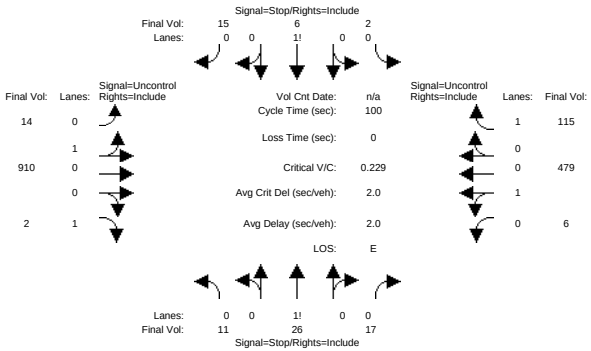
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   63  136    62   290  267    59    27  557    36    63  506    67
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1256
Minor Approach Volume:           616
Minor Approach Volume Threshold: 276
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      11   26    13     2    6    15    14  660     2     6  457    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   11   26    13     2    6    15    14  660     2     6  457    12
Added Vol:      0    0     4     0    0     0     0  250     0     0   22   103
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   11   26    17     2    6    15    14  910     2     6  479   115
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    11   26    17     2    6    15    14  910     2     6  479   115
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   11   26    17     2    6    15    14  910     2     6  479   115
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1497 1544   910  1452 1431   479   594 xxxx xxxxx   912 xxxx xxxxx
Potent Cap.:  102  116   336   110  136   591   992 xxxx xxxxx   755 xxxx xxxxx
Move Cap.:     94  113   336    84  133   591   992 xxxx xxxxx   755 xxxx xxxxx
Volume/Cap:  0.12 0.23  0.05  0.02 0.05  0.03  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx   0.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.7 xxxx xxxxx   9.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  136 xxxxx  xxxx  244 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.7 xxxxx xxxxx  0.3 xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 47.8 xxxxx xxxxx 21.3 xxxxx   8.7 xxxx xxxxx   9.8 xxxx xxxxx
Shared LOS:     *    E     *     *    C     *     A    *     *     A    *     *
ApproachDel:      47.8             21.3           xxxxxx           xxxxxx
ApproachLOS:         E                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:   11   26    17     2    6    15    14  910     2     6  479   115
ApproachDel:      47.8             21.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=54]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1603]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1603]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

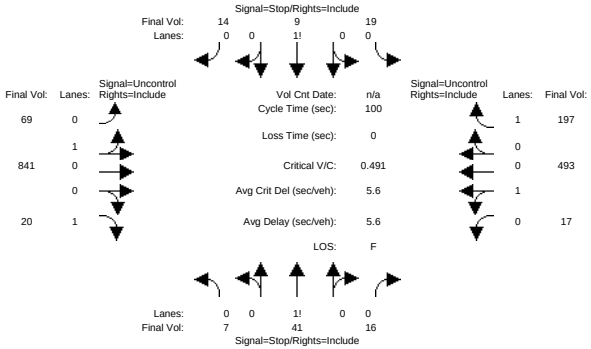
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1035 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:   11   26    17     2    6    15    14  910     2     6  479   115
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1526
Minor Approach Volume:           54
Minor Approach Volume Threshold: 139
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1035: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7   41    15    19    9    14    69  700    20    17  461    29
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7   41    15    19    9    14    69  700    20    17  461    29
Added Vol:      0    0     1     0    0     0     0  141     0     0   32   168
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7   41    16    19    9    14    69  841    20    17  493   197
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7   41    16    19    9    14    69  841    20    17  493   197
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7   41    16    19    9    14    69  841    20    17  493   197
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1616 1703   841  1545 1526   493   690 xxxx xxxxx   861 xxxx xxxxx
Potent Cap.:   84   93   368    94  119   580   914 xxxx xxxxx   789 xxxx xxxxx
Move Cap.:     71   84   368    52  107   580   914 xxxx xxxxx   789 xxxx xxxxx
Volume/Cap:  0.10 0.49  0.04  0.37 0.08  0.02  0.08 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   6.1 xxxx xxxxx   1.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.3 xxxx xxxxx   9.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  101 xxxxx  xxxx   88 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.1 xxxxx xxxxx  2.0 xxxxx   0.2 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 88.2 xxxxx xxxxx 78.3 xxxxx   9.3 xxxx xxxxx   9.7 xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     A    *     *     A    *     *
ApproachDel:      88.2             78.3           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
******************************************************************************
Intersection #1035 14th St / M St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    7   41    16    19    9    14    69  841    20    17  493   197
ApproachDel:      88.2             78.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=64]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1743]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=42]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1743]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

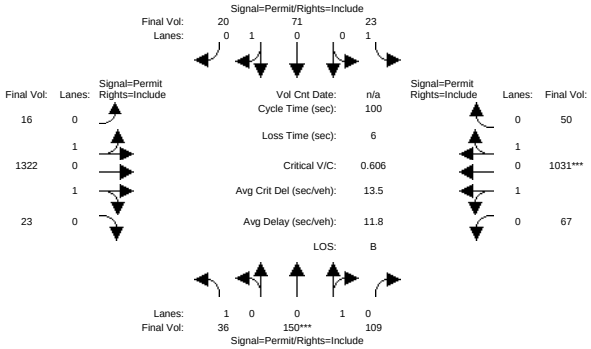
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
******************************************************************************
Intersection #1035 14th St / M St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    7   41    16    19    9    14    69  841    20    17  493   197
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1637
Minor Approach Volume:           64
Minor Approach Volume Threshold: 115
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1036: Main St / M St

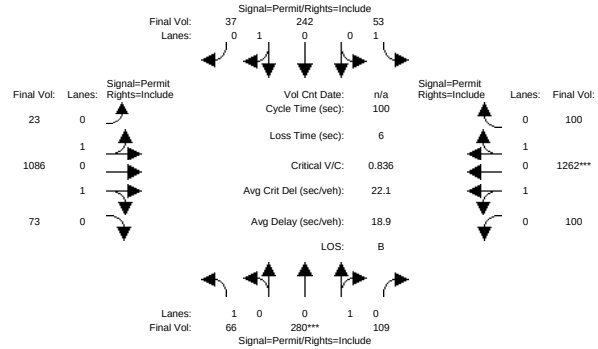



```
Street Name:            Main Street                     M Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      35  149   109   23   71    20   16 1301    23   67 1017    50
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   35  149   109   23   71    20   16 1301    23   67 1017    50
Added Vol:      1    1     0    0    0     0    0   21     0    0   14     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   36  150   109   23   71    20   16 1322    23   67 1031    50
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    36  150   109   23   71    20   16 1322    23   67 1031    50
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   36  150   109   23   71    20   16 1322    23   67 1031    50
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   36  150   109   23   71    20   16 1322    23   67 1031    50
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.67 0.94  0.94 0.35 0.97  0.97 0.88 0.88  0.88 0.71 0.71  0.71
Lanes:       1.00 0.58  0.42 1.00 0.78  0.22 0.02 1.95  0.03 0.12 1.79  0.09
Final Sat.:  1265 1031   749  667 1433   404   40 3265    57  158 2431   118
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.15  0.15 0.03 0.05  0.05 0.40 0.40  0.40 0.42 0.42  0.42
Crit Moves:        ****                                    ****
Green/Cycle: 0.24 0.24  0.24 0.24 0.24  0.24 0.70 0.70  0.70 0.70 0.70  0.70
Volume/Cap:  0.12 0.61  0.61 0.14 0.21  0.21 0.58 0.58  0.58 0.61 0.61  0.61
Delay/Veh:   29.9 36.3  36.3 30.3 30.6  30.6  7.9  7.9   7.9  8.4  8.4   8.4
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  29.9 36.3  36.3 30.3 30.6  30.6  7.9  7.9   7.9  8.4  8.4   8.4
LOS by Move:    C    D     D    C    C     C    A    A     A    A    A     A
HCM2kAvgQ:     23  196   196   17   57    57  268  268   268  241  241   241
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1036: Main St / M St

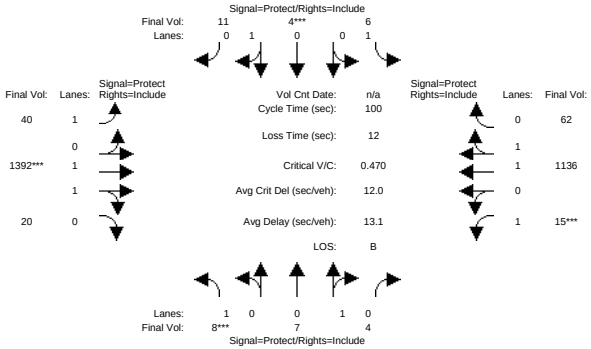



```
Street Name:            Main Street                     M Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      66  280   109   53  241    37   23 1072    72  100 1241   100
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   66  280   109   53  241    37   23 1072    72  100 1241   100
Added Vol:      0    0     0    0    1     0    0   14     1    0   21     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   66  280   109   53  242    37   23 1086    73  100 1262   100
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    66  280   109   53  242    37   23 1086    73  100 1262   100
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   66  280   109   53  242    37   23 1086    73  100 1262   100
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   66  280   109   53  242    37   23 1086    73  100 1262   100
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.34 0.96  0.96 0.17 0.98  0.98 0.85 0.85  0.85 0.67 0.67  0.67
Lanes:       1.00 0.72  0.28 1.00 0.87  0.13 0.04 1.84  0.12 0.14 1.72  0.14
Final Sat.:   646 1310   510  317 1615   247   63 2962   199  175 2206   175
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.21  0.21 0.17 0.15  0.15 0.37 0.37  0.37 0.57 0.57  0.57
Crit Moves:        ****                                    ****
Green/Cycle: 0.26 0.26  0.26 0.26 0.26  0.26 0.68 0.68  0.68 0.68 0.68  0.68
Volume/Cap:  0.40 0.84  0.84 0.65 0.59  0.59 0.54 0.54  0.54 0.84 0.84  0.84
Delay/Veh:   32.4 47.7  47.7 50.8 34.5  34.5  8.1  8.1   8.1 15.3 15.3  15.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  32.4 47.7  47.7 50.8 34.5  34.5  8.1  8.1   8.1 15.3 15.3  15.3
LOS by Move:    C    D     D    D    C     C    A    A     A    B    B     B
HCM2kAvgQ:     54  348   348   67  203   203  220  220   220  453  453   453
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1037: 18th St / M St



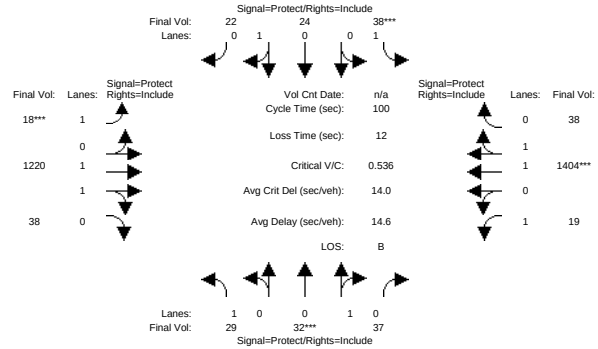
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	4		6		4	6		3		11	40		1387		4	15		1126		61
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	4		6		4	6		3		11	40		1387		4	15		1126		61
Added Vol:	4		1		0	0		1		0	0		5		16	0		10		1
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	8		7		4	6		4		11	40		1392		20	15		1136		62
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	8		7		4	6		4		11	40		1392		20	15		1136		62
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	8		7		4	6		4		11	40		1392		20	15		1136		62
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	8		7		4	6		4		11	40		1392		20	15		1136		62
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.95		0.95	0.95		0.89		0.89	0.95		0.95		0.95	0.95		0.94		0.94
Lanes:	1.00		0.64		0.36	1.00		0.27		0.73	1.00		1.97		0.03	1.00		1.90		0.10
Final Sat.:	1805		1143		653	1805		451		1240	1805		3552		51	1805		3396		185
Capacity Analysis Module:																				
Vol/Sat:	0.00		0.01		0.01	0.00		0.01		0.01	0.02		0.39		0.39	0.01		0.33		0.33
Crit Moves:	****							****					****			****				
Green/Cycle:	0.07		0.10		0.10	0.07		0.10		0.10	0.12		0.64		0.64	0.07		0.59		0.59
Volume/Cap:	0.06		0.06		0.06	0.05		0.09		0.09	0.18		0.61		0.61	0.12		0.57		0.57
Delay/Veh:	43.6		40.9		40.9	43.5		41.1		41.1	39.7		11.1		11.1	44.0		13.2		13.2
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	43.6		40.9		40.9	43.5		41.1		41.1	39.7		11.1		11.1	44.0		13.2		13.2
LOS by Move:	D		D		D	D		D		D	D		B		B	D		B		B
HCM2kAvgQ:	7		9		9	4		10		10	26		331		331	13		304		304

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1037: 18th St / M St



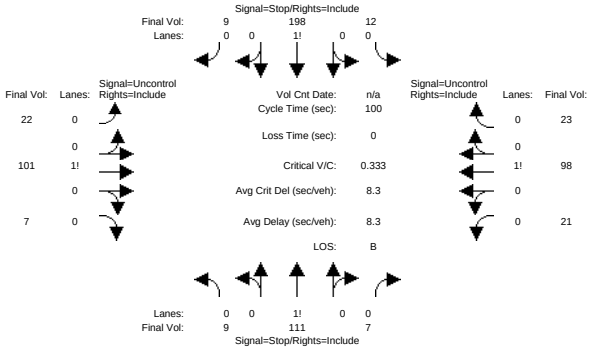
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	13		31		37	37		23		22	18		1210		34	19		1399		38
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	13		31		37	37		23		22	18		1210		34	19		1399		38
Added Vol:	16		1		0	1		1		0	0		10		4	0		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	29		32		37	38		24		22	18		1220		38	19		1404		38
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	29		32		37	38		24		22	18		1220		38	19		1404		38
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	29		32		37	38		24		22	18		1220		38	19		1404		38
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	29		32		37	38		24		22	18		1220		38	19		1404		38
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.92		0.92	0.95		0.93		0.93	0.95		0.95		0.95	0.95		0.95		0.95
Lanes:	1.00		0.46		0.54	1.00		0.52		0.48	1.00		1.94		0.06	1.00		1.95		0.05
Final Sat.:	1805		811		937	1805		920		843	1805		3487		109	1805		3501		95
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.04		0.04	0.02		0.03		0.03	0.01		0.35		0.35	0.01		0.40		0.40
Crit Moves:			****			****					****							****		
Green/Cycle:	0.07		0.10		0.10	0.07		0.10		0.10	0.07		0.59		0.59	0.12		0.64		0.64
Volume/Cap:	0.23		0.39		0.39	0.30		0.26		0.26	0.14		0.59		0.59	0.09		0.63		0.63
Delay/Veh:	44.9		43.6		43.6	45.5		42.4		42.4	44.2		13.3		13.3	39.5		11.4		11.4
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	44.9		43.6		43.6	45.5		42.4		42.4	44.2		13.3		13.3	39.5		11.4		11.4
LOS by Move:	D		D		D	D		D		D	D		B		B	D		B		B
HCM2kAvgQ:	26		60		60	27		32		32	12		312		312	14		358		358

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9   79     7    12   68     9    22  101     7    21   98    23
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9   79     7    12   68     9    22  101     7    21   98    23
Added Vol:      0   32     0     0  130     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    9  111     7    12  198     9    22  101     7    21   98    23
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9  111     7    12  198     9    22  101     7    21   98    23
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    9  111     7    12  198     9    22  101     7    21   98    23
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  404  312   105   359  304   110   121 xxxx xxxxx   108 xxxx xxxxx
Potent Cap.:  561  607   956   600  613   950  1479 xxxx xxxxx  1495 xxxx xxxxx
Move Cap.:    404  589   956   499  595   950  1479 xxxx xxxxx  1495 xxxx xxxxx
Volume/Cap:  0.02 0.19  0.01  0.02 0.33  0.01  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  582 xxxxx  xxxx  598 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.8 xxxxx xxxxx  1.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.9 xxxxx xxxxx 14.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      12.9             14.5           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  111     7    12  198     9    22  101     7    21   98    23
ApproachDel:      12.9             14.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=127]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=618]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=219]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=618]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

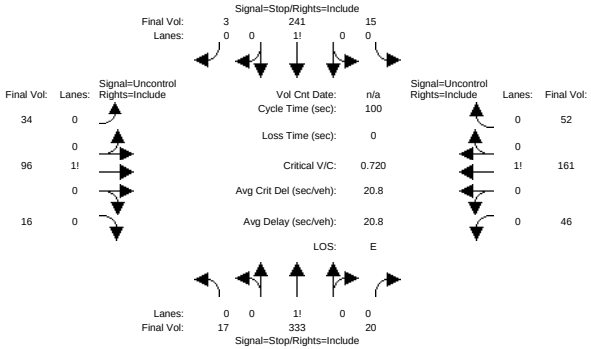
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  111     7    12  198     9    22  101     7    21   98    23
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             272
Minor Approach Volume:           219
Minor Approach Volume Threshold: 567
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1038: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17  203    20    15  209     3    34   96    16    46  161    52
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   17  203    20    15  209     3    34   96    16    46  161    52
Added Vol:      0  130     0     0   32     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   17  333    20    15  241     3    34   96    16    46  161    52
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    17  333    20    15  241     3    34   96    16    46  161    52
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   17  333    20    15  241     3    34   96    16    46  161    52
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  573  477   104   628  459   187   213 xxxx xxxxx   112 xxxx xxxxx
Potent Cap.:  433  490   956   399  502   860  1369 xxxx xxxxx  1490 xxxx xxxxx
Move Cap.:    249  462   956   156  473   860  1369 xxxx xxxxx  1490 xxxx xxxxx
Volume/Cap:  0.07 0.72  0.02  0.10 0.51  0.00  0.02 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.9 xxxx xxxxx   2.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx   7.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  457 xxxxx  xxxx  425 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  7.5 xxxxx xxxxx  3.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 38.6 xxxxx xxxxx 25.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *     *    D     *     *    *     *     *    *     *
ApproachDel:      38.6             25.8            xxxxxx           xxxxxx
ApproachLOS:         E                D                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   17  333    20    15  241     3    34   96    16    46  161    52
ApproachDel:      38.6             25.8            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=370]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1034]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=259]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1034]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1038 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   17  333    20    15  241     3    34   96    16    46  161    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             405
Minor Approach Volume:           370
Minor Approach Volume Threshold: 460
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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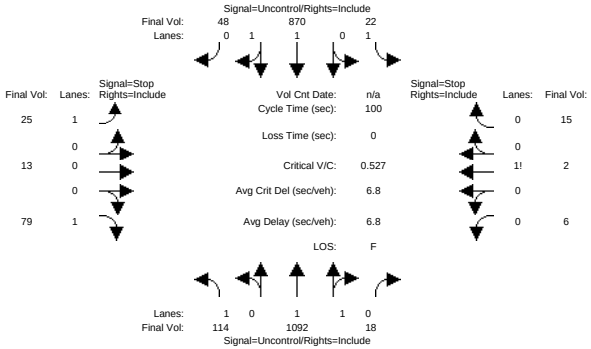
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     114  903    18    22  653    48    25   13    79     6    2    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  114  903    18    22  653    48    25   13    79     6    2    15
Added Vol:      0  189     0     0  217     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  114 1092    18    22  870    48    25   13    79     6    2    15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   114 1092    18    22  870    48    25   13    79     6    2    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  114 1092    18    22  870    48    25   13    79     6    2    15
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  918 xxxx xxxxx  1110 xxxx xxxxx  1713 2276   459  1815 2291   555
Potent Cap.:  752 xxxx xxxxx   637 xxxx xxxxx    60   41   554    50   40   480
Move Cap.:    752 xxxx xxxxx   637 xxxx xxxxx    47   33   554    26   33   480
Volume/Cap:  0.15 xxxx  xxxx  0.03 xxxx  xxxx  0.53 0.39  0.14  0.23 0.06  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   13.3 xxxx xxxxx   2.7 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.6 xxxx xxxxx  10.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx    41 xxxx   172  xxxx   71 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.6 xxxx   2.7 xxxxx  1.2 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 264.1 xxxx  47.5 xxxxx 78.3 xxxxx
Shared LOS:     *    *     *     *    *     *     F    *     E     *    F     *
ApproachDel:    xxxxxx           xxxxxx            110.8             78.3
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:  114 1092    18    22  870    48    25   13    79     6    2    15
ApproachDel:    xxxxxx           xxxxxx            110.8             78.3
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=117]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2304]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2304]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:  114 1092    18    22  870    48    25   13    79     6    2    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2164
Minor Approach Volume:           117
Minor Approach Volume Threshold: 42 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
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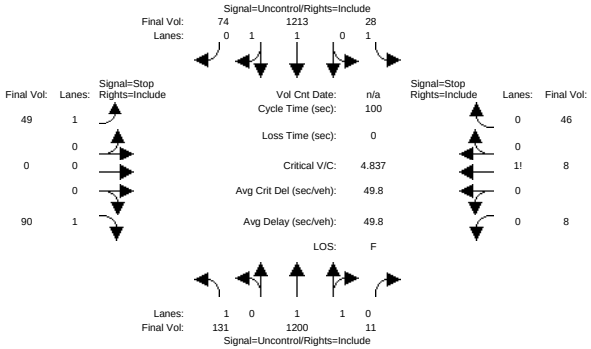
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     131  983    11    28 1024    74    49    0    90     8    8    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  131  983    11    28 1024    74    49    0    90     8    8    46
Added Vol:      0  217     0     0  189     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  131 1200    11    28 1213    74    49    0    90     8    8    46
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   131 1200    11    28 1213    74    49    0    90     8    8    46
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  131 1200    11    28 1213    74    49    0    90     8    8    46
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1287 xxxx xxxxx  1211 xxxx xxxxx  2172 xxxx   644  2130 2811   606
Potent Cap.:  546 xxxx xxxxx   583 xxxx xxxxx    27 xxxx   421    29   18   445
Move Cap.:    546 xxxx xxxxx   583 xxxx xxxxx    10 xxxx   421    18   13   445
Volume/Cap:  0.24 xxxx  xxxx  0.05 xxxx  xxxx  4.84 xxxx  0.21  0.45 0.60  0.10
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   23.3 xxxx xxxxx   3.8 xxxx xxxxx   184 xxxx  20.0  xxxx xxxx xxxxx
Control Del: 13.7 xxxx xxxxx  11.5 xxxx xxxxx  2456 xxxx  15.9 xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     F    *     C     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx   54 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  5.4 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  296 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    F     *
ApproachDel:    xxxxxx           xxxxxx            876.1           296.3
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:  131 1200    11    28 1213    74    49    0    90     8    8    46
ApproachDel:    xxxxxx           xxxxxx            876.1           296.3
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=33.8]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=139]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2858]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2858]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:  131 1200    11    28 1213    74    49    0    90     8    8    46
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2657
Minor Approach Volume:           139
Minor Approach Volume Threshold: -46 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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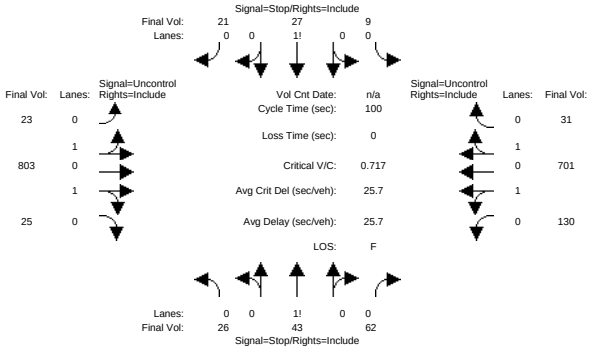
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26   42    46     9   25    11     4  794    25    65  692    31
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26   42    46     9   25    11     4  794    25    65  692    31
Added Vol:      0    1    16     0    2    10    19    9     0    65    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26   43    62     9   27    21    23  803    25   130  701    31
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26   43    62     9   27    21    23  803    25   130  701    31
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26   43    62     9   27    21    23  803    25   130  701    31
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1486 1854   414  1446 1851   366   732 xxxx xxxxx   828 xxxx xxxxx
Potent Cap.:   88   75   593    94   75   637   882 xxxx xxxxx   812 xxxx xxxxx
Move Cap.:     48   60   593    31   60   637   882 xxxx xxxxx   812 xxxx xxxxx
Volume/Cap:  0.55 0.72  0.10  0.29 0.45  0.03  0.03 xxxx  xxxx  0.16 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.0 xxxx xxxxx  14.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.2 xxxx xxxxx  10.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   96 xxxxx  xxxx   74 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  9.6 xxxxx xxxxx  3.7 xxxxx   0.1 xxxx xxxxx   0.6 xxxx xxxxx
Shrd ConDel:xxxxx  299 xxxxx xxxxx  143 xxxxx   9.2 xxxx xxxxx  10.3 xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     A    *     *     B    *     *
ApproachDel:     298.8            143.3           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   26   43    62     9   27    21    23  803    25   130  701    31
ApproachDel:     298.8            143.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=10.9]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=131]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1901]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=57]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1901]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

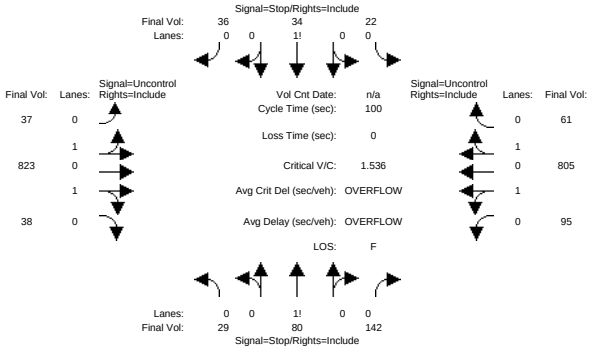
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   26   43    62     9   27    21    23  803    25   130  701    31
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1713
Minor Approach Volume:           131
Minor Approach Volume Threshold: 99 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1040: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      29   74    77    22   34    17    27  814    38    79  796    61
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   29   74    77    22   34    17    27  814    38    79  796    61
Added Vol:      0    6    65     0    0    19    10    9     0    16    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   29   80   142    22   34    36    37  823    38    95  805    61
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    29   80   142    22   34    36    37  823    38    95  805    61
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   29   80   142    22   34    36    37  823    38    95  805    61
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1526 1972   431  1551 1961   433   866 xxxx xxxxx   861 xxxx xxxxx
Potent Cap.:   82   63   579    79   64   576   786 xxxx xxxxx   789 xxxx xxxxx
Move Cap.:     33   52   579     0   53   576   786 xxxx xxxxx   789 xxxx xxxxx
Volume/Cap:  0.88 1.54  0.25  xxxx 0.64  0.06  0.05 xxxx  xxxx  0.12 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.7 xxxx xxxxx  10.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.8 xxxx xxxxx  10.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   94 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 23.6 xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx   0.4 xxxx xxxxx
Shrd ConDel:xxxxx  846 xxxxx xxxxx xxxx xxxxx   9.8 xxxx xxxxx  10.2 xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     A    *     *     B    *     *
ApproachDel:     846.3           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         F                 F                 *                 *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   29   80   142    22   34    36    37  823    38    95  805    61
ApproachDel:     846.3           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=59.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=251]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2202]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=92]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2202]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

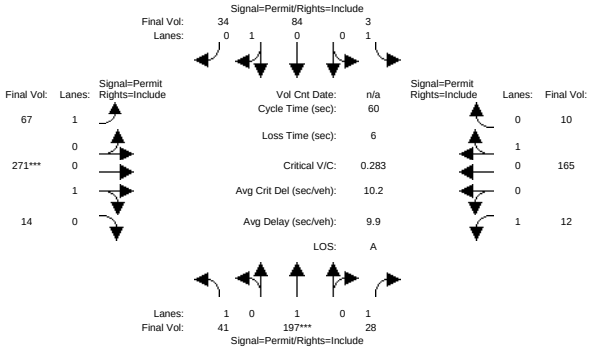
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1040 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   29   80   142    22   34    36    37  823    38    95  805    61
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1859
Minor Approach Volume:           251
Minor Approach Volume Threshold: 71 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1041: Main St / Martin Luther King Wy



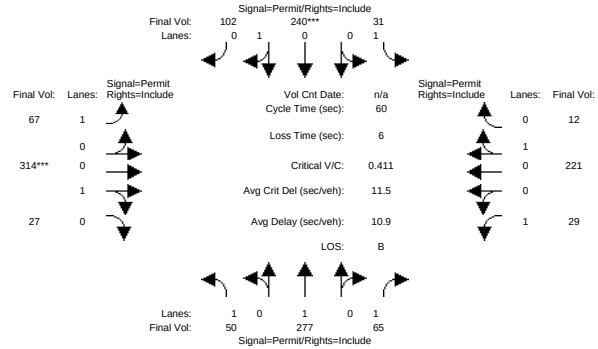
Street Name:	Main Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	41		195		28	3		84		34	67		271		14	12		165		10
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	41		195		28	3		84		34	67		271		14	12		165		10
Added Vol:	0		2		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	41		197		28	3		84		34	67		271		14	12		165		10
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	41		197		28	3		84		34	67		271		14	12		165		10
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	41		197		28	3		84		34	67		271		14	12		165		10
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	41		197		28	3		84		34	67		271		14	12		165		10
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.68		1.00		0.85	0.58		0.96		0.96	0.64		0.99		0.99	0.54		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.71		0.29	1.00		0.95		0.05	1.00		0.94		0.06
Final Sat.:	1286		1900		1615	1100		1294		524	1216		1794		93	1022		1775		108
Capacity Analysis Module:																				
Vol/Sat:	0.03		0.10		0.02	0.00		0.06		0.06	0.06		0.15		0.15	0.01		0.09		0.09
Crit Moves:			****										****							
Green/Cycle:	0.37		0.37		0.37	0.37		0.37		0.37	0.53		0.53		0.53	0.53		0.53		0.53
Volume/Cap:	0.09		0.28		0.05	0.01		0.18		0.18	0.10		0.28		0.28	0.02		0.17		0.17
Delay/Veh:	12.5		13.7		12.3	12.1		13.0		13.0	7.0		7.8		7.8	6.6		7.3		7.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	12.5		13.7		12.3	12.1		13.0		13.0	7.0		7.8		7.8	6.6		7.3		7.3
LOS by Move:	B		B		B	B		B		B	A		A		A	A		A		A
HCM2kAvgQ:	14		68		9	1		39		39	14		68		68	3		43		43

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1041: Main St / Martin Luther King Wy



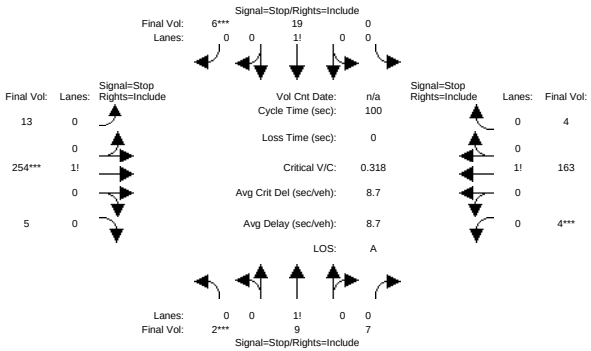
Street Name:	Main Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	50		277		65	31		238		102	67		314		27	29		221		12
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	50		277		65	31		238		102	67		314		27	29		221		12
Added Vol:	0		0		0	0		2		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	50		277		65	31		240		102	67		314		27	29		221		12
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	50		277		65	31		240		102	67		314		27	29		221		12
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	50		277		65	31		240		102	67		314		27	29		221		12
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	50		277		65	31		240		102	67		314		27	29		221		12
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.46		1.00		0.85	0.52		0.96		0.96	0.56		0.99		0.99	0.45		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.70		0.30	1.00		0.92		0.08	1.00		0.95		0.05
Final Sat.:	872		1900		1615	990		1273		541	1066		1729		149	857		1788		97
Capacity Analysis Module:																				
Vol/Sat:	0.06		0.15		0.04	0.03		0.19		0.19	0.06		0.18		0.18	0.03		0.12		0.12
Crit Moves:								****					****							
Green/Cycle:	0.46		0.46		0.46	0.46		0.46		0.46	0.44		0.44		0.44	0.44		0.44		0.44
Volume/Cap:	0.13		0.32		0.09	0.07		0.41		0.41	0.14		0.41		0.41	0.08		0.28		0.28
Delay/Veh:	9.5		10.5		9.2	9.2		11.2		11.2	10.1		11.8		11.8	9.8		10.9		10.9
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	9.5		10.5		9.2	9.2		11.2		11.2	10.1		11.8		11.8	9.8		10.9		10.9
LOS by Move:	A		B		A	A		B		B	B		B		B	A		B		B
HCM2kAvgQ:	16		85		18	9		112		112	18		104		104	9		72		72

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    4     7     0    2     6    13  254     5     4  163     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    4     7     0    2     6    13  254     5     4  163     4
Added Vol:      0    5     0     0   17     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    9     7     0   19     6    13  254     5     4  163     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    9     7     0   19     6    13  254     5     4  163     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2    9     7     0   19     6    13  254     5     4  163     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    2    9     7     0   19     6    13  254     5     4  163     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.11 0.50  0.39  0.00 0.76  0.24  0.05 0.93  0.02  0.02 0.96  0.02
Final Sat.:    79  357   278     0  537   170    41  798    16    19  794    19
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.03  0.03  xxxx 0.04  0.04  0.32 0.32  0.32  0.21 0.21  0.21
Crit Moves:  ****                          ****        ****        ****
Delay/Veh:    7.7  7.7   7.7   0.0  7.8   7.8   9.1  9.1   9.1   8.3  8.3   8.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.7  7.7   7.7   0.0  7.8   7.8   9.1  9.1   9.1   8.3  8.3   8.3
LOS by Move:    A    A     A     *    A     A     A    A     A     A    A     A
ApproachDel:       7.7              7.8              9.1              8.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.7              7.8              9.1              8.3
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.5  0.5   0.5   0.8  0.8   0.8  11.3 11.3  11.3   6.2  6.2   6.2
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



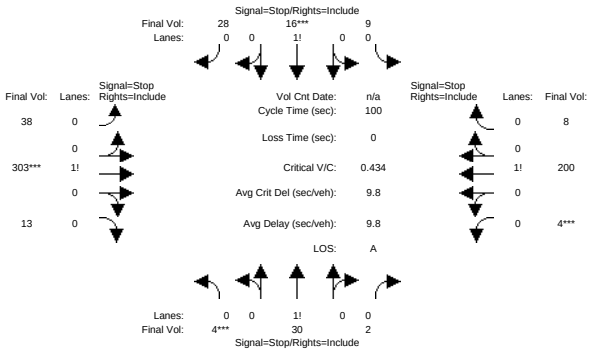
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2    9     7    0   19     6   13  254     5    4  163     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             443
Minor Approach Volume:           25
Minor Approach Volume Threshold: 437
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #1042: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    13     2     9    11    28    38   303    13     4   200     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4    13     2     9    11    28    38   303    13     4   200     8
Added Vol:      0    17     0     0     5     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    4    30     2     9    16    28    38   303    13     4   200     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4    30     2     9    16    28    38   303    13     4   200     8
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    4    30     2     9    16    28    38   303    13     4   200     8
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    4    30     2     9    16    28    38   303    13     4   200     8
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.11 0.83  0.06  0.17 0.30  0.53  0.11 0.85  0.04  0.02 0.94  0.04
Final Sat.:    70  526    35   114  202   353    87  698    30    15  741    30
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.06  0.06  0.08 0.08  0.08  0.43 0.43  0.43  0.27 0.27  0.27
Crit Moves:  ****                 ****             ****        ****
Delay/Veh:    8.4  8.4   8.4   8.2  8.2   8.2  10.5 10.5  10.5   9.0  9.0   9.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.4  8.4   8.4   8.2  8.2   8.2  10.5 10.5  10.5   9.0  9.0   9.0
LOS by Move:    A    A     A     A    A     A     B    B     B     A    A     A
ApproachDel:       8.4              8.2             10.5              9.0
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.4              8.2             10.5              9.0
LOS by Appr:         A                A                B                A
AllWayAvgQ:   1.2  1.2   1.2   1.7  1.7   1.7  18.1 18.1  18.1   8.6  8.6   8.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
```



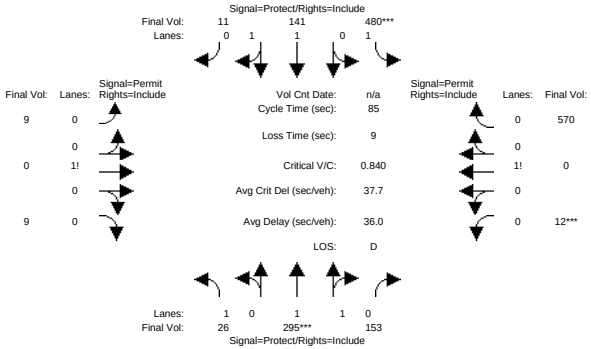
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4   30     2     9   16    28    38  303    13     4  200     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             566
Minor Approach Volume:           53
Minor Approach Volume Threshold: 371
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1043: 16th St / H St



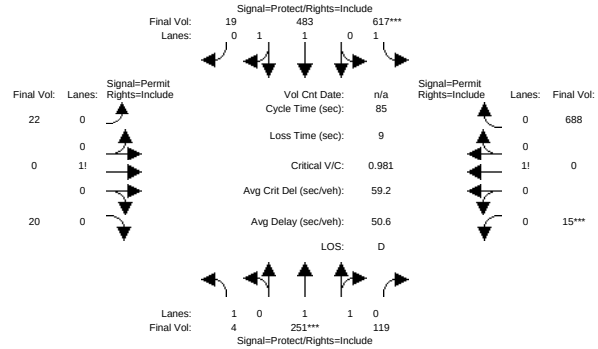
Street Name:	16th Street						H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	26	273	153	466	132	11	9	0	9	12	0	560
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	273	153	466	132	11	9	0	9	12	0	560
Added Vol:	0	22	0	14	9	0	0	0	0	0	0	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	295	153	480	141	11	9	0	9	12	0	570
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	295	153	480	141	11	9	0	9	12	0	570
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	295	153	480	141	11	9	0	9	12	0	570
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	295	153	480	141	11	9	0	9	12	0	570
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.94	0.94	0.78	1.00	0.78	0.86	1.00	0.86
Lanes:	1.00	1.32	0.68	1.00	1.86	0.14	0.50	0.00	0.50	0.02	0.00	0.98
Final Sat.:	1805	2256	1170	1805	3312	258	744	0	744	34	0	1609
Capacity Analysis Module:												
Vol/Sat:	0.01	0.13	0.13	0.27	0.04	0.04	0.01	0.00	0.01	0.35	0.00	0.35
Crit Moves:		****		****						****		
Green/Cycle:	0.19	0.16	0.16	0.32	0.28	0.28	0.42	0.00	0.42	0.42	0.00	0.42
Volume/Cap:	0.07	0.84	0.84	0.84	0.15	0.15	0.03	0.00	0.03	0.84	0.00	0.84
Delay/Veh:	28.1	46.2	46.2	37.7	23.2	23.2	14.4	0.0	14.4	31.0	0.0	31.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.1	46.2	46.2	37.7	23.2	23.2	14.4	0.0	14.4	31.0	0.0	31.0
LOS by Move:	C	D	D	D	C	C	B	A	B	C	A	C
HCM2kAvgQ:	15	218	218	362	40	40	7	0	7	409	0	409

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1043: 16th St / H St



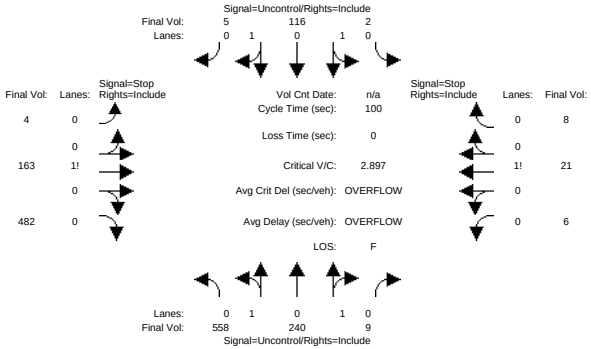
Street Name:	16th Street						H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	4	236	119	600	469	19	22	0	20	15	0	680
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	236	119	600	469	19	22	0	20	15	0	680
Added Vol:	0	15	0	17	14	0	0	0	0	0	0	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	251	119	617	483	19	22	0	20	15	0	688
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	251	119	617	483	19	22	0	20	15	0	688
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	251	119	617	483	19	22	0	20	15	0	688
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	251	119	617	483	19	22	0	20	15	0	688
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.94	0.94	0.72	1.00	0.72	0.86	1.00	0.86
Lanes:	1.00	1.36	0.64	1.00	1.92	0.08	0.52	0.00	0.48	0.02	0.00	0.98
Final Sat.:	1805	2331	1105	1805	3453	136	713	0	648	35	0	1608
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.11	0.34	0.14	0.14	0.03	0.00	0.03	0.43	0.00	0.43
Crit Moves:		****		****						****		
Green/Cycle:	0.17	0.12	0.12	0.34	0.29	0.29	0.43	0.00	0.43	0.43	0.00	0.43
Volume/Cap:	0.01	0.92	0.92	0.99	0.48	0.48	0.07	0.00	0.07	0.99	0.00	0.99
Delay/Veh:	29.3	62.1	62.1	61.5	25.2	25.2	14.2	0.0	14.2	55.5	0.0	55.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.3	62.1	62.1	61.5	25.2	25.2	14.2	0.0	14.2	55.5	0.0	55.5
LOS by Move:	C	E	E	E	C	C	B	A	B	E	A	E
HCM2kAvgQ:	2	212	212	574	151	151	16	0	16	637	0	637

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     548  238     9     2  116     5     4  163   468     6   21     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  548  238     9     2  116     5     4  163   468     6   21     8
Added Vol:     10    2     0     0    0     0     0    0    14     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  558  240     9     2  116     5     4  163   482     6   21     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   558  240     9     2  116     5     4  163   482     6   21     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  558  240     9     2  116     5     4  163   482     6   21     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  121 xxxx xxxxx   249 xxxx xxxxx  1369 1488    61  1504 1486   125
Potent Cap.: 1479 xxxx xxxxx  1328 xxxx xxxxx   107  125   999    85  126   909
Move Cap.:   1479 xxxx xxxxx  1328 xxxx xxxxx    44   56   999     0   56   909
Volume/Cap:  0.38 xxxx  xxxx  0.00 xxxx  xxxx  0.09 2.90  0.48  xxxx 0.37  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   44.7 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.9 xxxx xxxxx   7.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  187 xxxxx  xxxx    0 xxxxx
SharedQueue:  1.8 xxxx xxxxx   0.0 xxxx xxxxx xxxxx 61.7 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.9 xxxx xxxxx   7.7 xxxx xxxxx xxxxx 1162 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     A    *     *     *    F     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           1162.3           xxxxxx
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  558  240     9     2  116     5     4  163   482     6   21     8
ApproachDel:    xxxxxx           xxxxxx           1162.3           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=209.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=649]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1614]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1614]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

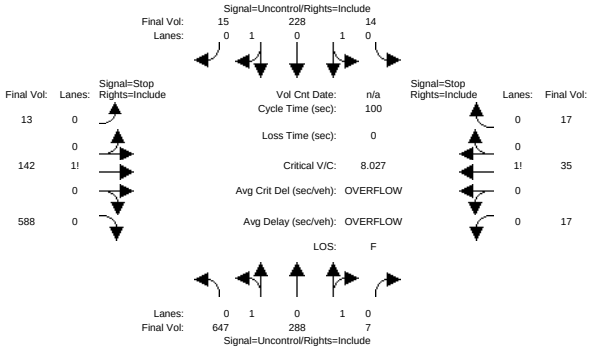
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  558  240     9     2  116     5     4  163   482     6   21     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             930
Minor Approach Volume:           649
Minor Approach Volume Threshold: 310
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1044: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     639  288     7    14  226    15    13  142   571    17   35    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  639  288     7    14  226    15    13  142   571    17   35    17
Added Vol:      8    0     0     0    2     0     0    0    17     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  647  288     7    14  228    15    13  142   588    17   35    17
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   647  288     7    14  228    15    13  142   588    17   35    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  647  288     7    14  228    15    13  142   588    17   35    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  243 xxxx xxxxx   295 xxxx xxxxx  1719 1853   122  1799 1857   148
Potent Cap.: 1335 xxxx xxxxx  1278 xxxx xxxxx    59   75   913    51   74   879
Move Cap.:   1335 xxxx xxxxx  1278 xxxx xxxxx     0   18   913     0   18   879
Volume/Cap:  0.48 xxxx  xxxx  0.01 xxxx  xxxx  xxxx 8.03  0.64  xxxx 1.99  0.02
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   68.3 xxxx xxxxx   0.8 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.2 xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx    0 xxxxx  xxxx    0 xxxxx
SharedQueue:  2.7 xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 10.2 xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     A    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  647  288     7    14  228    15    13  142   588    17   35    17
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=743]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2011]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=69]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2011]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

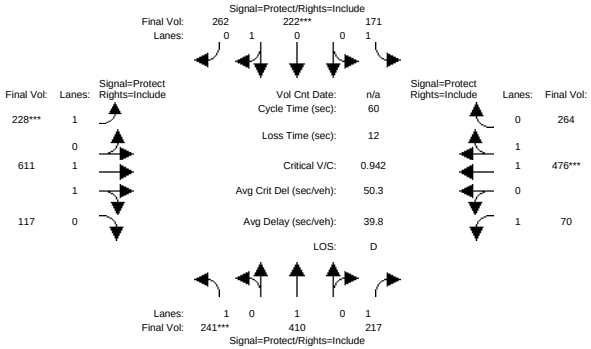
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1044 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  647  288     7    14  228    15    13  142   588    17   35    17
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1199
Minor Approach Volume:           743
Minor Approach Volume Threshold: 222
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1046: Main St / G St



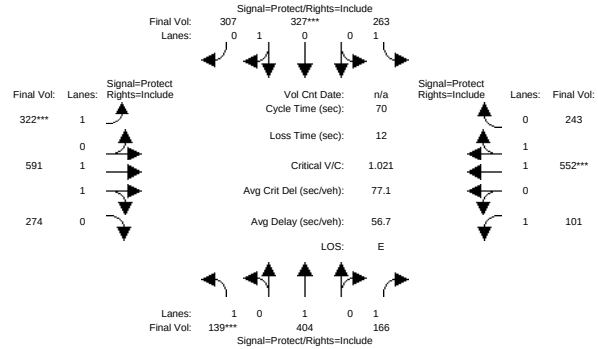
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	235	410	214	166	222	252	224	609	116	70	472	256
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	410	214	166	222	252	224	609	116	70	472	256
Added Vol:	6	0	3	5	0	10	4	2	1	0	4	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	241	410	217	171	222	262	228	611	117	70	476	264
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	241	410	217	171	222	262	228	611	117	70	476	264
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	241	410	217	171	222	262	228	611	117	70	476	264
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	241	410	217	171	222	262	228	611	117	70	476	264
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.00	1.00	1.00	0.46	0.54	1.00	1.68	0.32	1.00	1.29	0.71
Final Sat.:	1805	1900	1615	1805	801	945	1805	2957	566	1805	2197	1218
Capacity Analysis Module:												
Vol/Sat:	0.13	0.22	0.13	0.09	0.28	0.28	0.13	0.21	0.21	0.04	0.22	0.22
Crit Moves:	****				****		****				****	
Green/Cycle:	0.14	0.28	0.28	0.15	0.29	0.29	0.13	0.23	0.23	0.13	0.23	0.23
Volume/Cap:	0.94	0.76	0.47	0.62	0.94	0.94	0.94	0.89	0.89	0.30	0.94	0.94
Delay/Veh:	66.1	26.0	18.6	28.0	46.6	46.6	67.8	33.9	33.9	24.2	42.1	42.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	66.1	26.0	18.6	28.0	46.6	46.6	67.8	33.9	33.9	24.2	42.1	42.1
LOS by Move:	E	C	B	C	D	D	E	C	C	C	D	D
HCM2kAvgQ:	215	225	97	103	350	350	208	268	268	29	227	227

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1046: Main St / G St



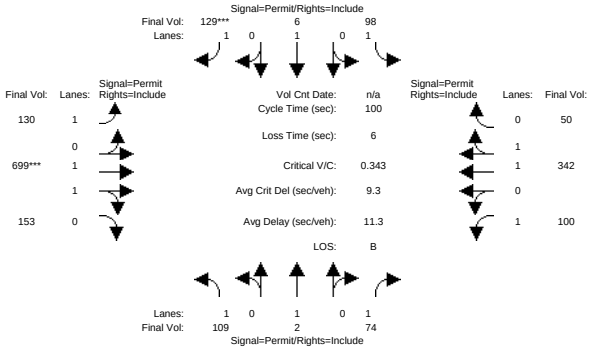
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	138	404	165	255	327	296	318	588	268	99	549	238
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	138	404	165	255	327	296	318	588	268	99	549	238
Added Vol:	1	0	1	8	0	11	4	3	6	2	3	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	139	404	166	263	327	307	322	591	274	101	552	243
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	139	404	166	263	327	307	322	591	274	101	552	243
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	139	404	166	263	327	307	322	591	274	101	552	243
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	139	404	166	263	327	307	322	591	274	101	552	243
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.90	0.90	0.95	0.91	0.91
Lanes:	1.00	1.00	1.00	1.00	0.52	0.48	1.00	1.37	0.63	1.00	1.39	0.61
Final Sat.:	1805	1900	1615	1805	908	853	1805	2348	1089	1805	2391	1053
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.10	0.15	0.36	0.36	0.18	0.25	0.25	0.06	0.23	0.23
Crit Moves:	****				****		****				****	
Green/Cycle:	0.10	0.26	0.26	0.18	0.34	0.34	0.17	0.28	0.28	0.11	0.22	0.22
Volume/Cap:	0.77	0.81	0.39	0.81	1.06	1.06	1.06	0.91	0.91	0.51	1.06	1.06
Delay/Veh:	48.9	34.1	21.9	42.0	75.4	75.4	96.0	36.6	36.6	31.5	75.9	75.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.9	34.1	21.9	42.0	75.4	75.4	96.0	36.6	36.6	31.5	75.9	75.9
LOS by Move:	D	C	C	D	E	E	F	D	D	C	E	E
HCM2kAvgQ:	124	268	82	200	589	589	344	343	343	52	348	348

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1047: 18th St / G St



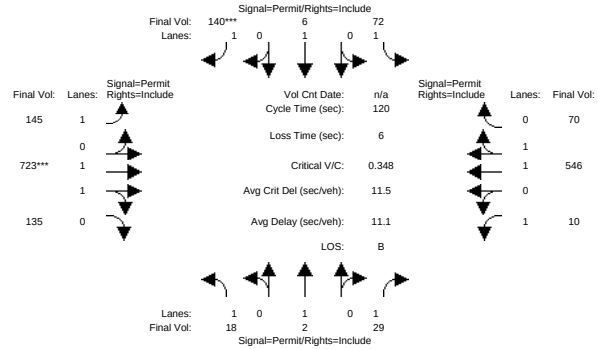
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	109	2	74	98	6	128	126	693	153	100	331	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	109	2	74	98	6	128	126	693	153	100	331	50
Added Vol:	0	0	0	0	0	1	4	6	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	109	2	74	98	6	129	130	699	153	100	342	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	109	2	74	98	6	129	130	699	153	100	342	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	109	2	74	98	6	129	130	699	153	100	342	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	109	2	74	98	6	129	130	699	153	100	342	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.85	0.77	1.00	0.85	0.51	0.92	0.92	0.30	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.64	0.36	1.00	1.74	0.26
Final Sat.:	1452	1900	1615	1457	1900	1615	975	2882	631	564	3090	452
Capacity Analysis Module:												
Vol/Sat:	0.08	0.00	0.05	0.07	0.00	0.08	0.13	0.24	0.24	0.18	0.11	0.11
Crit Moves:						****		****				
Green/Cycle:	0.23	0.23	0.23	0.23	0.23	0.23	0.71	0.71	0.71	0.71	0.71	0.71
Volume/Cap:	0.32	0.00	0.20	0.29	0.01	0.34	0.19	0.34	0.34	0.25	0.16	0.16
Delay/Veh:	32.4	29.5	31.1	32.0	29.5	32.5	5.1	5.7	5.7	5.5	4.9	4.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.4	29.5	31.1	32.0	29.5	32.5	5.1	5.7	5.7	5.5	4.9	4.9
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	74	1	47	66	4	88	32	124	124	33	52	52

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1047: 18th St / G St



Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	18	2	29	72	6	136	144	712	135	10	540	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	18	2	29	72	6	136	144	712	135	10	540	70
Added Vol:	0	0	0	0	0	4	1	11	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	18	2	29	72	6	140	145	723	135	10	546	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	2	29	72	6	140	145	723	135	10	546	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	2	29	72	6	140	145	723	135	10	546	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	2	29	72	6	140	145	723	135	10	546	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.85	0.77	1.00	0.85	0.39	0.93	0.93	0.29	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.69	0.31	1.00	1.77	0.23
Final Sat.:	1452	1900	1615	1457	1900	1615	739	2969	554	555	3145	403
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.02	0.05	0.00	0.09	0.20	0.24	0.24	0.02	0.17	0.17
Crit Moves:						****		****				
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.70	0.70	0.70	0.70	0.70	0.70
Volume/Cap:	0.05	0.00	0.07	0.20	0.01	0.35	0.28	0.35	0.35	0.03	0.25	0.25
Delay/Veh:	34.3	33.8	34.5	35.8	33.9	37.5	7.0	7.2	7.2	5.5	6.6	6.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.3	33.8	34.5	35.8	33.9	37.5	7.0	7.2	7.2	5.5	6.6	6.6
LOS by Move:	C	C	C	D	C	D	A	A	A	A	A	A
HCM2kAvgQ:	13	1	20	54	4	109	47	153	153	3	106	106

Note: Queue reported is the distance per lane in feet.

MERCED STATION ANALYSIS

INTERSECTION

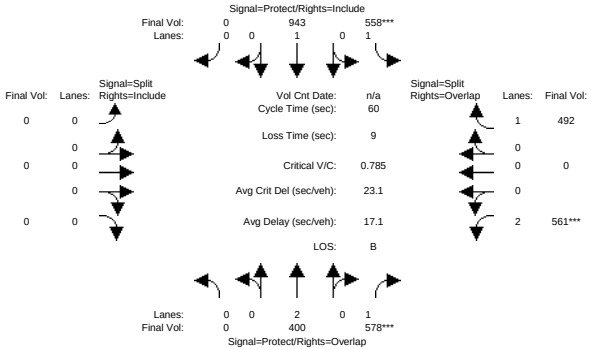
2035 BUILD_OPTION-B MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1001: 16th St / SR-59



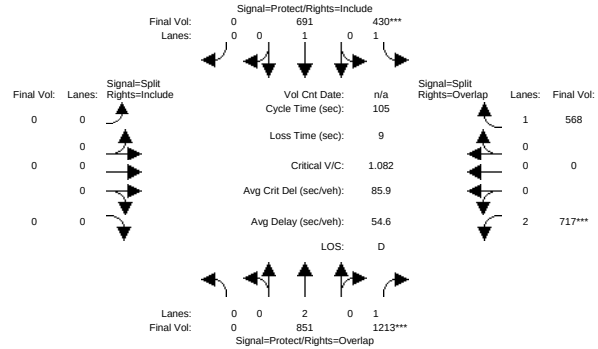
Street Name:	16th Street						SR-59					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	371	570	558	943	0	0	0	0	544	0	492
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	371	570	558	943	0	0	0	0	544	0	492
Added Vol:	0	29	8	0	0	0	0	0	0	17	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	400	578	558	943	0	0	0	0	561	0	492
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	400	578	558	943	0	0	0	0	561	0	492
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	400	578	558	943	0	0	0	0	561	0	492
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	400	578	558	943	0	0	0	0	561	0	492
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	0.95	1.00	1.00	1.00	1.00	1.00	0.92	1.00	0.85
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3610	1615	1805	1900	0	0	0	0	3502	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.36	0.31	0.50	0.00	0.00	0.00	0.00	0.16	0.00	0.30
Crit Moves:			****	****						****		
Green/Cycle:	0.00	0.25	0.45	0.40	0.65	0.00	0.00	0.00	0.00	0.20	0.00	0.60
Volume/Cap:	0.00	0.45	0.79	0.77	0.77	0.00	0.00	0.00	0.00	0.78	0.00	0.51
Delay/Veh:	0.0	19.5	20.1	21.0	10.5	0.0	0.0	0.0	0.0	28.3	0.0	7.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	19.5	20.1	21.0	10.5	0.0	0.0	0.0	0.0	28.3	0.0	7.2
LOS by Move:	A	B	C	C	B	A	A	A	A	C	A	A
HCM2kAvgQ:	0	94	288	277	353	0	0	0	0	185	0	142

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1001: 16th St / SR-59



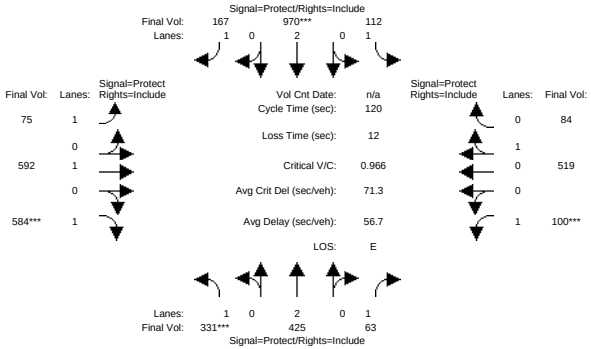
Street Name:	16th Street						SR-59					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	817	1196	430	691	0	0	0	0	709	0	568
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	817	1196	430	691	0	0	0	0	709	0	568
Added Vol:	0	34	17	0	0	0	0	0	0	8	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	851	1213	430	691	0	0	0	0	717	0	568
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	851	1213	430	691	0	0	0	0	717	0	568
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	851	1213	430	691	0	0	0	0	717	0	568
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	851	1213	430	691	0	0	0	0	717	0	568
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	0.95	1.00	1.00	1.00	1.00	1.00	0.92	1.00	0.85
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3610	1615	1805	1900	0	0	0	0	3502	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.24	0.75	0.24	0.36	0.00	0.00	0.00	0.00	0.20	0.00	0.35
Crit Moves:			****	****						****		
Green/Cycle:	0.00	0.50	0.69	0.22	0.73	0.00	0.00	0.00	0.00	0.19	0.00	0.41
Volume/Cap:	0.00	0.47	1.08	1.08	0.50	0.00	0.00	0.00	0.00	1.08	0.00	0.86
Delay/Veh:	0.0	17.0	68.0	109.9	6.5	0.0	0.0	0.0	0.0	101.8	0.0	39.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	17.0	68.0	109.9	6.5	0.0	0.0	0.0	0.0	101.8	0.0	39.2
LOS by Move:	A	B	E	F	A	A	A	A	A	F	A	D
HCM2kAvgQ:	0	233	1368	555	243	0	0	0	0	489	0	488

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

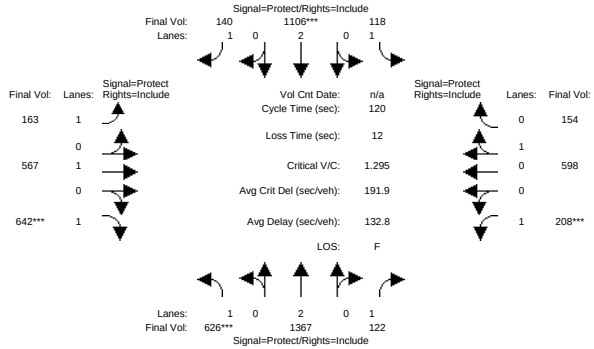



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     331  425    63   112  970   167    75  584   584   100  502    84
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  331  425    63   112  970   167    75  584   584   100  502    84
Added Vol:      0    0     0     0    0     0     0    8     0     0   17     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  331  425    63   112  970   167    75  592   584   100  519    84
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   331  425    63   112  970   167    75  592   584   100  519    84
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  331  425    63   112  970   167    75  592   584   100  519    84
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  331  425    63   112  970   167    75  592   584   100  519    84
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.98  0.98
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.86  0.14
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1601   259
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.12  0.04  0.06 0.27  0.10  0.04 0.31  0.36  0.06 0.32  0.32
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.19 0.31  0.31  0.16 0.28  0.28  0.07 0.37  0.37  0.06 0.37  0.37
Volume/Cap:  0.97 0.38  0.13  0.38 0.97  0.37  0.63 0.83  0.97  0.95 0.88  0.88
Delay/Veh:   87.9 33.0  30.2  45.8 63.5  35.4  65.0 42.5  65.2 127.8 48.8  48.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  87.9 33.0  30.2  45.8 63.5  35.4  65.0 42.5  65.2 127.8 48.8  48.8
LOS by Move:    F    C     C     D    E     D     E    D     E     F    D     D
HCM2kAvgQ:    359  155    40    99  594   127    95  547   662   164  598   598
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1002: Olive Ave - Santa Fe Dr / SR-59

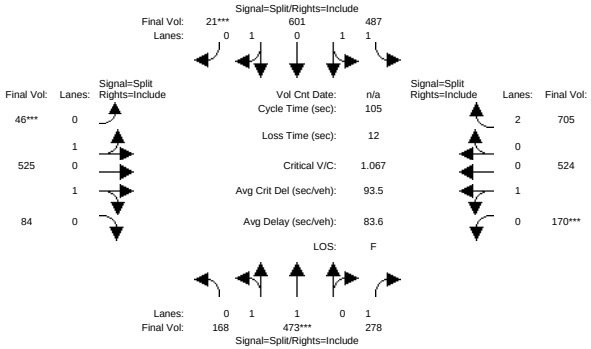



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     626 1367   122   118 1106   140   163  550   642   208  590   154
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  626 1367   122   118 1106   140   163  550   642   208  590   154
Added Vol:      0    0     0     0    0     0     0   17     0     0    8     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  626 1367   122   118 1106   140   163  567   642   208  598   154
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   626 1367   122   118 1106   140   163  567   642   208  598   154
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  626 1367   122   118 1106   140   163  567   642   208  598   154
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  626 1367   122   118 1106   140   163  567   642   208  598   154
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.97  0.97
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.80  0.20
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1464   377
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35 0.38  0.08  0.07 0.31  0.09  0.09 0.30  0.40  0.12 0.41  0.41
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.27 0.43  0.43  0.07 0.24  0.24  0.07 0.31  0.31  0.09 0.32  0.32
Volume/Cap:  1.30 0.88  0.18  0.88 1.30  0.37  1.26 0.97  1.30  1.30 1.26  1.26
Delay/Veh:  191.6 37.6  21.2  99.1  187  38.9 220.6 71.4 188.9 225.8  171 170.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 191.6 37.6  21.2  99.1  187  38.9 220.6 71.4 188.9 225.8  171 170.7
LOS by Move:    F    D     C     F    F     D     F    E     F     F    F     F
HCM2kAvgQ:    973  562    63   172  990   112   313  654  1084   395 1212  1212
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

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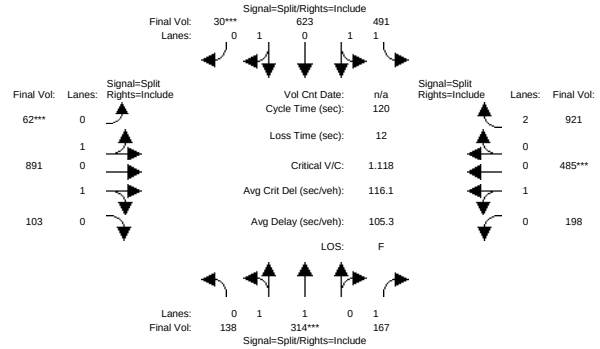
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     113  229   233  484  585    19   45  513    84  170  520   695
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  113  229   233  484  585    19   45  513    84  170  520   695
Added Vol:     55  244    45    3   16     2    1   12     0    0    4    10
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  168  473   278  487  601    21   46  525    84  170  524   705
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   168  473   278  487  601    21   46  525    84  170  524   705
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  168  473   278  487  601    21   46  525    84  170  524   705
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  168  473   278  487  601    21   46  525    84  170  524   705
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.94 0.94  0.85 0.93 0.93  0.93 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.52 1.48  1.00 1.32 1.62  0.06 0.14 1.60  0.26 0.24 0.76  2.00
Final Sat.:   934 2629  1615 2321 2864   100  248 2830   453  460 1417  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18  0.17 0.21 0.21  0.21 0.19 0.19  0.19 0.37 0.37  0.25
Crit Moves:        ****                ****  ****            ****
Green/Cycle: 0.17 0.17  0.17 0.20 0.20  0.20 0.17 0.17  0.17 0.35 0.35  0.35
Volume/Cap:  1.07 1.07  1.02 1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  0.72
Delay/Veh:   99.5 99.5 103.6 89.7 89.7  89.7 98.8 98.8  98.8 88.8 88.8  32.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  99.5 99.5 103.6 89.7 89.7  89.7 98.8 98.8  98.8 88.8 88.8  32.3
LOS by Move:    F    F     F    F    F     F    F    F     F    F    F     C
HCM2kAvgQ:    445  445   359  500  500   500  453  453   453  817  817   310
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1003: 13th St - SR-99 SB Off-Ramp / V St

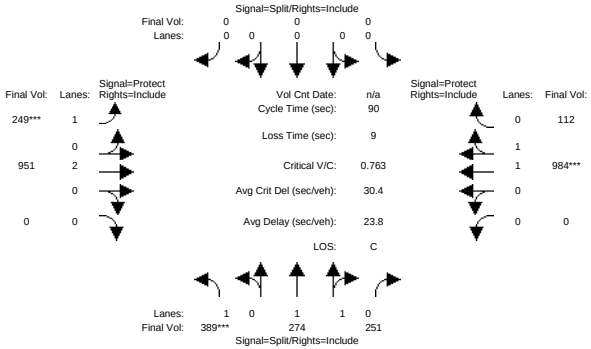



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     104  172   156  489  615    29   60  842   103  198  484   901
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  104  172   156  489  615    29   60  842   103  198  484   901
Added Vol:     34  142    11    2    8     1    2   49     0    0    1    20
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  138  314   167  491  623    30   62  891   103  198  485   921
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   138  314   167  491  623    30   62  891   103  198  485   921
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  138  314   167  491  623    30   62  891   103  198  485   921
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  138  314   167  491  623    30   62  891   103  198  485   921
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.94 0.94  0.85 0.93 0.93  0.93 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.61 1.39  1.00 1.29 1.63  0.08 0.12 1.69  0.19 0.29 0.71  2.00
Final Sat.:  1086 2470  1615 2266 2875   138  208 2991   346  543 1330  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.10 0.22 0.22  0.22 0.30 0.30  0.30 0.36 0.36  0.32
Crit Moves:        ****                ****  ****            ****
Green/Cycle: 0.11 0.11  0.11 0.19 0.19  0.19 0.27 0.27  0.27 0.33 0.33  0.33
Volume/Cap:  1.12 1.12  0.91 1.12 1.12  1.12 1.12 1.12  1.12 1.12 1.12  0.99
Delay/Veh:  134.0  134  94.2 114.8  115 114.8 111.4  111 111.4 113.8  114  68.2
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 134.0  134  94.2 114.8  115 114.8 111.4  111 111.4 113.8  114  68.2
LOS by Move:    F    F     F    F    F     F    F    F     F    F    F     E
HCM2kAvgQ:    379  379   229  590  590   590  782  782   782  939  939   632
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

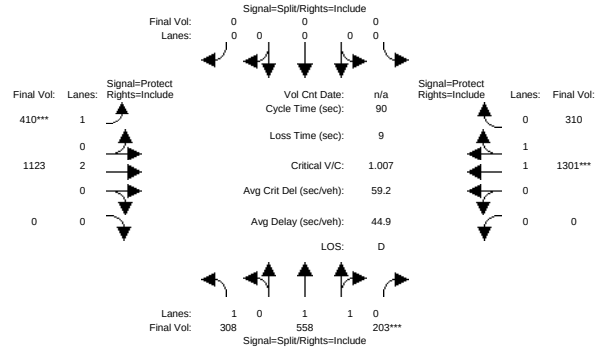



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     387  147   251     0    0     0   238  891     0     0  971    92
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  387  147   251     0    0     0   238  891     0     0  971    92
Added Vol:      2  127     0     0    0     0    11   60     0     0   13    20
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  389  274   251     0    0     0   249  951     0     0  984   112
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   389  274   251     0    0     0   249  951     0     0  984   112
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  389  274   251     0    0     0   249  951     0     0  984   112
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  389  274   251     0    0     0   249  951     0     0  984   112
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.88  0.88  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       1.00 1.04  0.96  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.80  0.20
Final Sat.:  1615 1748  1602     0    0     0  1805 3610     0     0 3192   363
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24 0.16  0.16  0.00 0.00  0.00  0.14 0.26  0.00  0.00 0.31  0.31
Crit Moves:  ****                             ****                    ****
Green/Cycle: 0.32 0.32  0.32  0.00 0.00  0.00  0.18 0.58  0.00  0.00 0.40  0.40
Volume/Cap:  0.76 0.50  0.50  0.00 0.00  0.00  0.76 0.45  0.00  0.00 0.76  0.76
Delay/Veh:   34.5 25.4  25.4   0.0  0.0   0.0  45.3 10.7   0.0   0.0 25.6  25.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  34.5 25.4  25.4   0.0  0.0   0.0  45.3 10.7   0.0   0.0 25.6  25.6
LOS by Move:    C    C     C     A    A     A     D    B     A     A    C     C
HCM2kAvgQ:    287  164   164     0    0     0   212  197     0     0  349   349
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1004: 14th St - SR-99 NB Onramp / V St

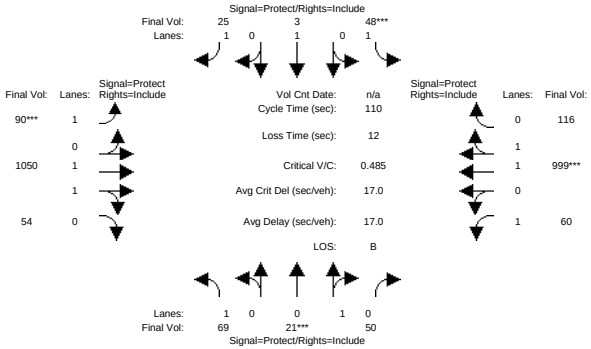



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     299  331   203     0    0     0   365 1083     0     0 1289   272
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  299  331   203     0    0     0   365 1083     0     0 1289   272
Added Vol:      9  227     0     0    0     0    45   40     0     0   12    38
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  308  558   203     0    0     0   410 1123     0     0 1301   310
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   308  558   203     0    0     0   410 1123     0     0 1301   310
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  308  558   203     0    0     0   410 1123     0     0 1301   310
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  308  558   203     0    0     0   410 1123     0     0 1301   310
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.91  0.91  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.92  0.92
Lanes:       1.00 1.47  0.53  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.62  0.38
Final Sat.:  1615 2541   924     0    0     0  1805 3610     0     0 2831   675
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.22  0.22  0.00 0.00  0.00  0.23 0.31  0.00  0.00 0.46  0.46
Crit Moves:             ****                    ****                    ****
Green/Cycle: 0.22 0.22  0.22  0.00 0.00  0.00  0.23 0.68  0.00  0.00 0.46  0.46
Volume/Cap:  0.87 1.01  1.01  0.00 0.00  0.00  1.01 0.46  0.00  0.00 1.01  1.01
Delay/Veh:   54.8 69.7  69.7   0.0  0.0   0.0  81.2  6.7   0.0   0.0 48.7  48.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  54.8 69.7  69.7   0.0  0.0   0.0  81.2  6.7   0.0   0.0 48.7  48.7
LOS by Move:    D    E     E     A    A     A     F    A     A     A    D     D
HCM2kAvgQ:    287  432   432     0    0     0   440  191     0     0  704   704
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1005: 15th St / V St



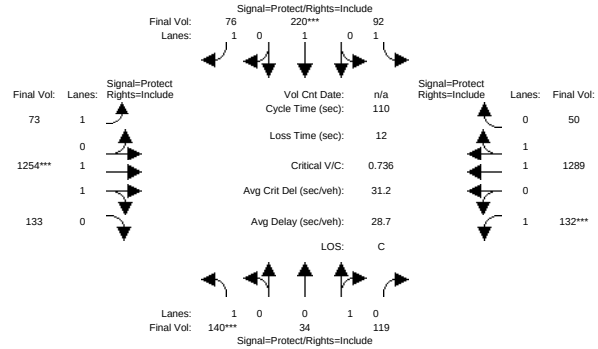
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	69	21	50	48	3	25	90	990	54	60	967	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	21	50	48	3	25	90	990	54	60	967	116
Added Vol:	0	0	0	0	0	0	0	60	0	0	32	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	21	50	48	3	25	90	1050	54	60	999	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	69	21	50	48	3	25	90	1050	54	60	999	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	21	50	48	3	25	90	1050	54	60	999	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	21	50	48	3	25	90	1050	54	60	999	116
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.79	0.21
Final Sat.:	1805	502	1196	1805	1900	1615	1805	3409	175	1805	3183	370
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.03	0.00	0.02	0.05	0.31	0.31	0.03	0.31	0.31
Crit Moves:		****		****			****				****	
Green/Cycle:	0.06	0.09	0.09	0.06	0.09	0.09	0.10	0.61	0.61	0.13	0.64	0.64
Volume/Cap:	0.60	0.46	0.46	0.42	0.02	0.17	0.49	0.50	0.50	0.26	0.49	0.49
Delay/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.9	12.3	12.3	44.1	10.8	10.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.9	12.3	12.3	44.1	10.8	10.8
LOS by Move:	E	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	82	71	71	52	3	23	71	269	269	42	240	240

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1005: 15th St / V St



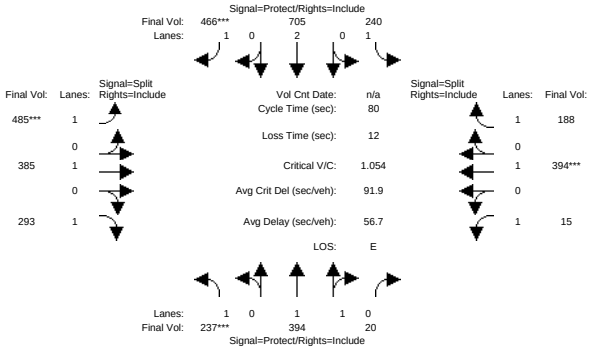
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	140	34	119	92	220	76	73	1214	133	132	1239	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	34	119	92	220	76	73	1214	133	132	1239	50
Added Vol:	0	0	0	0	0	0	0	40	0	0	50	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	34	119	92	220	76	73	1254	133	132	1289	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	34	119	92	220	76	73	1254	133	132	1289	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	34	119	92	220	76	73	1254	133	132	1289	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	34	119	92	220	76	73	1254	133	132	1289	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.22	0.78	1.00	1.00	1.00	1.00	1.81	0.19	1.00	1.93	0.07
Final Sat.:	1805	373	1305	1805	1900	1615	1805	3218	341	1805	3454	134
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.05	0.12	0.05	0.04	0.39	0.39	0.07	0.37	0.37
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.15	0.15	0.11	0.16	0.16	0.09	0.53	0.53	0.10	0.54	0.54
Volume/Cap:	0.74	0.59	0.59	0.47	0.74	0.30	0.44	0.74	0.74	0.74	0.70	0.70
Delay/Veh:	61.7	46.8	46.8	47.9	53.4	41.7	49.2	21.5	21.5	62.9	19.9	19.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.7	46.8	46.8	47.9	53.4	41.7	49.2	21.5	21.5	62.9	19.9	19.9
LOS by Move:	E	D	D	D	D	D	D	C	C	E	B	B
HCM2kAvgQ:	156	141	141	87	217	62	57	476	476	100	402	402

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1006: 16th St / V St



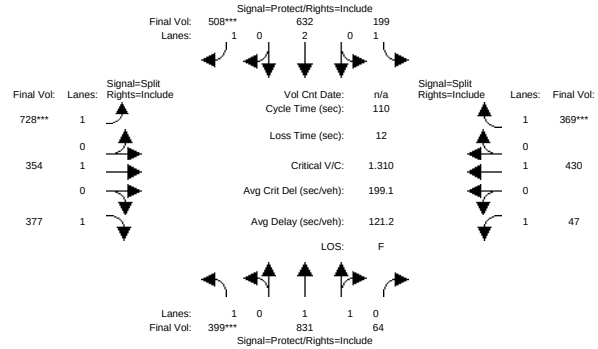
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	212	358	17	239	691	464	485	363	256	14	388	188
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	212	358	17	239	691	464	485	363	256	14	388	188
Added Vol:	25	36	3	1	14	2	0	22	37	1	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	237	394	20	240	705	466	485	385	293	15	394	188
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	237	394	20	240	705	466	485	385	293	15	394	188
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	237	394	20	240	705	466	485	385	293	15	394	188
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	237	394	20	240	705	466	485	385	293	15	394	188
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.90	0.10	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3412	173	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.12	0.12	0.13	0.20	0.29	0.27	0.20	0.18	0.01	0.21	0.12
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.19	0.19	0.21	0.27	0.27	0.25	0.25	0.25	0.20	0.20	0.20
Volume/Cap:	1.05	0.60	0.60	0.65	0.71	1.05	1.05	0.79	0.71	0.04	1.05	0.59
Delay/Veh:	110.0	30.9	30.9	33.1	28.7	86.8	86.7	36.7	32.9	26.1	93.6	32.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	110.0	30.9	30.9	33.1	28.7	86.8	86.7	36.7	32.9	26.1	93.6	32.2
LOS by Move:	F	C	C	C	C	F	F	D	C	C	F	C
HCM2kAvgQ:	219	122	122	164	242	491	429	231	167	8	429	128

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1006: 16th St / V St



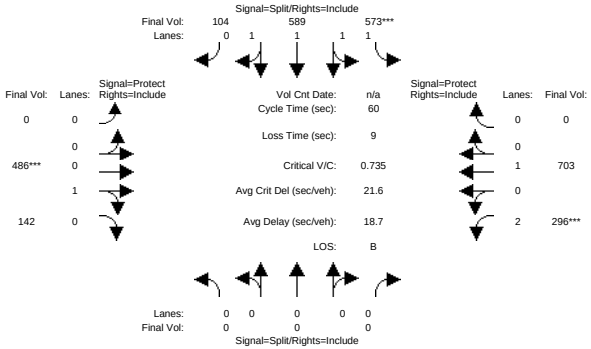
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	371	783	63	199	624	508	726	348	344	44	408	368
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	371	783	63	199	624	508	726	348	344	44	408	368
Added Vol:	28	48	1	0	8	0	2	6	33	3	22	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	399	831	64	199	632	508	728	354	377	47	430	369
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	399	831	64	199	632	508	728	354	377	47	430	369
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	399	831	64	199	632	508	728	354	377	47	430	369
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	399	831	64	199	632	508	728	354	377	47	430	369
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.86	0.14	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3315	255	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.22	0.25	0.25	0.11	0.18	0.31	0.40	0.19	0.23	0.03	0.23	0.23
Crit Moves:	****					****	****					****
Green/Cycle:	0.17	0.28	0.28	0.12	0.24	0.24	0.31	0.31	0.31	0.17	0.17	0.17
Volume/Cap:	1.31	0.88	0.88	0.88	0.73	1.31	1.31	0.61	0.76	0.15	1.30	1.31
Delay/Veh:	207.0	46.9	46.9	78.2	41.7	198.9	190.3	34.2	41.0	38.7	200	208.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	207.0	46.9	46.9	78.2	41.7	198.9	190.3	34.2	41.0	38.7	200	208.2
LOS by Move:	F	D	D	E	D	F	F	C	D	D	F	F
HCM2kAvgQ:	619	385	385	240	293	850	1128	243	283	35	722	636

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1007: 13th St / R St



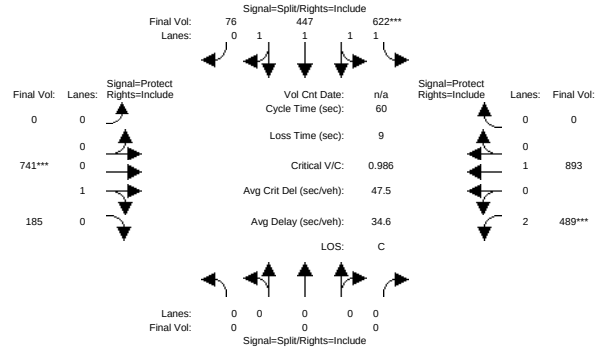
Street Name:	13th Street									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0		0	0	10		10	10	0		10	10	7		10	0
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	0		0	0	537		365	104	0		486	142	294		703	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	0		0	0	537		365	104	0		486	142	294		703	0
Added Vol:	0		0	0	36		224	0	0		0	0	2		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	0		0	0	573		589	104	0		486	142	296		703	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	0		0	0	573		589	104	0		486	142	296		703	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	0		0	0	573		589	104	0		486	142	296		703	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	0		0	0	573		589	104	0		486	142	296		703	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	1.00		1.00	1.00	0.84		0.84	0.84	1.00		0.97	0.97	0.92		1.00	1.00
Lanes:	0.00		0.00	0.00	1.81		1.86	0.33	0.00		0.77	0.23	2.00		1.00	0.00
Final Sat.:	0		0	0	2882		2963	523	0		1425	416	3502		1900	0
Capacity Analysis Module:																
Vol/Sat:	0.00		0.00	0.00	0.20		0.20	0.20	0.00		0.34	0.34	0.08		0.37	0.00
Crit Moves:					****						****		****			
Green/Cycle:	0.00		0.00	0.00	0.27		0.27	0.27	0.00		0.46	0.46	0.12		0.58	0.00
Volume/Cap:	0.00		0.00	0.00	0.74		0.74	0.74	0.00		0.74	0.74	0.72		0.64	0.00
Delay/Veh:	0.0		0.0	0.0	21.7		21.7	21.7	0.0		16.5	16.5	31.9		9.7	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	0.0		0.0	0.0	21.7		21.7	21.7	0.0		16.5	16.5	31.9		9.7	0.0
LOS by Move:	A		A	A	C		C	C	A		B	B	C		A	A
HCM2kAvgQ:	0		0	0	192		192	192	0		277	277	73		217	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1007: 13th St / R St



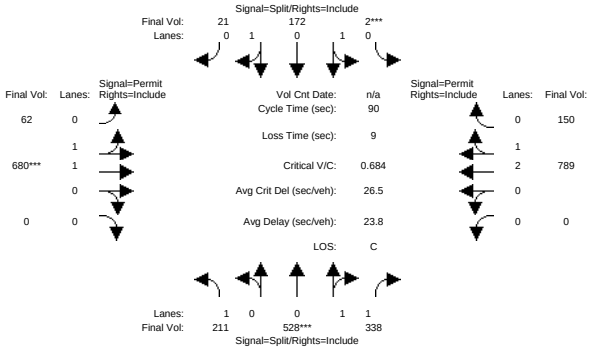
Street Name:	13th Street									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0		0	0	10		10	10	0		10	10	7		10	0
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	0		0	0	591		328	76	0		741	185	488		893	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	0		0	0	591		328	76	0		741	185	488		893	0
Added Vol:	0		0	0	31		119	0	0		0	0	1		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	0		0	0	622		447	76	0		741	185	489		893	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	0		0	0	622		447	76	0		741	185	489		893	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	0		0	0	622		447	76	0		741	185	489		893	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	0		0	0	622		447	76	0		741	185	489		893	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	1.00		1.00	1.00	0.83		0.83	0.83	1.00		0.97	0.97	0.92		1.00	1.00
Lanes:	0.00		0.00	0.00	2.00		1.71	0.29	0.00		0.80	0.20	2.00		1.00	0.00
Final Sat.:	0		0	0	3146		2689	457	0		1479	369	3502		1900	0
Capacity Analysis Module:																
Vol/Sat:	0.00		0.00	0.00	0.20		0.17	0.17	0.00		0.50	0.50	0.14		0.47	0.00
Crit Moves:					****						****		****			
Green/Cycle:	0.00		0.00	0.00	0.20		0.20	0.20	0.00		0.51	0.51	0.14		0.65	0.00
Volume/Cap:	0.00		0.00	0.00	0.99		0.83	0.83	0.00		0.99	0.99	0.99		0.72	0.00
Delay/Veh:	0.0		0.0	0.0	46.9		27.4	27.4	0.0		40.5	40.5	62.4		9.1	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	0.0		0.0	0.0	46.9		27.4	27.4	0.0		40.5	40.5	62.4		9.1	0.0
LOS by Move:	A		A	A	D		C	C	A		D	D	E		A	A
HCM2kAvgQ:	0		0	0	298		198	198	0		630	630	161		278	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

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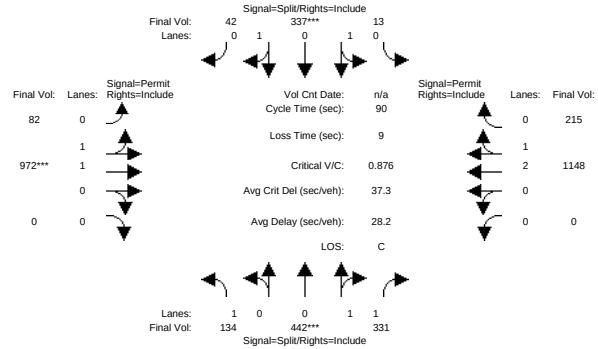
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     211  528   337    2   69    21   62  644     0    0  787   136
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  211  528   337    2   69    21   62  644     0    0  787   136
Added Vol:      0    0     1    0  103     0    0   36     0    0    2    14
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  211  528   338    2  172    21   62  680     0    0  789   150
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   211  528   338    2  172    21   62  680     0    0  789   150
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  211  528   338    2  172    21   62  680     0    0  789   150
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  211  528   338    2  172    21   62  680     0    0  789   150
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.93 0.93  0.93 0.73 0.73  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.02 1.76  0.22 0.17 1.83  0.00 0.00 2.52  0.48
Final Sat.:  1805 1790  1790   36 3133   383  233 2557     0    0 4254   809
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.30  0.19 0.05 0.05  0.05 0.27 0.27  0.00 0.00 0.19  0.19
Crit Moves:        ****        ****            ****
Green/Cycle: 0.41 0.41  0.41 0.11 0.11  0.11 0.37 0.37  0.00 0.00 0.37  0.37
Volume/Cap:  0.28 0.71  0.46 0.49 0.49  0.49 0.71 0.71  0.00 0.00 0.50  0.50
Delay/Veh:   17.7 23.8  19.2 38.6 38.6  38.6 26.3 26.3   0.0  0.0 21.9  21.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  17.7 23.8  19.2 38.6 38.6  38.6 26.3 26.3   0.0  0.0 21.9  21.9
LOS by Move:    B    C     B    D    D     D    C    C     A    A    C     C
HCM2kAvgQ:     97  331   173   83   83    83  225  225     0    0  177   177
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1008: SR-99 NB Off-Ramp - 14th St / R Street

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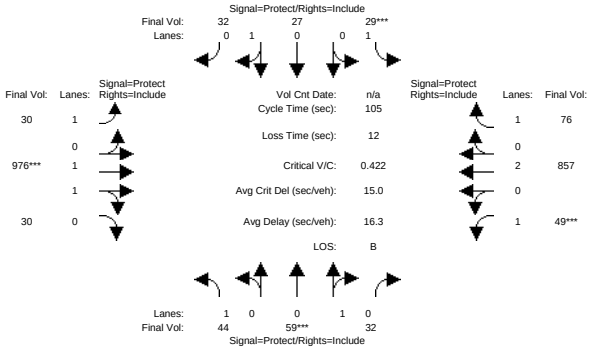
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     134  442   331   13  165    42   82  941     0    0 1147   198
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  134  442   331   13  165    42   82  941     0    0 1147   198
Added Vol:      0    0     0    0  172     0    0   31     0    0    1    17
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  134  442   331   13  337    42   82  972     0    0 1148   215
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   134  442   331   13  337    42   82  972     0    0 1148   215
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  134  442   331   13  337    42   82  972     0    0 1148   215
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  134  442   331   13  337    42   82  972     0    0 1148   215
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.93 0.93  0.93 0.65 0.65  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.07 1.72  0.21 0.16 1.84  0.00 0.00 2.53  0.47
Final Sat.:  1805 1778  1778  118 3048   380  191 2264     0    0 4264   799
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.25  0.19 0.11 0.11  0.11 0.43 0.43  0.00 0.00 0.27  0.27
Crit Moves:        ****        ****            ****
Green/Cycle: 0.28 0.28  0.28 0.13 0.13  0.13 0.49 0.49  0.00 0.00 0.49  0.49
Volume/Cap:  0.26 0.88  0.66 0.88 0.88  0.88 0.88 0.88  0.00 0.00 0.55  0.55
Delay/Veh:   25.2 40.6  29.7 56.0 56.0  56.0 28.0 28.0   0.0  0.0 16.3  16.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  25.2 40.6  29.7 56.0 56.0  56.0 28.0 28.0   0.0  0.0 16.3  16.3
LOS by Move:    C    D     C    E    E     E    C    C     A    A    B     B
HCM2kAvgQ:     74  376   226  216  216   216  321  321     0    0  231   231
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1009: 15th St / R St



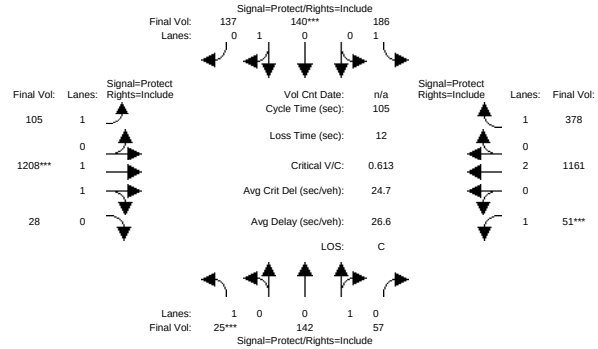
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	44	59	31	29	27	32	30	939	30	46	841	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	59	31	29	27	32	30	939	30	46	841	76
Added Vol:	0	0	1	0	0	0	0	37	0	3	16	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	59	32	29	27	32	30	976	30	49	857	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	59	32	29	27	32	30	976	30	49	857	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	59	32	29	27	32	30	976	30	49	857	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	59	32	29	27	32	30	976	30	49	857	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.65	0.35	1.00	0.46	0.54	1.00	1.94	0.06	1.00	2.00	1.00
Final Sat.:	1805	1167	633	1805	799	947	1805	3488	107	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.05	0.05	0.02	0.03	0.03	0.02	0.28	0.28	0.03	0.24	0.05
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.12	0.12	0.07	0.11	0.11	0.15	0.64	0.64	0.07	0.55	0.55
Volume/Cap:	0.33	0.44	0.44	0.24	0.32	0.32	0.11	0.44	0.44	0.41	0.43	0.09
Delay/Veh:	47.5	44.8	44.8	47.5	44.3	44.3	38.4	9.7	9.7	49.3	14.1	11.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.5	44.8	44.8	47.5	44.3	44.3	38.4	9.7	9.7	49.3	14.1	11.2
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	42	80	80	28	51	51	19	205	205	37	206	28

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1009: 15th St / R St



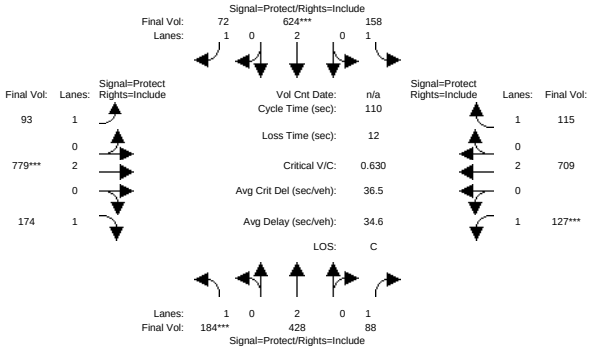
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	25	142	54	186	140	137	105	1177	28	50	1143	378
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	142	54	186	140	137	105	1177	28	50	1143	378
Added Vol:	0	0	3	0	0	0	0	31	0	1	18	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	142	57	186	140	137	105	1208	28	51	1161	378
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	25	142	57	186	140	137	105	1208	28	51	1161	378
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	25	142	57	186	140	137	105	1208	28	51	1161	378
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	25	142	57	186	140	137	105	1208	28	51	1161	378
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.71	0.29	1.00	0.51	0.49	1.00	1.95	0.05	1.00	2.00	1.00
Final Sat.:	1805	1297	521	1805	889	870	1805	3518	82	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.11	0.11	0.10	0.16	0.16	0.06	0.34	0.34	0.03	0.32	0.23
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.16	0.16	0.15	0.24	0.24	0.10	0.52	0.52	0.07	0.48	0.48
Volume/Cap:	0.21	0.70	0.70	0.70	0.67	0.67	0.58	0.67	0.67	0.42	0.67	0.49
Delay/Veh:	47.2	49.6	49.6	50.7	40.4	40.4	49.9	19.7	19.7	49.5	21.7	18.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.2	49.6	49.6	50.7	40.4	40.4	49.9	19.7	19.7	49.5	21.7	18.8
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	B
HCM2kAvgQ:	24	187	187	178	228	228	77	363	363	37	356	193

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1010: 16th St / R St



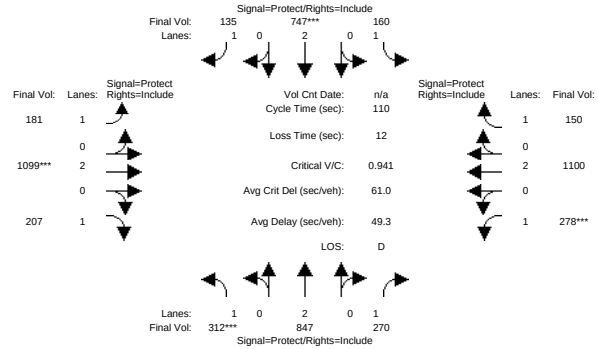
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	170	366	84	158	573	72	92	778	138	122	705	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	170	366	84	158	573	72	92	778	138	122	705	114
Added Vol:	14	62	4	0	51	0	1	1	36	5	4	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	184	428	88	158	624	72	93	779	174	127	709	115
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	184	428	88	158	624	72	93	779	174	127	709	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	428	88	158	624	72	93	779	174	127	709	115
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	184	428	88	158	624	72	93	779	174	127	709	115
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.12	0.05	0.09	0.17	0.04	0.05	0.22	0.11	0.07	0.20	0.07
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.25	0.25	0.19	0.27	0.27	0.11	0.34	0.34	0.11	0.34	0.34
Volume/Cap:	0.63	0.47	0.22	0.47	0.63	0.16	0.46	0.63	0.31	0.63	0.57	0.21
Delay/Veh:	47.4	35.4	32.9	41.1	36.3	30.5	47.5	31.3	27.0	52.9	30.2	25.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.4	35.4	32.9	41.1	36.3	30.5	47.5	31.3	27.0	52.9	30.2	25.7
LOS by Move:	D	D	C	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	169	168	60	113	234	43	72	285	104	105	253	66

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1010: 16th St / R St



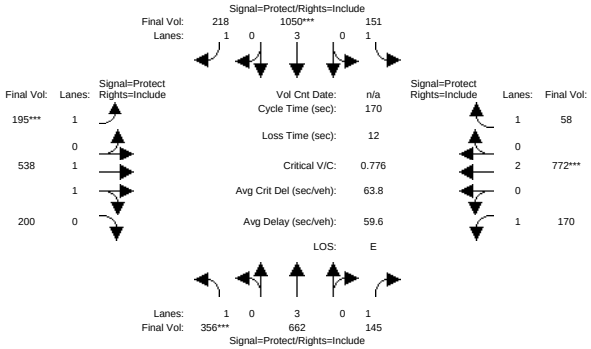
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	295	771	264	159	706	134	181	1096	176	274	1099	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	295	771	264	159	706	134	181	1096	176	274	1099	150
Added Vol:	17	76	6	1	41	1	0	3	31	4	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	312	847	270	160	747	135	181	1099	207	278	1100	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	312	847	270	160	747	135	181	1099	207	278	1100	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	312	847	270	160	747	135	181	1099	207	278	1100	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	312	847	270	160	747	135	181	1099	207	278	1100	150
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.17	0.23	0.17	0.09	0.21	0.08	0.10	0.30	0.13	0.15	0.30	0.09
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.29	0.29	0.11	0.22	0.22	0.12	0.32	0.32	0.16	0.37	0.37
Volume/Cap:	0.94	0.80	0.57	0.80	0.94	0.38	0.83	0.94	0.40	0.94	0.83	0.25
Delay/Veh:	78.5	40.4	34.7	67.9	61.2	37.2	70.1	50.6	29.4	82.3	36.3	24.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.5	40.4	34.7	67.9	61.2	37.2	70.1	50.6	29.4	82.3	36.3	24.6
LOS by Move:	E	D	C	E	E	D	E	D	C	F	D	C
HCM2kAvgQ:	364	396	207	135	357	92	157	519	129	277	468	85

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1011: Olive Ave / R St



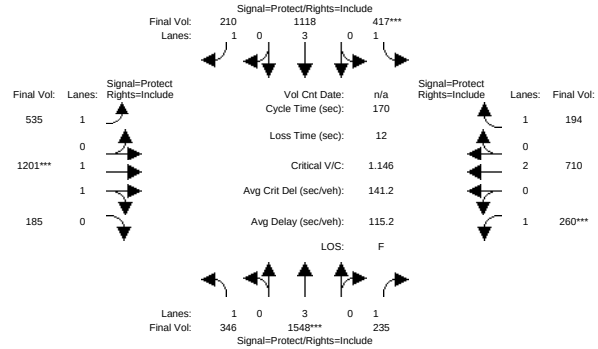
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	356		662		145	151		1050		218	195		533		200	170		761		58
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	356		662		145	151		1050		218	195		533		200	170		761		58
Added Vol:	0		0		0	0		0		0	0		5		0	0		11		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	356		662		145	151		1050		218	195		538		200	170		772		58
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	356		662		145	151		1050		218	195		538		200	170		772		58
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	356		662		145	151		1050		218	195		538		200	170		772		58
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	356		662		145	151		1050		218	195		538		200	170		772		58
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.91		0.91	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.46		0.54	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		2524		938	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.20		0.13		0.09	0.08		0.20		0.13	0.11		0.21		0.21	0.09		0.21		0.04
Crit Moves:	****							****			****							****		
Green/Cycle:	0.25		0.31		0.31	0.20		0.26		0.26	0.14		0.29		0.29	0.13		0.28		0.28
Volume/Cap:	0.78		0.41		0.29	0.41		0.78		0.52	0.78		0.74		0.74	0.74		0.78		0.13
Delay/Veh:	67.1		46.4		44.7	59.5		61.1		54.8	84.7		57.9		57.9	83.7		60.7		46.4
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	67.1		46.4		44.7	59.5		61.1		54.8	84.7		57.9		57.9	83.7		60.7		46.4
LOS by Move:	E		D		D	E		E		D	F		E		E	F		E		D
HCM2kAvgQ:	413		232		133	157		430		223	286		478		478	249		515		55

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1011: Olive Ave / R St



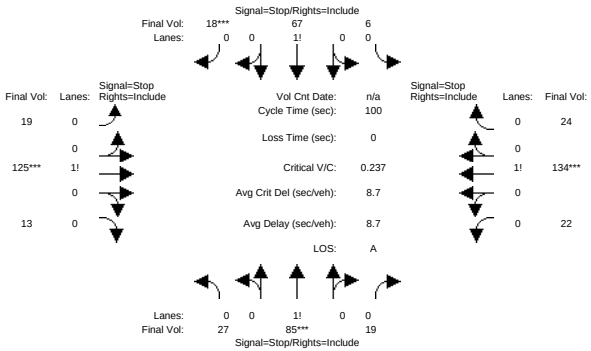
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	346		1548		235	417		1118		210	535		1190		185	260		705		194
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	346		1548		235	417		1118		210	535		1190		185	260		705		194
Added Vol:	0		0		0	0		0		0	0		11		0	0		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	346		1548		235	417		1118		210	535		1201		185	260		710		194
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	346		1548		235	417		1118		210	535		1201		185	260		710		194
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	346		1548		235	417		1118		210	535		1201		185	260		710		194
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	346		1548		235	417		1118		210	535		1201		185	260		710		194
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.93		0.93	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.73		0.27	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		3066		472	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.19		0.30		0.15	0.23		0.22		0.13	0.30		0.39		0.39	0.14		0.20		0.12
Crit Moves:			****			****							****			****				
Green/Cycle:	0.22		0.26		0.26	0.20		0.24		0.24	0.28		0.34		0.34	0.13		0.19		0.19
Volume/Cap:	0.88		1.15		0.56	1.15		0.88		0.53	1.05		1.15		1.15	1.15		1.05		0.64
Delay/Veh:	84.5		138		56.1	161.0		69.4		57.2	116.3		132		131.8	179.1		119		68.7
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	84.5		138		56.1	161.0		69.4		57.2	116.3		132		131.8	179.1		119		68.7
LOS by Move:	F		F		E	F		E		E	F		F		F	F		F		E
HCM2kAvgQ:	405		907		242	668		476		217	884		1286		1286	510		645		252

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1012: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15    84    19     6    64    18    19   125    13    22   134    24
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   15    84    19     6    64    18    19   125    13    22   134    24
Added Vol:     12     1     0     0     3     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   27    85    19     6    67    18    19   125    13    22   134    24
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    27    85    19     6    67    18    19   125    13    22   134    24
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   27    85    19     6    67    18    19   125    13    22   134    24
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   27    85    19     6    67    18    19   125    13    22   134    24
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.21  0.65  0.14  0.06  0.74  0.20  0.12  0.80  0.08  0.12  0.75  0.13
Final Sat.:   148   465   104    47   524   141    90   595    62    93   564   101
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18  0.18  0.18  0.13  0.13  0.13  0.21  0.21  0.21  0.24  0.24  0.24
Crit Moves:        ****                    ****        ****              ****
Delay/Veh:    8.7   8.7   8.7   8.4   8.4   8.4   8.8   8.8   8.8   8.9   8.9   8.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.7   8.7   8.7   8.4   8.4   8.4   8.8   8.8   8.8   8.9   8.9   8.9
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:       8.7              8.4              8.8              8.9
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.7              8.4              8.8              8.9
LOS by Appr:         A                A                A                A
AllWayAvgQ:   4.9   4.9   4.9   3.2   3.2   3.2   6.0   6.0   6.0   7.0   7.0   7.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
```



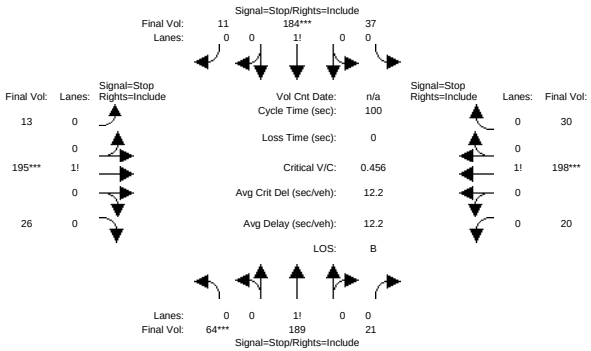
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   27   85   19     6   67   18    19  125   13    22  134   24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             337
Minor Approach Volume:           131
Minor Approach Volume Threshold: 509
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1012: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17   186    21    37   183    11    13   195    26    20   198    30
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   17   186    21    37   183    11    13   195    26    20   198    30
Added Vol:     47     3     0     0     1     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   64   189    21    37   184    11    13   195    26    20   198    30
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    64   189    21    37   184    11    13   195    26    20   198    30
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   64   189    21    37   184    11    13   195    26    20   198    30
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   64   189    21    37   184    11    13   195    26    20   198    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.23  0.69  0.08  0.16  0.79  0.05  0.06  0.83  0.11  0.08  0.80  0.12
Final Sat.:   140   414    46    94   465    28    33   491    65    48   474    72
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.46  0.46  0.46  0.40  0.40  0.40  0.40  0.40  0.40  0.42  0.42  0.42
Crit Moves:  ****                  ****              ****              ****
Delay/Veh:   12.7  12.7  12.7  11.9  11.9  11.9  11.9  11.9  11.9  12.1  12.1  12.1
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  12.7  12.7  12.7  11.9  11.9  11.9  11.9  11.9  11.9  12.1  12.1  12.1
LOS by Move:    B     B     B     B     B     B     B     B     B     B     B     B
ApproachDel:      12.7              11.9              11.9              12.1
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       12.7              11.9              11.9              12.1
LOS by Appr:         B                 B                 B                 B
AllWayAvgQ:  17.1  17.1  17.1  13.2  13.2  13.2  13.2  13.2  13.2  14.5  14.5  14.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1012 15th St / O St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   64  189    21    37  184    11    13  195    26    20  198    30
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             506
Minor Approach Volume:           248
Minor Approach Volume Threshold: 401
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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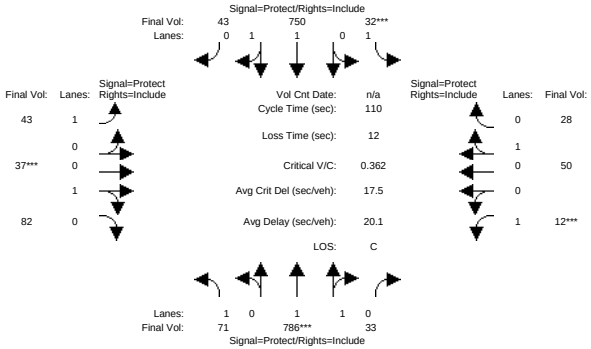
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1013: 16th St / O St



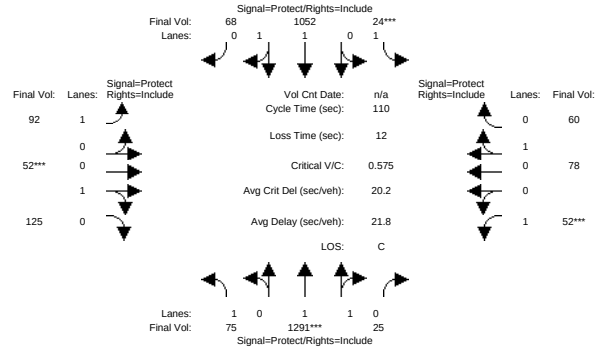
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	71	706	33	32	658	43	43	37	82	12	50	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	706	33	32	658	43	43	37	82	12	50	28
Added Vol:	0	80	0	0	92	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	786	33	32	750	43	43	37	82	12	50	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	786	33	32	750	43	43	37	82	12	50	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	786	33	32	750	43	43	37	82	12	50	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	71	786	33	32	750	43	43	37	82	12	50	28
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.92	0.08	1.00	1.89	0.11	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3444	145	1805	3387	194	1805	530	1174	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.23	0.02	0.22	0.22	0.02	0.07	0.07	0.01	0.04	0.04
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.58	0.58	0.06	0.50	0.50	0.10	0.18	0.18	0.06	0.14	0.14
Volume/Cap:	0.27	0.39	0.39	0.28	0.44	0.44	0.24	0.39	0.39	0.10	0.30	0.30
Delay/Veh:	42.4	12.4	12.4	50.4	17.6	17.6	46.3	40.7	40.7	48.9	42.9	42.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.4	12.4	12.4	50.4	17.6	17.6	46.3	40.7	40.7	48.9	42.9	42.9
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	57	193	193	33	223	223	38	96	96	12	64	64

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1013: 16th St / O St



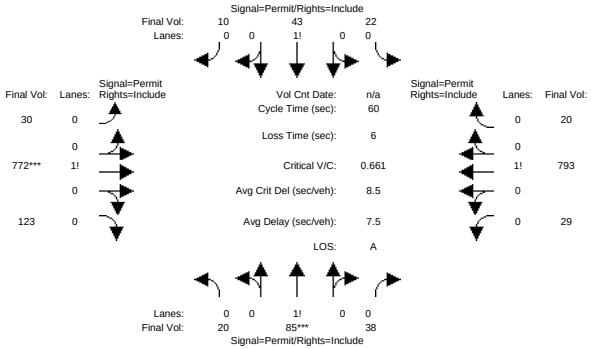
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	75	1192	25	24	976	68	92	52	125	52	78	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	1192	25	24	976	68	92	52	125	52	78	60
Added Vol:	0	99	0	0	76	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	1291	25	24	1052	68	92	52	125	52	78	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	1291	25	24	1052	68	92	52	125	52	78	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	1291	25	24	1052	68	92	52	125	52	78	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	1291	25	24	1052	68	92	52	125	52	78	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.88	0.12	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3531	68	1805	3360	217	1805	499	1200	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.04	0.37	0.37	0.01	0.31	0.31	0.05	0.10	0.10	0.03	0.08	0.08
Crit Moves:		****		****				****		****		
Green/Cycle:	0.11	0.59	0.59	0.06	0.55	0.55	0.10	0.17	0.17	0.06	0.14	0.14
Volume/Cap:	0.37	0.62	0.62	0.21	0.57	0.57	0.53	0.62	0.62	0.45	0.57	0.57
Delay/Veh:	46.5	14.8	14.8	49.8	16.9	16.9	50.5	46.3	46.3	52.5	47.5	47.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.5	14.8	14.8	49.8	16.9	16.9	50.5	46.3	46.3	52.5	47.5	47.5
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	68	377	377	24	330	330	93	162	162	57	129	129

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1014: 15th St / M St

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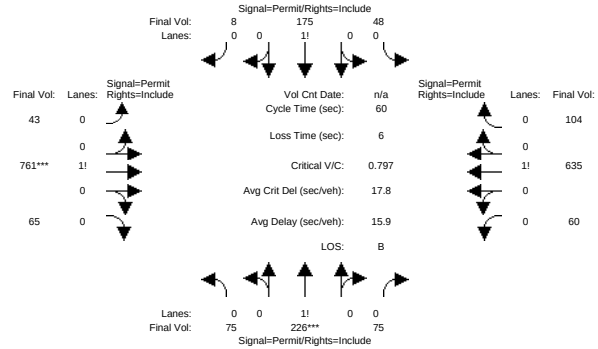
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   73    34   22   40    10   30  631    11   14  685    20
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    4   73    34   22   40    10   30  631    11   14  685    20
Added Vol:     16   12     4    0    3     0    0  141   112   15  108     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   20   85    38   22   43    10   30  772   123   29  793    20
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    20   85    38   22   43    10   30  772   123   29  793    20
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   20   85    38   22   43    10   30  772   123   29  793    20
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   20   85    38   22   43    10   30  772   123   29  793    20
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.92 0.92  0.92 0.90 0.90  0.90 0.95 0.95  0.95 0.96 0.96  0.96
Lanes:       0.14 0.59  0.27 0.29 0.58  0.13 0.03 0.84  0.13 0.03 0.95  0.02
Final Sat.:   244 1036   463  501  980   228   58 1504   240   63 1714    43
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.08  0.08 0.04 0.04  0.04 0.51 0.51  0.51 0.46 0.46  0.46
Crit Moves:         ****                          ****
Green/Cycle: 0.17 0.17  0.17 0.17 0.17  0.17 0.73 0.73  0.73 0.73 0.73  0.73
Volume/Cap:  0.49 0.49  0.49 0.26 0.26  0.26 0.70 0.70  0.70 0.63 0.63  0.63
Delay/Veh:   24.0 24.0  24.0 22.3 22.3  22.3  6.1  6.1   6.1  5.0  5.0   5.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  24.0 24.0  24.0 22.3 22.3  22.3  6.1  6.1   6.1  5.0  5.0   5.0
LOS by Move:    C    C     C    C    C     C    A    A     A    A    A     A
HCM2kAvgQ:     60   60    60   36   36    36  237  237   237  193  193   193
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1014: 15th St / M St

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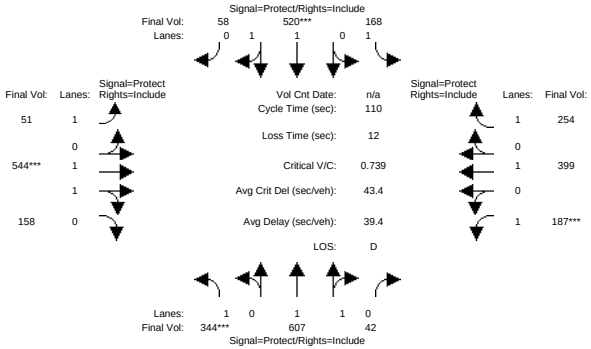
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10  176    61   48  174     8   43  647    37   56  500   104
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   10  176    61   48  174     8   43  647    37   56  500   104
Added Vol:     65   50    14    0    1     0    0  114    28    4  135     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   75  226    75   48  175     8   43  761    65   60  635   104
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    75  226    75   48  175     8   43  761    65   60  635   104
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   75  226    75   48  175     8   43  761    65   60  635   104
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   75  226    75   48  175     8   43  761    65   60  635   104
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.87 0.87  0.87 0.84 0.84  0.84 0.93 0.93  0.93 0.88 0.88  0.88
Lanes:       0.20 0.60  0.20 0.21 0.76  0.03 0.05 0.88  0.07 0.08 0.79  0.13
Final Sat.:   330  993   330  332 1210    55   88 1555   133  126 1336   219
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23 0.23  0.23 0.14 0.14  0.14 0.49 0.49  0.49 0.48 0.48  0.48
Crit Moves:         ****                          ****
Green/Cycle: 0.29 0.29  0.29 0.29 0.29  0.29 0.61 0.61  0.61 0.61 0.61  0.61
Volume/Cap:  0.80 0.80  0.80 0.51 0.51  0.51 0.80 0.80  0.80 0.77 0.77  0.77
Delay/Veh:   29.0 29.0  29.0 18.8 18.8  18.8 12.9 12.9  12.9 12.2 12.2  12.2
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  29.0 29.0  29.0 18.8 18.8  18.8 12.9 12.9  12.9 12.2 12.2  12.2
LOS by Move:    C    C     C    B    B     B    B    B     B    B    B     B
HCM2kAvgQ:    173  173   173  105  105   105  312  312   312  270  270   270
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1015: 16th St / M St



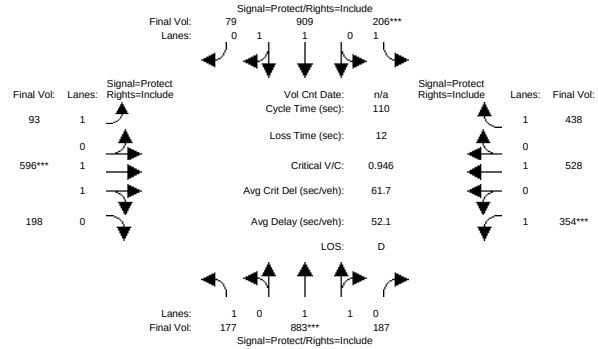
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	237		532	38	167		436	51	47		528	34	182		390	252
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	237		532	38	167		436	51	47		528	34	182		390	252
Added Vol:	107		75	4	1		84	7	4		16	124	5		9	2
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	344		607	42	168		520	58	51		544	158	187		399	254
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	344		607	42	168		520	58	51		544	158	187		399	254
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	344		607	42	168		520	58	51		544	158	187		399	254
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	344		607	42	168		520	58	51		544	158	187		399	254
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.94	0.94	0.95		0.94	0.94	0.95		0.92	0.92	0.95		1.00	0.85
Lanes:	1.00		1.87	0.13	1.00		1.80	0.20	1.00		1.55	0.45	1.00		1.00	1.00
Final Sat.:	1805		3343	231	1805		3199	357	1805		2702	785	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.19		0.18	0.18	0.09		0.16	0.16	0.03		0.20	0.20	0.10		0.21	0.16
Crit Moves:	****						****				****		****			
Green/Cycle:	0.26		0.32	0.32	0.16		0.22	0.22	0.10		0.27	0.27	0.14		0.32	0.32
Volume/Cap:	0.74		0.57	0.57	0.57		0.74	0.74	0.29		0.74	0.74	0.74		0.66	0.50
Delay/Veh:	43.6		32.2	32.2	45.4		43.7	43.7	47.2		39.5	39.5	56.3		35.3	31.2
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	43.6		32.2	32.2	45.4		43.7	43.7	47.2		39.5	39.5	56.3		35.3	31.2
LOS by Move:	D		C	C	D		D	D	D		D	D	E		D	C
HCM2kAvgQ:	267		233	233	150		276	276	38		279	279	154		284	167

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1015: 16th St / M St



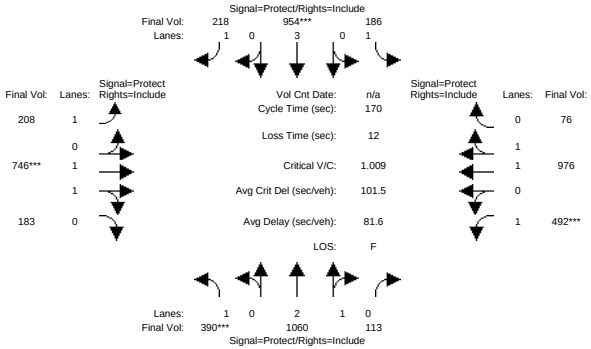
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	57		794	182	205		838	75	84		587	88	350		512	436
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	57		794	182	205		838	75	84		587	88	350		512	436
Added Vol:	120		89	5	1		71	4	9		9	110	4		16	2
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	177		883	187	206		909	79	93		596	198	354		528	438
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	177		883	187	206		909	79	93		596	198	354		528	438
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	177		883	187	206		909	79	93		596	198	354		528	438
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	177		883	187	206		909	79	93		596	198	354		528	438
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.93	0.93	0.95		0.94	0.94	0.95		0.91	0.91	0.95		1.00	0.85
Lanes:	1.00		1.65	0.35	1.00		1.84	0.16	1.00		1.50	0.50	1.00		1.00	1.00
Final Sat.:	1805		2902	615	1805		3281	285	1805		2610	867	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.10		0.30	0.30	0.11		0.28	0.28	0.05		0.23	0.23	0.20		0.28	0.27
Crit Moves:			****		****						****				****	
Green/Cycle:	0.12		0.32	0.32	0.12		0.33	0.33	0.08		0.24	0.24	0.21		0.37	0.37
Volume/Cap:	0.85		0.95	0.95	0.95		0.85	0.85	0.62		0.95	0.95	0.95		0.76	0.74
Delay/Veh:	74.0		51.9	51.9	93.9		40.5	40.5	56.2		60.2	60.2	75.8		35.7	35.5
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	74.0		51.9	51.9	93.9		40.5	40.5	56.2		60.2	60.2	75.8		35.7	35.5
LOS by Move:	E		D	D	F		D	D	E		E	E	E		D	D
HCM2kAvgQ:	158		516	516	266		473	473	74		373	373	314		376	309

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1016: Olive Ave / M St



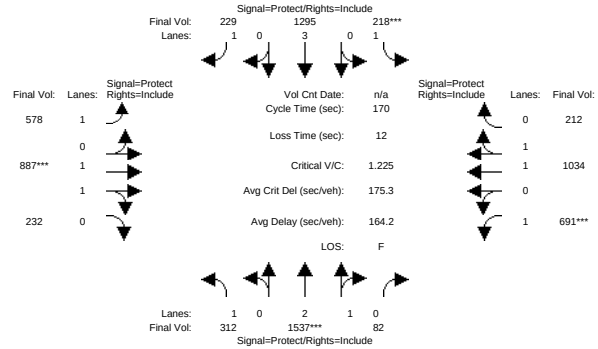
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	390	1060		113	186	954		218	208	741		183	492	965		76
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	390	1060		113	186	954		218	208	741		183	492	965		76
Added Vol:	0	0		0	0	0		0	0	5		0	0	11		0
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	390	1060		113	186	954		218	208	746		183	492	976		76
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	390	1060		113	186	954		218	208	746		183	492	976		76
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	390	1060		113	186	954		218	208	746		183	492	976		76
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	390	1060		113	186	954		218	208	746		183	492	976		76
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.90	0.90		0.95	0.91	0.85		0.95	0.92	0.92		0.95	0.94	0.94	
Lanes:	1.00	2.71	0.29		1.00	3.00	1.00		1.00	1.61	0.39		1.00	1.86	0.14	
Final Sat.:	1805	4622	493		1805	5187	1615		1805	2812	690		1805	3312	258	
Capacity Analysis Module:																
Vol/Sat:	0.22	0.23	0.23		0.10	0.18	0.13		0.12	0.27	0.27		0.27	0.29	0.29	
Crit Moves:	****					****				****			****			
Green/Cycle:	0.21	0.27	0.27		0.12	0.18	0.18		0.15	0.26	0.26		0.27	0.38	0.38	
Volume/Cap:	1.01	0.84	0.84		0.84	1.01	0.74		0.77	1.01	1.01		1.01	0.77	0.77	
Delay/Veh:	114.9	62.9	62.9		96.5	101	75.3		82.0	94.6	94.6		105.1	48.6	48.6	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	114.9	62.9	62.9		96.5	101	75.3		82.0	94.6	94.6		105.1	48.6	48.6	
LOS by Move:	F	E	E		F	F	E		F	F	F		F	D	D	
HCM2kAvgQ:	506	486	486		238	506	261		299	780	780		784	645	645	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1016: Olive Ave / M St



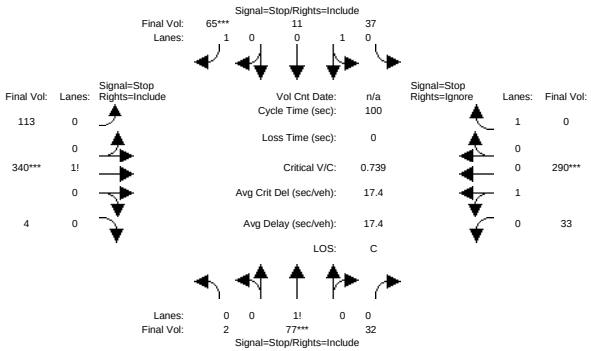
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	312	1537		82	218	1295		229	578	876		232	691	1029		212
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	312	1537		82	218	1295		229	578	876		232	691	1029		212
Added Vol:	0	0		0	0	0		0	0	11		0	0	5		0
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	312	1537		82	218	1295		229	578	887		232	691	1034		212
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	312	1537		82	218	1295		229	578	887		232	691	1034		212
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	312	1537		82	218	1295		229	578	887		232	691	1034		212
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	312	1537		82	218	1295		229	578	887		232	691	1034		212
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.90	0.90		0.95	0.91	0.85		0.95	0.92	0.92		0.95	0.93	0.93	
Lanes:	1.00	2.85	0.15		1.00	3.00	1.00		1.00	1.59	0.41		1.00	1.66	0.34	
Final Sat.:	1805	4885	261		1805	5187	1615		1805	2773	725		1805	2921	599	
Capacity Analysis Module:																
Vol/Sat:	0.17	0.31	0.31		0.12	0.25	0.14		0.32	0.32	0.32		0.38	0.35	0.35	
Crit Moves:		****			****					****			****			
Green/Cycle:	0.15	0.26	0.26		0.10	0.21	0.21		0.27	0.26	0.26		0.31	0.30	0.30	
Volume/Cap:	1.19	1.22	1.22		1.22	1.19	0.67		1.17	1.22	1.22		1.22	1.17	1.17	
Delay/Veh:	188.9	171	171.2		217.3	161	67.1		160.2	174	173.6		174.6	148	148.2	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	188.9	171	171.2		217.3	161	67.1		160.2	174	173.6		174.6	148	148.2	
LOS by Move:	F	F	F		F	F	E		F	F	F		F	F	F	
HCM2kAvgQ:	529	1048	1048		398	824	258		1068	1137	1137		1319	1200	1200	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   77    32    24   11    63   103  340     4    33  290   102
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   77    32    24   11    63   103  340     4    33  290   102
Added Vol:      0    0     0    13    0     2    10    0     0     0    0    52
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   77    32    37   11    65   113  340     4    33  290   154
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2   77    32    37   11    65   113  340     4    33  290     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   77    32    37   11    65   113  340     4    33  290     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    2   77    32    37   11    65   113  340     4    33  290     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.69  0.29  0.77 0.23  1.00  0.25 0.74  0.01  0.10 0.90  1.00
Final Sat.:     9  338   140   350  104   527   153  460     5    62  542   689
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23 0.23  0.23  0.11 0.11  0.12  0.74 0.74  0.74  0.53 0.53  0.00
Crit Moves:       ****                    ****       ****              ****
Delay/Veh:   11.4 11.4  11.4  10.6 10.6   9.5  22.7 22.7  22.7  14.6 14.6   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.4 11.4  11.4  10.6 10.6   9.5  22.7 22.7  22.7  14.6 14.6   0.0
LOS by Move:    B    B     B     B    B     A     C    C     C     B    B     *
ApproachDel:      11.4             10.0             22.7             14.6
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       11.4             10.0             22.7             14.6
LOS by Appr:         B                B                C                B
AllWayAvgQ:   5.8  5.8   5.8   2.4  2.4   2.7  59.8 59.8  59.8  25.7 25.7   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



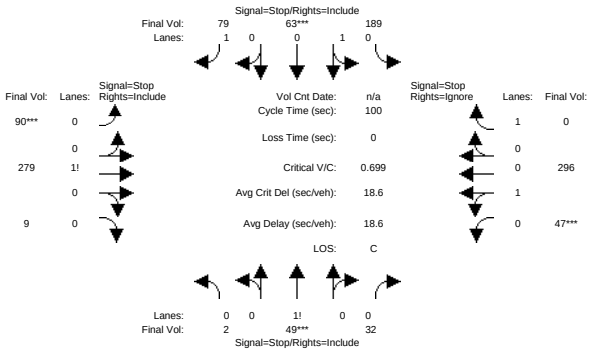
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   77    32    37   11    65   113  340     4    33  290   154
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             934
Minor Approach Volume:           113
Minor Approach Volume Threshold: 403
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1017: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    49    32   137    63    69    88   279     9    47   296    88
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2    49    32   137    63    69    88   279     9    47   296    88
Added Vol:      0     0     0    52     0    10     2     0     0     0     0    13
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    2    49    32   189    63    79    90   279     9    47   296   101
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
PHF Volume:     2    49    32   189    63    79    90   279     9    47   296     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    2    49    32   189    63    79    90   279     9    47   296     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
FinalVolume:    2    49    32   189    63    79    90   279     9    47   296     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.02  0.59  0.39  0.75  0.25  1.00  0.24  0.74  0.02  0.14  0.86  1.00
Final Sat.:    10   255   167   358   119   556   129   399    13    73   462   600
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19  0.19  0.19  0.53  0.53  0.14  0.70  0.70  0.70  0.64  0.64  0.00
Crit Moves:        ****              ****        ****              ****
Delay/Veh:   11.7  11.7  11.7  16.9  16.9   9.8  22.4  22.4  22.4  19.4  19.4   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  11.7  11.7  11.7  16.9  16.9   9.8  22.4  22.4  22.4  19.4  19.4   0.0
LOS by Move:    B     B     B     C     C     A     C     C     C     C     C     *
ApproachDel:       11.7              15.2              22.4              19.4
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        11.7              15.2              22.4              19.4
LOS by Appr:          B                 C                 C                 C
AllWayAvgQ:   4.4   4.4   4.4  23.4  23.4   3.6  48.4  48.4  48.4  37.7  37.7   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1017 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   49    32   189   63    79    90  279     9    47  296   101
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             822
Minor Approach Volume:           331
Minor Approach Volume Threshold: 458
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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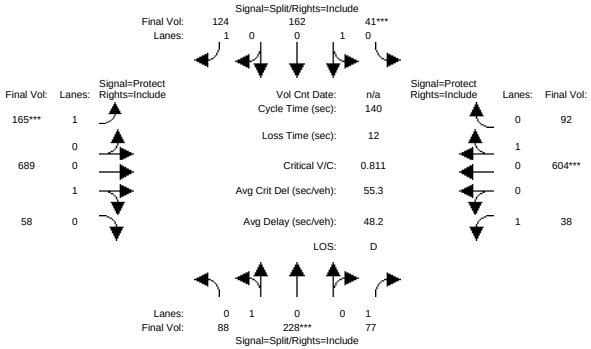
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1018: Childs Ave / Martin Luther King Wy



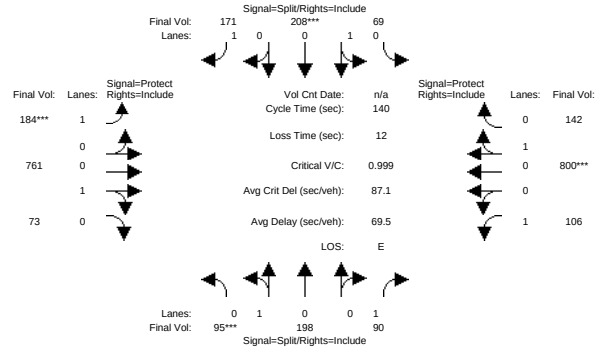
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	224	77	41	161	123	161	662	51	38	588	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	224	77	41	161	123	161	662	51	38	588	90
Added Vol:	2	4	0	0	1	1	4	27	7	0	16	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	228	77	41	162	124	165	689	58	38	604	92
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	228	77	41	162	124	165	689	58	38	604	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	228	77	41	162	124	165	689	58	38	604	92
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	228	77	41	162	124	165	689	58	38	604	92
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.99	0.99	0.85	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.20	0.80	1.00	1.00	0.92	0.08	1.00	0.87	0.13
Final Sat.:	522	1352	1615	380	1501	1615	1805	1731	146	1805	1616	246
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.05	0.11	0.11	0.08	0.09	0.40	0.40	0.02	0.37	0.37
Crit Moves:		****		****			****				****	
Green/Cycle:	0.21	0.21	0.21	0.13	0.13	0.13	0.11	0.51	0.51	0.06	0.46	0.46
Volume/Cap:	0.81	0.81	0.23	0.81	0.81	0.58	0.81	0.78	0.78	0.33	0.81	0.81
Delay/Veh:	65.0	65.0	46.5	76.8	76.8	60.8	81.9	32.2	32.2	64.3	38.4	38.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.0	65.0	46.5	76.8	76.8	60.8	81.9	32.2	32.2	64.3	38.4	38.4
LOS by Move:	E	E	D	E	E	E	F	C	C	E	D	D
HCM2kAvgQ:	373	373	70	264	264	144	225	671	671	38	652	652

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1018: Childs Ave / Martin Luther King Wy



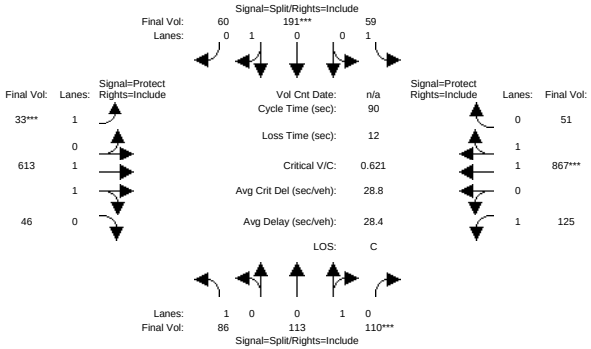
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	197	90	67	204	167	183	745	71	106	773	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	197	90	67	204	167	183	745	71	106	773	142
Added Vol:	7	1	0	2	4	4	1	16	2	0	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	95	198	90	69	208	171	184	761	73	106	800	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	95	198	90	69	208	171	184	761	73	106	800	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	198	90	69	208	171	184	761	73	106	800	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	198	90	69	208	171	184	761	73	106	800	142
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.85	0.99	0.99	0.85	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.32	0.68	1.00	0.25	0.75	1.00	1.00	0.91	0.09	1.00	0.85	0.15
Final Sat.:	606	1263	1615	468	1410	1615	1805	1711	164	1805	1576	280
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.06	0.15	0.15	0.11	0.10	0.44	0.44	0.06	0.51	0.51
Crit Moves:	****				****		****				****	
Green/Cycle:	0.16	0.16	0.16	0.15	0.15	0.15	0.10	0.54	0.54	0.07	0.51	0.51
Volume/Cap:	1.00	1.00	0.36	1.00	1.00	0.72	1.00	0.83	0.83	0.83	1.00	1.00
Delay/Veh:	111.4	111	53.6	113.5	114	66.9	129.0	32.5	32.5	97.7	63.6	63.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	111.4	111	53.6	113.5	114	66.9	129.0	32.5	32.5	97.7	63.6	63.6
LOS by Move:	F	F	D	F	F	E	F	C	C	F	E	E
HCM2kAvgQ:	436	436	92	416	416	210	299	774	774	122	1144	1144

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1019: 13th St / Martin Luther King Wy



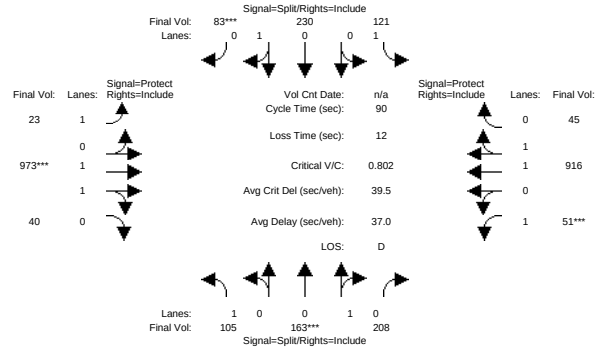
Street Name:	13th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	113	110	58	187	50	24	597	46	125	804	51
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	113	110	58	187	50	24	597	46	125	804	51
Added Vol:	0	0	0	1	4	10	9	16	0	0	63	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	86	113	110	59	191	60	33	613	46	125	867	51
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	113	110	59	191	60	33	613	46	125	867	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	113	110	59	191	60	33	613	46	125	867	51
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	113	110	59	191	60	33	613	46	125	867	51
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	0.95	0.96	0.96	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.51	0.49	1.00	0.76	0.24	1.00	1.86	0.14	1.00	1.89	0.11
Final Sat.:	1805	892	868	1805	1394	438	1805	3324	249	1805	3382	199
Capacity Analysis Module:												
Vol/Sat:	0.05	0.13	0.13	0.03	0.14	0.14	0.02	0.18	0.18	0.07	0.26	0.26
Crit Moves:			****		****		****				****	
Green/Cycle:	0.19	0.19	0.19	0.21	0.21	0.21	0.08	0.33	0.33	0.14	0.39	0.39
Volume/Cap:	0.25	0.66	0.66	0.16	0.66	0.66	0.24	0.56	0.56	0.50	0.66	0.66
Delay/Veh:	31.2	38.4	38.4	29.4	37.0	37.0	39.8	25.5	25.5	37.5	23.8	23.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.2	38.4	38.4	29.4	37.0	37.0	39.8	25.5	25.5	37.5	23.8	23.8
LOS by Move:	C	D	D	C	D	D	D	C	C	D	C	C
HCM2kAvgQ:	48	144	144	31	150	150	21	194	194	79	274	274

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1019: 13th St / Martin Luther King Wy



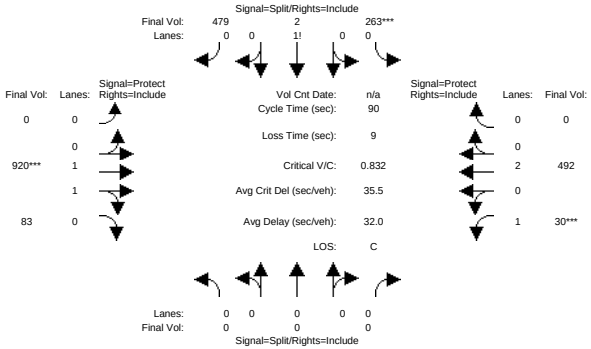
Street Name:	13th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	105	163	208	118	228	74	13	910	40	51	900	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	163	208	118	228	74	13	910	40	51	900	45
Added Vol:	0	0	0	3	2	9	10	63	0	0	16	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	163	208	121	230	83	23	973	40	51	916	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	105	163	208	121	230	83	23	973	40	51	916	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	105	163	208	121	230	83	23	973	40	51	916	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	105	163	208	121	230	83	23	973	40	51	916	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.96	0.96	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.44	0.56	1.00	0.73	0.27	1.00	1.92	0.08	1.00	1.91	0.09
Final Sat.:	1805	765	976	1805	1340	484	1805	3447	142	1805	3417	168
Capacity Analysis Module:												
Vol/Sat:	0.06	0.21	0.21	0.07	0.17	0.17	0.01	0.28	0.28	0.03	0.27	0.27
Crit Moves:		****				****		****		****		
Green/Cycle:	0.25	0.25	0.25	0.20	0.20	0.20	0.09	0.33	0.33	0.08	0.32	0.32
Volume/Cap:	0.23	0.85	0.85	0.33	0.85	0.85	0.14	0.85	0.85	0.36	0.84	0.84
Delay/Veh:	27.0	46.1	46.1	31.2	50.8	50.8	37.9	33.5	33.5	41.0	34.2	34.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.0	46.1	46.1	31.2	50.8	50.8	37.9	33.5	33.5	41.0	34.2	34.2
LOS by Move:	C	D	D	C	D	D	D	C	C	D	C	C
HCM2kAvgQ:	55	262	262	66	200	200	14	364	364	33	348	348

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy

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Street Name:          SR-99 SB Ramp                 Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0   10    0   10     0   10   10     7   10     0
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  263    2  418     0  905   82    30  490     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0    0     0  263    2  418     0  905   82    30  490     0
Added Vol:      0    0     0    0    0   61     0   15    1     0    2     0
PasserByVol:    0    0     0    0    0    0     0    0    0     0    0     0
Initial Fut:    0    0     0  263    2  479     0  920   83    30  492     0
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0    0     0  263    2  479     0  920   83    30  492     0
Reduct Vol:     0    0     0    0    0    0     0    0    0     0    0     0
Reduced Vol:    0    0     0  263    2  479     0  920   83    30  492     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0    0     0  263    2  479     0  920   83    30  492     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 1.00  1.00 0.87 0.87 0.87  1.00 0.94 0.94  0.95 0.95 1.00
Lanes:       0.00 0.00  0.00 0.35 0.01 0.64  0.00 1.83 0.17  1.00 2.00 0.00
Final Sat.:     0    0     0  584    4 1063     0 3272  295  1805 3610     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.45 0.45 0.45  0.00 0.28 0.28  0.02 0.14 0.00
Crit Moves:                  ****               ****        ****
Green/Cycle: 0.00 0.00  0.00 0.51 0.51 0.51  0.00 0.32 0.32  0.08 0.39 0.00
Volume/Cap:  0.00 0.00  0.00 0.89 0.89 0.89  0.00 0.89 0.89  0.21 0.35 0.00
Delay/Veh:    0.0  0.0   0.0 31.6 31.6 31.6   0.0 38.3 38.3  39.7 19.3  0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0  0.0   0.0 31.6 31.6 31.6   0.0 38.3 38.3  39.7 19.3  0.0
LOS by Move:    A    A     A    C    C    C     A    D    D     D    B    A
HCM2kAvgQ:      0    0     0  555  555  555     0  377  377    19  119    0
Note: Queue reported is the distance per lane in feet.
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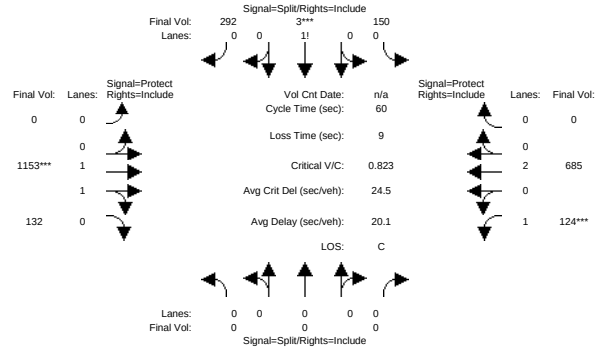
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1020: SR-99 SB Ramps / Martin Luther King Wy

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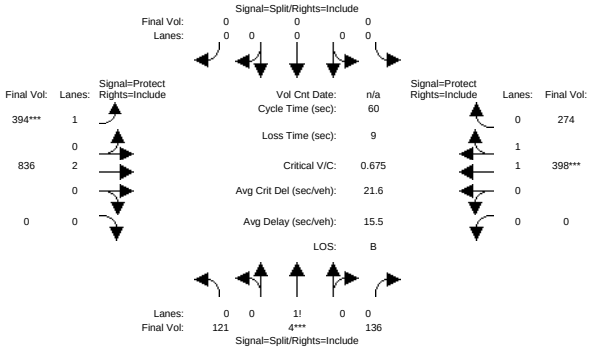
Street Name:          SR-99 SB Ramp                 Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0   10   10   10     0   10   10     7   10     0
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  150    3  277     0 1092  127   124  685     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0    0     0  150    3  277     0 1092  127   124  685     0
Added Vol:      0    0     0    0    0   15     0   61    5     0    0     0
PasserByVol:    0    0     0    0    0    0     0    0    0     0    0     0
Initial Fut:    0    0     0  150    3  292     0 1153  132   124  685     0
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0    0     0  150    3  292     0 1153  132   124  685     0
Reduct Vol:     0    0     0    0    0    0     0    0    0     0    0     0
Reduced Vol:    0    0     0  150    3  292     0 1153  132   124  685     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0    0     0  150    3  292     0 1153  132   124  685     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 1.00  1.00 0.87 0.87 0.87  1.00 0.94 0.94  0.95 0.95 1.00
Lanes:       0.00 0.00  0.00 0.34 0.01 0.65  0.00 1.79 0.21  1.00 2.00 0.00
Final Sat.:     0    0     0  557   11 1085     0 3191  365  1805 3610     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.27 0.27 0.27  0.00 0.36 0.36  0.07 0.19 0.00
Crit Moves:                  ****               ****        ****
Green/Cycle: 0.00 0.00  0.00 0.31 0.31 0.31  0.00 0.42 0.42  0.12 0.54 0.00
Volume/Cap:  0.00 0.00  0.00 0.86 0.86 0.86  0.00 0.86 0.86  0.59 0.35 0.00
Delay/Veh:    0.0  0.0   0.0 33.0 33.0 33.0   0.0 21.1 21.1  29.5  8.1  0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0  0.0   0.0 33.0 33.0 33.0   0.0 21.1 21.1  29.5  8.1  0.0
LOS by Move:    A    A     A    C    C    C     A    C    C     C    A    A
HCM2kAvgQ:      0    0     0  279  279  279     0  284  284    52   88    0
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy



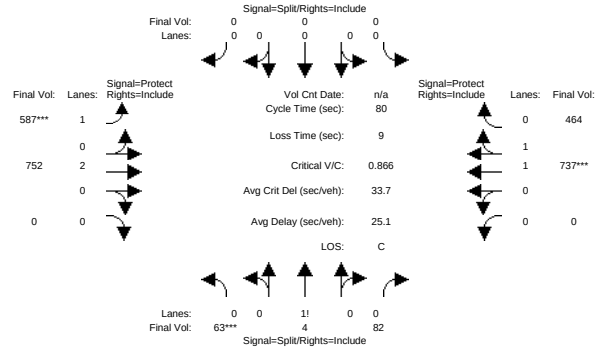
Street Name:	SR-99 NB Ramps						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	119	4	136	0	0	0	379	836	0	0	398	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	119	4	136	0	0	0	379	836	0	0	398	274
Added Vol:	2	0	0	0	0	0	15	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	121	4	136	0	0	0	394	836	0	0	398	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	121	4	136	0	0	0	394	836	0	0	398	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	121	4	136	0	0	0	394	836	0	0	398	274
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	121	4	136	0	0	0	394	836	0	0	398	274
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.89	0.89
Lanes:	0.46	0.02	0.52	0.00	0.00	0.00	1.00	2.00	0.00	0.00	1.18	0.82
Final Sat.:	768	25	863	0	0	0	1805	3610	0	0	2008	1382
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.16	0.00	0.00	0.00	0.22	0.23	0.00	0.00	0.20	0.20
Crit Moves:		****					****				****	
Green/Cycle:	0.23	0.23	0.23	0.00	0.00	0.00	0.32	0.62	0.00	0.00	0.29	0.29
Volume/Cap:	0.68	0.68	0.68	0.00	0.00	0.00	0.68	0.38	0.00	0.00	0.68	0.68
Delay/Veh:	25.6	25.6	25.6	0.0	0.0	0.0	20.7	5.8	0.0	0.0	20.5	20.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.6	25.6	25.6	0.0	0.0	0.0	20.7	5.8	0.0	0.0	20.5	20.5
LOS by Move:	C	C	C	A	A	A	C	A	A	A	C	C
HCM2kAvgQ:	145	145	145	0	0	0	149	94	0	0	146	146

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1021: SR-99 NB Ramps / Martin Luther King Wy



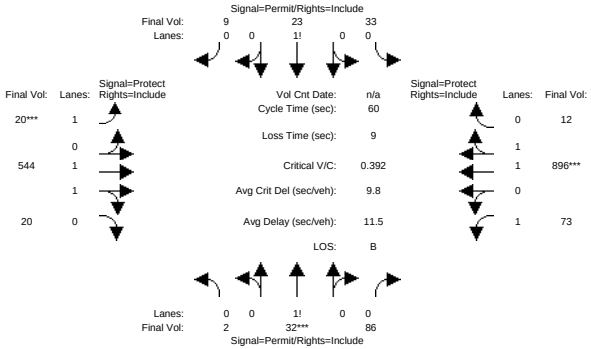
Street Name:	SR-99 NB Ramps						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	63	4	82	0	0	0	526	752	0	0	737	464
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	63	4	82	0	0	0	526	752	0	0	737	464
Added Vol:	0	0	0	0	0	0	61	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	63	4	82	0	0	0	587	752	0	0	737	464
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	4	82	0	0	0	587	752	0	0	737	464
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	4	82	0	0	0	587	752	0	0	737	464
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	4	82	0	0	0	587	752	0	0	737	464
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.89	0.89
Lanes:	0.42	0.03	0.55	0.00	0.00	0.00	1.00	2.00	0.00	0.00	1.23	0.77
Final Sat.:	702	45	913	0	0	0	1805	3610	0	0	2087	1314
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.00	0.00	0.00	0.33	0.21	0.00	0.00	0.35	0.35
Crit Moves:	****						****				****	
Green/Cycle:	0.13	0.13	0.13	0.00	0.00	0.00	0.37	0.76	0.00	0.00	0.40	0.40
Volume/Cap:	0.72	0.72	0.72	0.00	0.00	0.00	0.89	0.27	0.00	0.00	0.89	0.89
Delay/Veh:	45.1	45.1	45.1	0.0	0.0	0.0	38.0	2.9	0.0	0.0	30.2	30.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.1	45.1	45.1	0.0	0.0	0.0	38.0	2.9	0.0	0.0	30.2	30.2
LOS by Move:	D	D	D	A	A	A	D	A	A	A	C	C
HCM2kAvgQ:	130	130	130	0	0	0	341	69	0	0	391	391

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1022: 14th St / Martin Luther King Wy



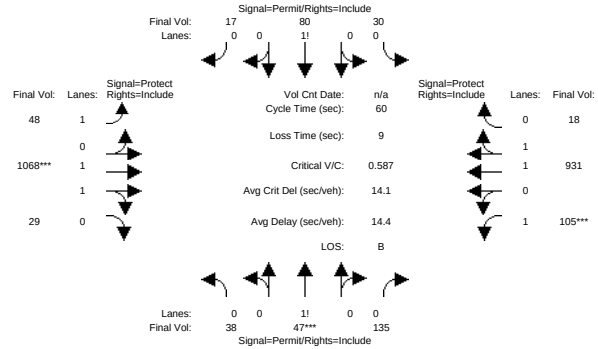
Street Name:	14th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	2	28	86	33	23	9	20	544	20	73	896	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	28	86	33	23	9	20	544	20	73	896	12
Added Vol:	0	4	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	32	86	33	23	9	20	544	20	73	896	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	32	86	33	23	9	20	544	20	73	896	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	32	86	33	23	9	20	544	20	73	896	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	32	86	33	23	9	20	544	20	73	896	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.90	0.90	0.84	0.84	0.84	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.01	0.27	0.72	0.51	0.35	0.14	1.00	1.93	0.07	1.00	1.97	0.03
Final Sat.:	28	456	1225	815	568	222	1805	3465	127	1805	3555	48
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.04	0.04	0.04	0.01	0.16	0.16	0.04	0.25	0.25
Crit Moves:		****					****				****	
Green/Cycle:	0.17	0.17	0.17	0.17	0.17	0.17	0.12	0.40	0.40	0.28	0.57	0.57
Volume/Cap:	0.42	0.42	0.42	0.24	0.24	0.24	0.09	0.39	0.39	0.14	0.44	0.44
Delay/Veh:	23.4	23.4	23.4	22.2	22.2	22.2	23.9	12.9	12.9	16.3	7.7	7.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.4	23.4	23.4	22.2	22.2	22.2	23.9	12.9	12.9	16.3	7.7	7.7
LOS by Move:	C	C	C	C	C	C	C	B	B	B	A	A
HCM2kAvgQ:	49	49	49	25	25	25	8	95	95	24	126	126

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1022: 14th St / Martin Luther King Wy



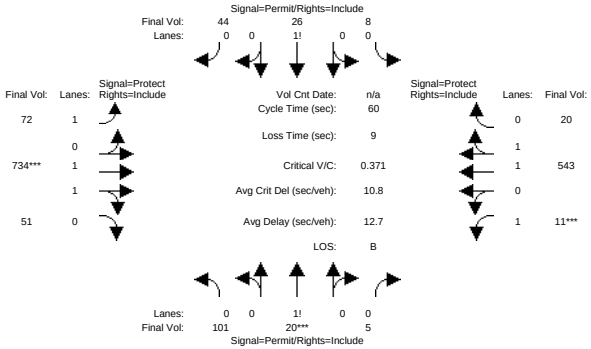
Street Name:	14th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	38	46	135	30	80	17	48	1068	29	105	931	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	38	46	135	30	80	17	48	1068	29	105	931	18
Added Vol:	0	1	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	47	135	30	80	17	48	1068	29	105	931	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	47	135	30	80	17	48	1068	29	105	931	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	47	135	30	80	17	48	1068	29	105	931	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	38	47	135	30	80	17	48	1068	29	105	931	18
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.85	0.85	0.85	0.89	0.89	0.89	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.17	0.21	0.62	0.24	0.63	0.13	1.00	1.95	0.05	1.00	1.96	0.04
Final Sat.:	280	347	996	401	1070	227	1805	3501	95	1805	3531	68
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.14	0.07	0.07	0.07	0.03	0.31	0.31	0.06	0.26	0.26
Crit Moves:		****						****		****		
Green/Cycle:	0.23	0.23	0.23	0.23	0.23	0.23	0.19	0.51	0.51	0.12	0.43	0.43
Volume/Cap:	0.60	0.60	0.60	0.33	0.33	0.33	0.14	0.60	0.60	0.50	0.61	0.61
Delay/Veh:	23.6	23.6	23.6	20.0	20.0	20.0	20.3	11.0	11.0	26.7	13.8	13.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.6	23.6	23.6	20.0	20.0	20.0	20.3	11.0	11.0	26.7	13.8	13.8
LOS by Move:	C	C	C	B	B	B	C	B	B	C	B	B
HCM2kAvgQ:	93	93	93	48	48	48	18	189	189	45	174	174

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1023: 15th St / Martin Luther King Wy

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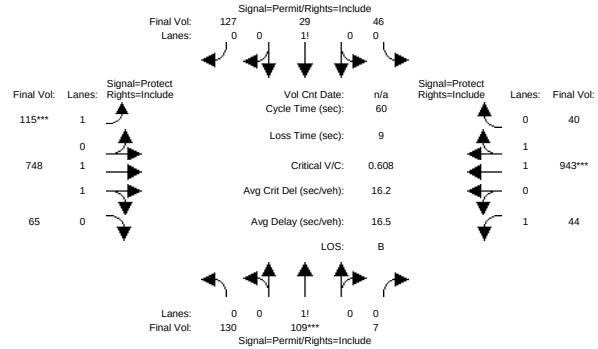
Street Name:           15th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     101   14     5    8    3    44   72  734    51   11  543    20
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  101   14     5    8    3    44   72  734    51   11  543    20
Added Vol:      0    6     0    0   23     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  101   20     5    8   26    44   72  734    51   11  543    20
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   101   20     5    8   26    44   72  734    51   11  543    20
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  101   20     5    8   26    44   72  734    51   11  543    20
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  101   20     5    8   26    44   72  734    51   11  543    20
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.74 0.74  0.74 0.90 0.90  0.90 0.95 0.94  0.94 0.95 0.95  0.95
Lanes:       0.80 0.16  0.04 0.10 0.33  0.57 1.00 1.87  0.13 1.00 1.93  0.07
Final Sat.:  1130  224    56  175  568   962 1805 3342   232 1805 3464   128
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.09  0.09 0.05 0.05  0.05 0.04 0.22  0.22 0.01 0.16  0.16
Crit Moves:       ****                          ****          ****
Green/Cycle: 0.21 0.21  0.21 0.21 0.21  0.21 0.26 0.52  0.52 0.12 0.38  0.38
Volume/Cap:  0.42 0.42  0.42 0.22 0.22  0.22 0.15 0.42  0.42 0.05 0.42  0.42
Delay/Veh:   21.4 21.4  21.4 19.8 19.8  19.8 17.1  9.0   9.0 23.7 14.1  14.1
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  21.4 21.4  21.4 19.8 19.8  19.8 17.1  9.0   9.0 23.7 14.1  14.1
LOS by Move:    C    C     C    B    B     B    B    A     A    C    B     B
HCM2kAvgQ:     63   63    63   34   34    34   24  115   115    4   97    97
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1023: 15th St / Martin Luther King Wy

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Street Name:           15th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     130   86     7   46   23   127  115  748    65   44  943    40
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  130   86     7   46   23   127  115  748    65   44  943    40
Added Vol:      0   23     0    0    6     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  130  109     7   46   29   127  115  748    65   44  943    40
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   130  109     7   46   29   127  115  748    65   44  943    40
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  130  109     7   46   29   127  115  748    65   44  943    40
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  130  109     7   46   29   127  115  748    65   44  943    40
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.72 0.72  0.72 0.83 0.83  0.83 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       0.53 0.44  0.03 0.23 0.14  0.63 1.00 1.84  0.16 1.00 1.92  0.08
Final Sat.:   727  610    39  359  227   992 1805 3282   285 1805 3442   146
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18  0.18 0.13 0.13  0.13 0.06 0.23  0.23 0.02 0.27  0.27
Crit Moves:       ****                          ****          ****
Green/Cycle: 0.29 0.29  0.29 0.29 0.29  0.29 0.12 0.37  0.37 0.19 0.44  0.44
Volume/Cap:  0.62 0.62  0.62 0.44 0.44  0.44 0.55 0.61  0.61 0.13 0.62  0.62
Delay/Veh:   21.4 21.4  21.4 18.0 18.0  18.0 28.0 16.3  16.3 20.4 13.5  13.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  21.4 21.4  21.4 18.0 18.0  18.0 28.0 16.3  16.3 20.4 13.5  13.5
LOS by Move:    C    C     C    B    B     B    C    B     B    C    B     B
HCM2kAvgQ:    126  126   126   88   88    88   50  158   158   15  167   167
Note: Queue reported is the distance per lane in feet.
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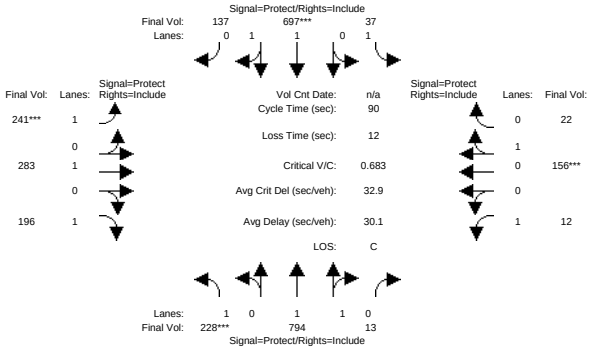
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1024: 16th St / Martin Luther King Wy



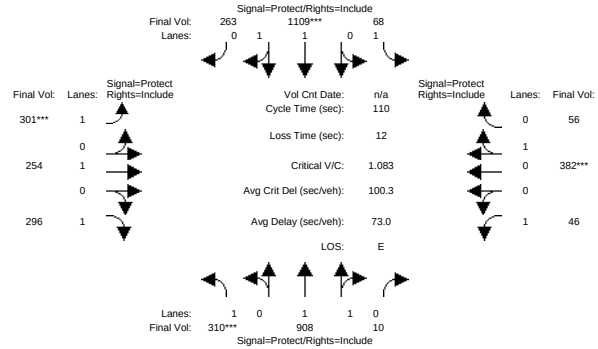
Street Name:	16th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	228	609	13	37	484	137	241	283	196	12	156	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	228	609	13	37	484	137	241	283	196	12	156	22
Added Vol:	0	185	0	0	213	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	228	794	13	37	697	137	241	283	196	12	156	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	228	794	13	37	697	137	241	283	196	12	156	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	794	13	37	697	137	241	283	196	12	156	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	228	794	13	37	697	137	241	283	196	12	156	22
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.93	0.93	0.95	1.00	0.85	0.95	0.98	0.98
Lanes:	1.00	1.97	0.03	1.00	1.67	0.33	1.00	1.00	1.00	1.00	0.88	0.12
Final Sat.:	1805	3545	58	1805	2942	578	1805	1900	1615	1805	1634	230
Capacity Analysis Module:												
Vol/Sat:	0.13	0.22	0.22	0.02	0.24	0.24	0.13	0.15	0.12	0.01	0.10	0.10
Crit Moves:	****				****		****				****	
Green/Cycle:	0.18	0.39	0.39	0.14	0.35	0.35	0.20	0.22	0.22	0.11	0.14	0.14
Volume/Cap:	0.68	0.57	0.57	0.15	0.68	0.68	0.68	0.68	0.55	0.06	0.68	0.68
Delay/Veh:	40.0	21.8	21.8	34.5	26.8	26.8	39.1	36.5	33.0	35.6	44.1	44.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.0	21.8	21.8	34.5	26.8	26.8	39.1	36.5	33.0	35.6	44.1	44.1
LOS by Move:	D	C	C	C	C	C	D	D	C	D	D	D
HCM2kAvgQ:	180	239	239	21	251	251	157	181	119	7	121	121

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1024: 16th St / Martin Luther King Wy



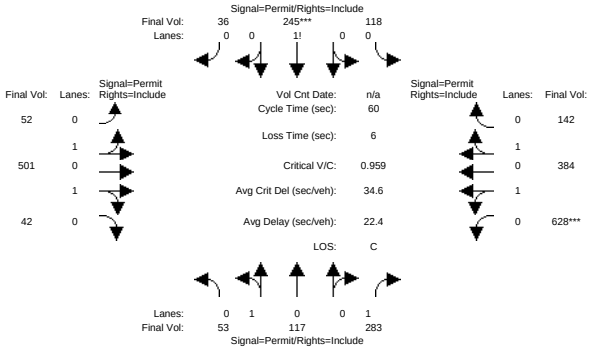
Street Name:	16th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	310	695	10	68	924	263	301	254	296	46	382	56
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	310	695	10	68	924	263	301	254	296	46	382	56
Added Vol:	0	213	0	0	185	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	310	908	10	68	1109	263	301	254	296	46	382	56
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	310	908	10	68	1109	263	301	254	296	46	382	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	310	908	10	68	1109	263	301	254	296	46	382	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	310	908	10	68	1109	263	301	254	296	46	382	56
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	1.00	0.85	0.95	0.98	0.98
Lanes:	1.00	1.98	0.02	1.00	1.62	0.38	1.00	1.00	1.00	1.00	0.87	0.13
Final Sat.:	1805	3564	39	1805	2833	672	1805	1900	1615	1805	1626	238
Capacity Analysis Module:												
Vol/Sat:	0.17	0.25	0.25	0.04	0.39	0.39	0.17	0.13	0.18	0.03	0.23	0.23
Crit Moves:	****				****		****				****	
Green/Cycle:	0.16	0.42	0.42	0.10	0.36	0.36	0.15	0.28	0.28	0.10	0.22	0.22
Volume/Cap:	1.08	0.61	0.61	0.36	1.08	1.08	1.08	0.49	0.67	0.27	1.08	1.08
Delay/Veh:	123.4	25.9	25.9	47.1	86.1	86.1	124.4	34.1	39.2	47.0	112	111.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	123.4	25.9	25.9	47.1	86.1	86.1	124.4	34.1	39.2	47.0	112	111.9
LOS by Move:	F	C	C	D	F	F	F	C	D	D	F	F
HCM2kAvgQ:	434	327	327	50	786	786	354	172	218	35	520	520

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1025: 13th St / G St



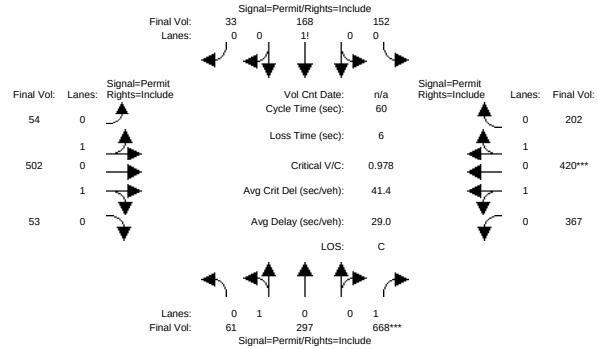
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	117	283	118	245	32	52	497	42	628	372	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	117	283	118	245	32	52	497	42	628	372	142
Added Vol:	0	0	0	0	0	4	0	4	0	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	117	283	118	245	36	52	501	42	628	384	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	117	283	118	245	36	52	501	42	628	384	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	117	283	118	245	36	52	501	42	628	384	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	117	283	118	245	36	52	501	42	628	384	142
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.77	0.85	0.81	0.81	0.81	0.76	0.76	0.76	0.55	0.55	0.55
Lanes:	0.31	0.69	1.00	0.30	0.61	0.09	0.17	1.69	0.14	1.00	0.73	0.27
Final Sat.:	454	1003	1615	456	946	139	253	2438	204	1039	758	280
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.18	0.26	0.26	0.26	0.21	0.21	0.21	0.60	0.51	0.51
Crit Moves:					****					****		
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.63	0.63	0.63	0.63	0.63	0.63
Volume/Cap:	0.43	0.43	0.65	0.96	0.96	0.96	0.33	0.33	0.33	0.96	0.80	0.80
Delay/Veh:	18.9	18.9	22.8	55.2	55.2	55.2	5.3	5.3	5.3	27.5	11.7	11.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.9	18.9	22.8	55.2	55.2	55.2	5.3	5.3	5.3	27.5	11.7	11.7
LOS by Move:	B	B	C	E	E	E	A	A	A	C	B	B
HCM2kAvgQ:	77	77	147	225	225	225	73	73	73	362	209	209

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1025: 13th St / G St



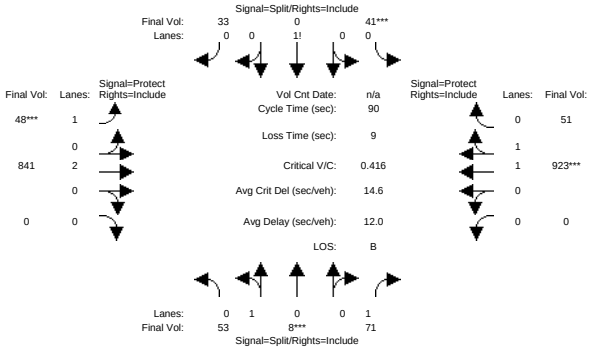
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	61	297	668	151	168	32	54	490	53	367	416	202
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	297	668	151	168	32	54	490	53	367	416	202
Added Vol:	0	0	0	1	0	1	0	12	0	0	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	297	668	152	168	33	54	502	53	367	420	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	297	668	152	168	33	54	502	53	367	420	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	297	668	152	168	33	54	502	53	367	420	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	297	668	152	168	33	54	502	53	367	420	202
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.90	0.85	0.62	0.62	0.62	0.76	0.76	0.76	0.56	0.56	0.56
Lanes:	0.17	0.83	1.00	0.43	0.48	0.09	0.18	1.65	0.17	0.74	0.85	0.41
Final Sat.:	291	1415	1615	509	562	110	257	2391	252	787	900	433
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.41	0.30	0.30	0.30	0.21	0.21	0.21	0.47	0.47	0.47
Crit Moves:			****								****	
Green/Cycle:	0.42	0.42	0.42	0.42	0.42	0.42	0.48	0.48	0.48	0.48	0.48	0.48
Volume/Cap:	0.50	0.50	0.98	0.71	0.71	0.71	0.44	0.44	0.44	0.98	0.98	0.98
Delay/Veh:	13.2	13.2	45.9	18.8	18.8	18.8	10.6	10.6	10.6	38.4	38.4	38.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.2	13.2	45.9	18.8	18.8	18.8	10.6	10.6	10.6	38.4	38.4	38.4
LOS by Move:	B	B	D	B	B	B	B	B	B	D	D	D
HCM2kAvgQ:	133	133	480	130	130	130	108	108	108	305	305	305

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1026: SR-99 - 14th St / G St

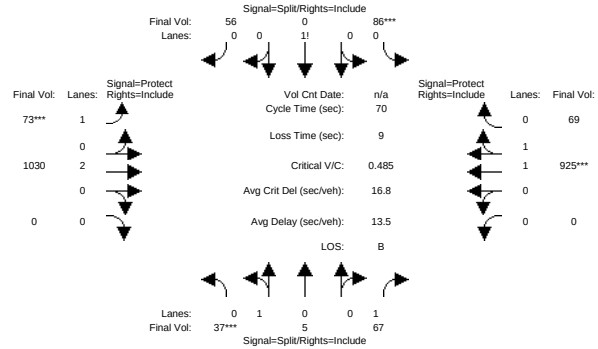



```
Street Name: SR-99 NB Off-Ramp - 14th Street              G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10    0    10    7   10     0     0   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      50    4    71   41    0    33   48  837     0     0  908    51
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   50    4    71   41    0    33   48  837     0     0  908    51
Added Vol:      3    4     0    0    0     0    0    4     0     0   15     0
PasserByVol:    0    0     0    0    0     0    0    0     0     0    0     0
Initial Fut:   53    8    71   41    0    33   48  841     0     0  923    51
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    53    8    71   41    0    33   48  841     0     0  923    51
Reduct Vol:     0    0     0    0    0     0    0    0     0     0    0     0
Reduced Vol:   53    8    71   41    0    33   48  841     0     0  923    51
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   53    8    71   41    0    33   48  841     0     0  923    51
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900  1900 1900  1900
Adjustment:  0.96 0.96  0.85 0.91 1.00  0.91 0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       0.87 0.13  1.00 0.55 0.00  0.45 1.00 2.00  0.00  0.00 1.90  0.10
Final Sat.:  1581  239  1615  963    0   775 1805 3610     0     0 3394   188
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.03  0.04 0.04 0.00  0.04 0.03 0.23  0.00  0.00 0.27  0.27
Crit Moves:        ****        ****             ****                 ****
Green/Cycle: 0.11 0.11  0.11 0.11 0.00  0.11 0.08 0.68  0.00  0.00 0.60  0.60
Volume/Cap:  0.30 0.30  0.40 0.38 0.00  0.38 0.34 0.34  0.00  0.00 0.45  0.45
Delay/Veh:   37.6 37.6  38.6 38.4  0.0  38.4 40.8  6.2   0.0   0.0 10.0  10.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  37.6 37.6  38.6 38.4  0.0  38.4 40.8  6.2   0.0   0.0 10.0  10.0
LOS by Move:    D    D     D    D    A     D    D    A     A     A    B     B
HCM2kAvgQ:     46   46    57   47    0    47   31  126     0     0  181   181
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1026: SR-99 - 14th St / G St

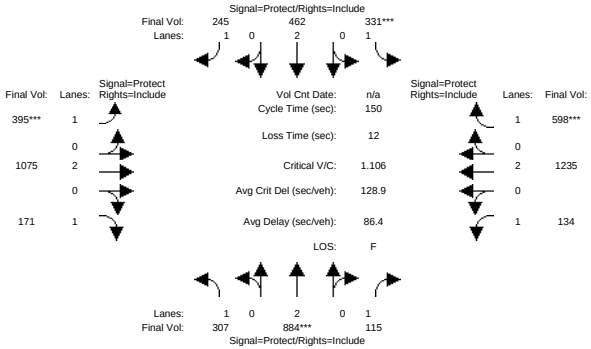



```
Street Name: SR-99 NB Off-Ramp - 14th Street              G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10    0    10    7   10     0     0   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36    4    67   86    0    56   73 1021     0     0  914    69
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36    4    67   86    0    56   73 1021     0     0  914    69
Added Vol:      1    1     0    0    0     0    0    9     0     0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0     0    0     0
Initial Fut:   37    5    67   86    0    56   73 1030     0     0  925    69
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    37    5    67   86    0    56   73 1030     0     0  925    69
Reduct Vol:     0    0     0    0    0     0    0    0     0     0    0     0
Reduced Vol:   37    5    67   86    0    56   73 1030     0     0  925    69
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   37    5    67   86    0    56   73 1030     0     0  925    69
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900  1900 1900  1900
Adjustment:  0.96 0.96  0.85 0.92 1.00  0.92 0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       0.88 0.12  1.00 0.61 0.00  0.39 1.00 2.00  0.00  0.00 1.86  0.14
Final Sat.:  1604  217  1615 1058    0   689 1805 3610     0     0 3326   248
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.02  0.04 0.08 0.00  0.08 0.04 0.29  0.00  0.00 0.28  0.28
Crit Moves:  ****             ****             ****                 ****
Green/Cycle: 0.14 0.14  0.14 0.14 0.00  0.14 0.10 0.59  0.00  0.00 0.49  0.49
Volume/Cap:  0.16 0.16  0.29 0.57 0.00  0.57 0.40 0.49  0.00  0.00 0.57  0.57
Delay/Veh:   26.6 26.6  27.5 31.1  0.0  31.1 31.0  8.6   0.0   0.0 13.3  13.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  26.6 26.6  27.5 31.1  0.0  31.1 31.0  8.6   0.0   0.0 13.3  13.3
LOS by Move:    C    C     C    C    A     C    C    A     A     A    B     B
HCM2kAvgQ:     23   23    39   72    0    72   36  166     0     0  184   184
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1028: Olive Ave / G St



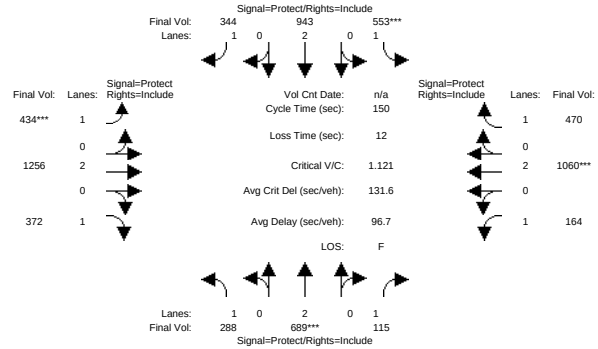
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	302	884	115	331	462	245	395	1072	168	134	1229	598
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	302	884	115	331	462	245	395	1072	168	134	1229	598
Added Vol:	5	0	0	0	0	0	0	3	3	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	307	884	115	331	462	245	395	1075	171	134	1235	598
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	307	884	115	331	462	245	395	1075	171	134	1235	598
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	307	884	115	331	462	245	395	1075	171	134	1235	598
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	307	884	115	331	462	245	395	1075	171	134	1235	598
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.17	0.24	0.07	0.18	0.13	0.15	0.22	0.30	0.11	0.07	0.34	0.37
Crit Moves:		****		****			****					****
Green/Cycle:	0.20	0.22	0.22	0.17	0.18	0.18	0.20	0.43	0.43	0.11	0.33	0.33
Volume/Cap:	0.83	1.11	0.32	1.11	0.70	0.83	1.11	0.70	0.25	0.70	1.02	1.11
Delay/Veh:	71.8	123	49.5	146.0	60.8	76.8	139.4	36.6	27.8	75.5	81.4	120.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	71.8	123	49.5	146.0	60.8	76.8	139.4	36.6	27.8	75.5	81.4	120.9
LOS by Move:	E	F	D	F	E	E	F	D	C	E	F	F
HCM2kAvgQ:	392	757	112	454	240	251	656	535	122	181	925	946

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1028: Olive Ave / G St



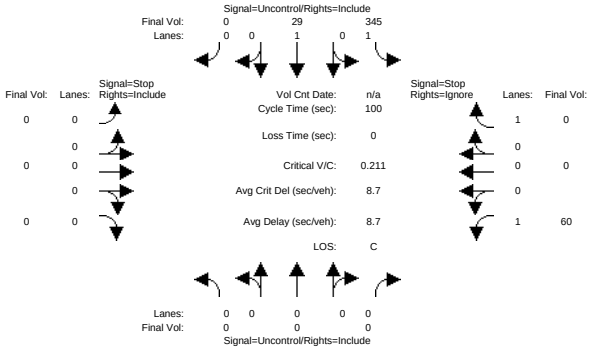
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	285	689	115	553	943	344	434	1250	367	164	1057	470
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	285	689	115	553	943	344	434	1250	367	164	1057	470
Added Vol:	3	0	0	0	0	0	0	6	5	0	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	288	689	115	553	943	344	434	1256	372	164	1060	470
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	288	689	115	553	943	344	434	1256	372	164	1060	470
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	288	689	115	553	943	344	434	1256	372	164	1060	470
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	288	689	115	553	943	344	434	1256	372	164	1060	470
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.16	0.19	0.07	0.31	0.26	0.21	0.24	0.35	0.23	0.09	0.29	0.29
Crit Moves:		****		****			****					****
Green/Cycle:	0.17	0.17	0.17	0.27	0.28	0.28	0.21	0.38	0.38	0.10	0.26	0.26
Volume/Cap:	0.95	1.12	0.42	1.12	0.95	0.77	1.12	0.92	0.61	0.92	1.12	1.11
Delay/Veh:	99.7	137	56.6	132.5	70.8	58.3	141.7	54.9	39.5	112.3	124	132.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	99.7	137	56.6	132.5	70.8	58.3	141.7	54.9	39.5	112.3	124	132.8
LOS by Move:	F	F	E	F	E	E	F	D	D	F	F	F
HCM2kAvgQ:	425	618	124	775	528	334	723	812	350	263	904	768

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   336   29     0     0    0     0    60    0   364
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   336   29     0     0    0     0    60    0   364
Added Vol:      0    0     0     9    0     0     0    0     0     0    0    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   345   29     0     0    0     0    60    0   378
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   345   29     0     0    0     0    60    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   345   29     0     0    0     0    60    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   719 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   398 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   334 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.21 xxxx  xxxx  xxxx xxxx  xxxx  0.18 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  19.9 xxxx xxxxx  xxxx xxxx xxxxx  16.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx  18.1 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             18.1
ApproachLOS:         *                *                *                C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   345   29     0     0    0     0    60    0   378
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             18.1
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=438]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=812]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

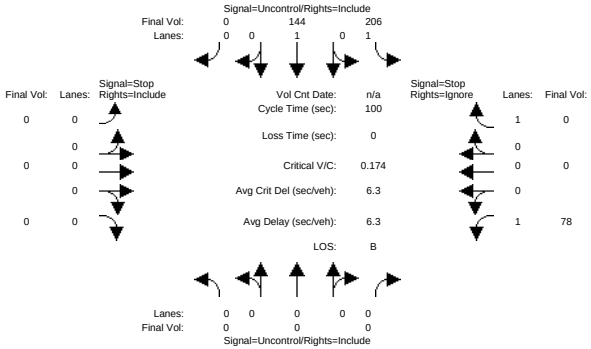
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   345   29     0     0    0     0    60    0   378
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             374
Minor Approach Volume:           438
Minor Approach Volume Threshold: 797
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1029: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   192  144     0     0    0     0    78    0   215
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   192  144     0     0    0     0    78    0   215
Added Vol:      0    0     0    14    0     0     0    0     0     0    0     9
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   206  144     0     0    0     0    78    0   224
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   206  144     0     0    0     0    78    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   206  144     0     0    0     0    78    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   556 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   496 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   448 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.13 xxxx  xxxx  xxxx xxxx  xxxx  0.17 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  10.8 xxxx xxxxx  xxxx xxxx xxxxx  15.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  14.7 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             14.7
ApproachLOS:         *                *                *                B
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   206  144     0     0    0     0    78    0   224
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             14.7
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=302]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=652]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

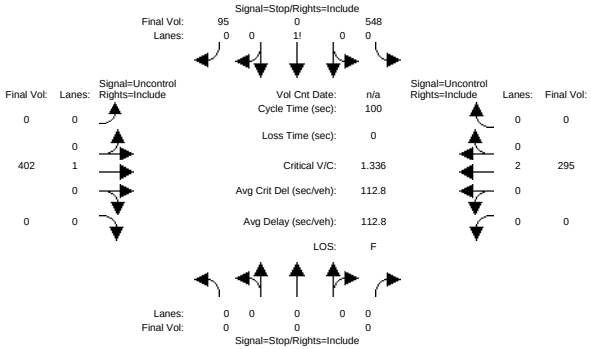
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1029 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   206  144     0     0    0     0    78    0   224
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             350
Minor Approach Volume:           302
Minor Approach Volume Threshold: 826
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   548    0    95     0  393     0     0  281     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   548    0    95     0  393     0     0  281     0
Added Vol:      0    0     0     0    0     0     0    9     0     0   14     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   548    0    95     0  402     0     0  295     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   548    0    95     0  402     0     0  295     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   548    0    95     0  402     0     0  295     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   697  697   148  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   410  367   905  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   410  367   905  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.34 0.00  0.11  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  446 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 32.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  235 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            235.1           xxxxxx           xxxxxx
ApproachLOS:         *              F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0    95     0  402     0     0  295     0
ApproachDel:    xxxxxx            235.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=42.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=643]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1340]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0    95     0  402     0     0  295     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             697
Minor Approach Volume:           643
Minor Approach Volume Threshold: 409
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
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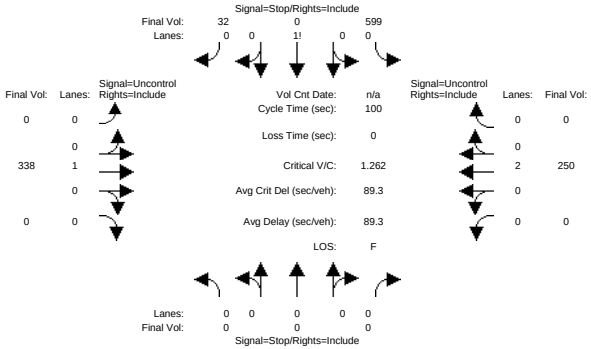
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1030: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   599    0    32     0  324     0     0  241     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   599    0    32     0  324     0     0  241     0
Added Vol:      0    0     0     0    0     0     0   14     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   599    0    32     0  338     0     0  250     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   599    0    32     0  338     0     0  250     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   599    0    32     0  338     0     0  250     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   588  588   125  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   475  424   931  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   475  424   931  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.26 0.00  0.03  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  487 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 26.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  173 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            172.5           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    32     0  338     0     0  250     0
ApproachDel:    xxxxxx            172.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=30.2]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=631]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1219]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1030 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    32     0  338     0     0  250     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             588
Minor Approach Volume:           631
Minor Approach Volume Threshold: 468
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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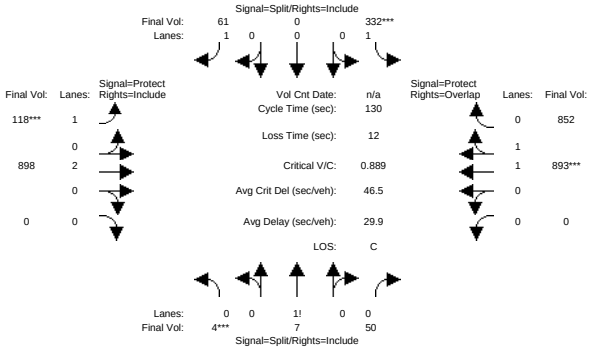
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

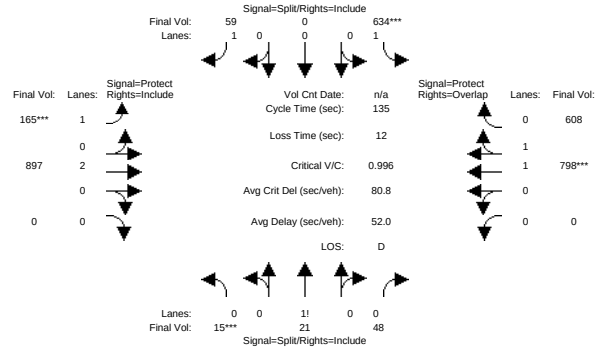



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10    10    0   10     7   10    0     0   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    6   50   330    0   61   118  889    0     0  879  844
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    4    6   50   330    0   61   118  889    0     0  879  844
Added Vol:      0    1    0     2    0    0     0    9    0     0   14    8
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    4    7   50   332    0   61   118  898    0     0  893  852
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     4    7   50   332    0   61   118  898    0     0  893  852
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    4    7   50   332    0   61   118  898    0     0  893  852
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    4    7   50   332    0   61   118  898    0     0  893  852
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.89 0.89 0.89  0.95 1.00 0.85  0.95 0.95 1.00  1.00 0.88 0.88
Lanes:       0.07 0.11 0.82  1.00 0.00 1.00  1.00 2.00 0.00  0.00 1.02 0.98
Final Sat.:   110  193 1380  1805    0 1615  1805 3610    0     0 1713 1634
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.04 0.04  0.18 0.00 0.04  0.07 0.25 0.00  0.00 0.52 0.52
Crit Moves:  ****            ****            ****                 ****
Green/Cycle: 0.08 0.08 0.08  0.20 0.00 0.20  0.07 0.63 0.00  0.00 0.56 0.76
Volume/Cap:  0.47 0.47 0.47  0.93 0.00 0.19  0.93 0.39 0.00  0.00 0.93 0.69
Delay/Veh:   60.2 60.2 60.2  81.0  0.0 43.7 117.9 11.8  0.0   0.0 34.6  8.6
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  60.2 60.2 60.2  81.0  0.0 43.7 117.9 11.8  0.0   0.0 34.6  8.6
LOS by Move:    E    E    E     F    A    D     F    B    A     A    C    A
HCM2kAvgQ:     73   73   73   420    0   52   189  225    0     0  781  420
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1031: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

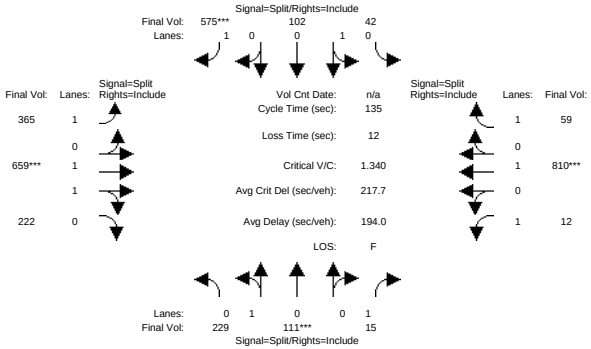



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10    10    0   10     7   10    0     0   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   21   48   626    0   59   165  883    0     0  789  606
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   15   21   48   626    0   59   165  883    0     0  789  606
Added Vol:      0    0    0     8    0    0     0   14    0     0    9    2
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:   15   21   48   634    0   59   165  897    0     0  798  608
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:    15   21   48   634    0   59   165  897    0     0  798  608
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   15   21   48   634    0   59   165  897    0     0  798  608
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:   15   21   48   634    0   59   165  897    0     0  798  608
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.91 0.91 0.91  0.95 1.00 0.85  0.95 0.95 1.00  1.00 0.89 0.89
Lanes:       0.18 0.25 0.57  1.00 0.00 1.00  1.00 2.00 0.00  0.00 1.14 0.86
Final Sat.:   310  434  993  1805    0 1615  1805 3610    0     0 1916 1460
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.05 0.05  0.35 0.00 0.04  0.09 0.25 0.00  0.00 0.42 0.42
Crit Moves:  ****            ****            ****                 ****
Green/Cycle: 0.07 0.07 0.07  0.34 0.00 0.34  0.09 0.49 0.00  0.00 0.41 0.75
Volume/Cap:  0.65 0.65 0.65  1.03 0.00 0.11  1.03 0.50 0.00  0.00 1.03 0.56
Delay/Veh:   72.2 72.2 72.2  87.5  0.0 30.4 139.6 23.1  0.0   0.0 71.4  7.6
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  72.2 72.2 72.2  87.5  0.0 30.4 139.6 23.1  0.0   0.0 71.4  7.6
LOS by Move:    E    E    E     F    A    C     F    C    A     A    E    A
HCM2kAvgQ:    114  114  114   844    0   41   275  322    0     0  792  303
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

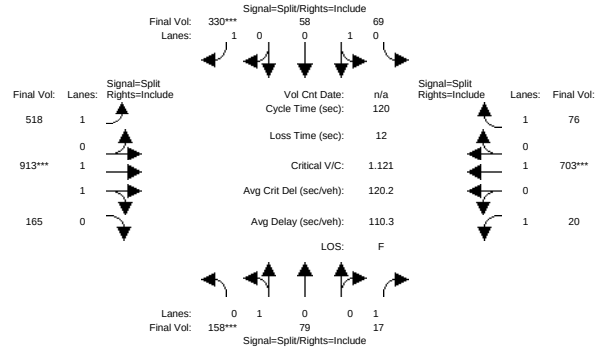



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     229  111    15   42  102   575  365  648   222   12  788    59
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  229  111    15   42  102   575  365  648   222   12  788    59
Added Vol:      0    0     0    0    0     0    0   11     0    0   22     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  229  111    15   42  102   575  365  659   222   12  810    59
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   229  111    15   42  102   575  365  659   222   12  810    59
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  229  111    15   42  102   575  365  659   222   12  810    59
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  229  111    15   42  102   575  365  659   222   12  810    59
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.99 0.99  0.85 0.95 0.91  0.91 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.29 0.71  1.00 1.00 1.50  0.50 1.00 1.00  1.00
Final Sat.:  1237  600  1615  546 1327  1615 1805 2598   875 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.19  0.01 0.08 0.08  0.36 0.20 0.25  0.25 0.01 0.43  0.04
Crit Moves:        ****                 ****       ****              ****
Green/Cycle: 0.14 0.14  0.14 0.27 0.27  0.27 0.19 0.19  0.19 0.32 0.32  0.32
Volume/Cap:  1.34 1.34  0.07 0.29 0.29  1.34 1.07 1.34  1.34 0.02 1.34  0.11
Delay/Veh:  235.4  235  50.7 39.8 39.8 217.7 122.7  218 217.9 31.6  210  32.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 235.4  235  50.7 39.8 39.8 217.7 122.7  218 217.9 31.6  210  32.7
LOS by Move:    F    F     D    D    D     F    F    F     F    C    F     C
HCM2kAvgQ:    665  665    14  117  117  1078  495  841   841    8 1489    42
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1032: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

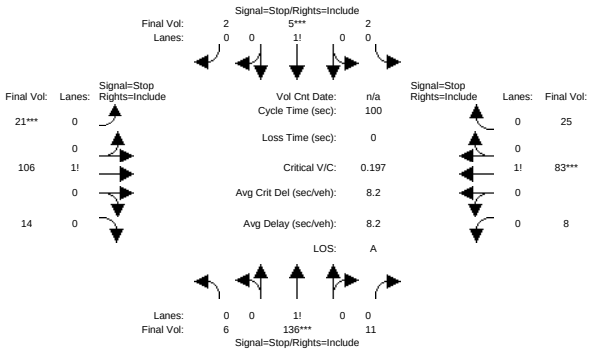



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     158   79    17   69   58   330  518  891   165   20  692    76
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  158   79    17   69   58   330  518  891   165   20  692    76
Added Vol:      0    0     0    0    0     0    0   22     0    0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  158   79    17   69   58   330  518  913   165   20  703    76
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   158   79    17   69   58   330  518  913   165   20  703    76
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  158   79    17   69   58   330  518  913   165   20  703    76
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  158   79    17   69   58   330  518  913   165   20  703    76
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.97 0.97  0.85 0.95 0.93  0.93 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.54 0.46  1.00 1.00 1.69  0.31 1.00 1.00  1.00
Final Sat.:  1226  613  1615 1005  845  1615 1805 2987   540 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.01 0.07 0.07  0.20 0.29 0.31  0.31 0.01 0.37  0.05
Crit Moves:  ****                 ****       ****              ****
Green/Cycle: 0.11 0.11  0.11 0.18 0.18  0.18 0.27 0.27  0.27 0.33 0.33  0.33
Volume/Cap:  1.12 1.12  0.09 0.38 0.38  1.12 1.05 1.12  1.12 0.03 1.12  0.14
Delay/Veh:  151.3  151  47.7 43.8 43.8 138.1  98.7  112 111.9 27.3  114  28.4
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 151.3  151  47.7 43.8 43.8 138.1  98.7  112 111.9 27.3  114  28.4
LOS by Move:    F    F     D    D    D     F    F    F     F    C    F     C
HCM2kAvgQ:    379  379    15  108  108   501  614  741   741   12  967    49
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                         O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6    33    11     2     5     2    20   106    14     8    83    13
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    6    33    11     2     5     2    20   106    14     8    83    13
Added Vol:      0   103     0     0     0     0     1     0     0     0     0    12
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    6   136    11     2     5     2    21   106    14     8    83    25
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     6   136    11     2     5     2    21   106    14     8    83    25
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    6   136    11     2     5     2    21   106    14     8    83    25
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    6   136    11     2     5     2    21   106    14     8    83    25
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.04  0.89  0.07  0.22  0.56  0.22  0.15  0.75  0.10  0.07  0.71  0.22
Final Sat.:    31   692    56   165   414   165   119   601    79    56   578   174
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.20  0.20  0.20  0.01  0.01  0.01  0.18  0.18  0.18  0.14  0.14  0.14
Crit Moves:        ****              ****        ****                    ****
Delay/Veh:    8.5   8.5   8.5   7.6   7.6   7.6   8.3   8.3   8.3   8.0   8.0   8.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.5   8.5   8.5   7.6   7.6   7.6   8.3   8.3   8.3   8.0   8.0   8.0
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        8.5               7.6               8.3               8.0
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         8.5               7.6               8.3               8.0
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   5.5   5.5   5.5   0.3   0.3   0.3   5.0   5.0   5.0   3.9   3.9   3.9
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
```



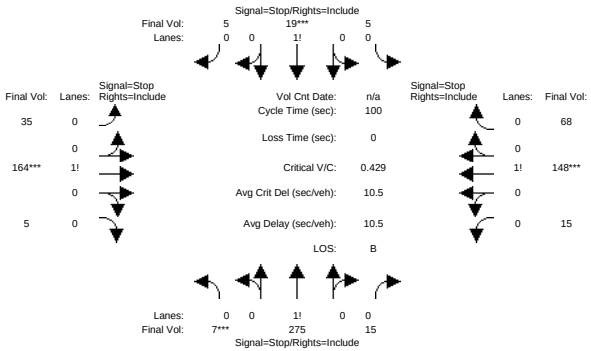
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  136    11     2     5     2    21  106    14     8    83    25
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             257
Minor Approach Volume:           153
Minor Approach Volume Threshold: 582
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1033: 14th St / O St




```
Street Name:            14th Street                          O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  107    15     5   19     5    32  164     5    15  148    21
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7  107    15     5   19     5    32  164     5    15  148    21
Added Vol:      0  168     0     0    0     0     3    0     0     0    0    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7  275    15     5   19     5    35  164     5    15  148    68
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7  275    15     5   19     5    35  164     5    15  148    68
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    7  275    15     5   19     5    35  164     5    15  148    68
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    7  275    15     5   19     5    35  164     5    15  148    68
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.93  0.05  0.17 0.66  0.17  0.17 0.81  0.02  0.06 0.65  0.29
Final Sat.:    16  640    35   105  400   105   116  544    17    46  453   208
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.43 0.43  0.43  0.05 0.05  0.05  0.30 0.30  0.30  0.33 0.33  0.33
Crit Moves:  ****                 ****             ****             ****
Delay/Veh:   11.3 11.3  11.3   8.5  8.5   8.5  10.0 10.0  10.0  10.0 10.0  10.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.3 11.3  11.3   8.5  8.5   8.5  10.0 10.0  10.0  10.0 10.0  10.0
LOS by Move:    B    B     B     A    A     A     B    B     B     A    A     A
ApproachDel:      11.3              8.5             10.0             10.0
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       11.3              8.5             10.0             10.0
LOS by Appr:         B                A                B                A
AllWayAvgQ:  16.2 16.2  16.2   1.0  1.0   1.0   9.4  9.4   9.4  10.6 10.6  10.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1033 14th St / O St
*******************************************************************************
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Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  275    15     5   19     5    35  164     5    15  148    68
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             435
Minor Approach Volume:           297
Minor Approach Volume Threshold: 441
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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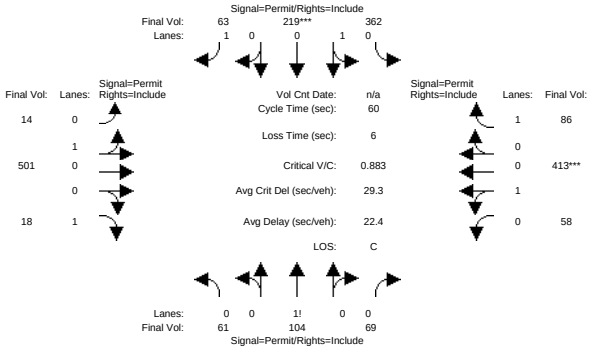
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1034: 13th St / M St



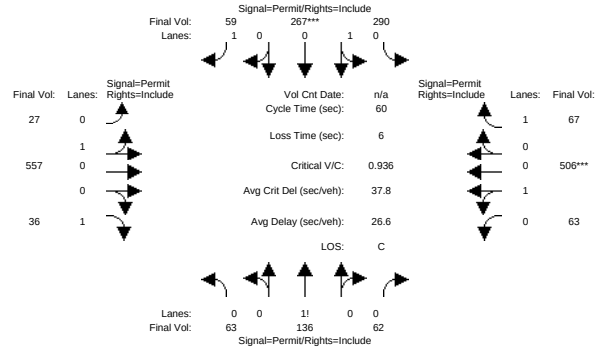
Street Name:	13th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	61	103	61	141	214	63	14	480	18	48	402	86
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	103	61	141	214	63	14	480	18	48	402	86
Added Vol:	0	1	8	221	5	0	0	21	0	10	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	104	69	362	219	63	14	501	18	58	413	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	104	69	362	219	63	14	501	18	58	413	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	104	69	362	219	63	14	501	18	58	413	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	104	69	362	219	63	14	501	18	58	413	86
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.74	0.74	0.74	0.68	0.68	0.85	0.99	0.99	0.85	0.72	0.72	0.85
Lanes:	0.26	0.45	0.29	0.62	0.38	1.00	0.03	0.97	1.00	0.12	0.88	1.00
Final Sat.:	365	623	413	809	489	1615	51	1821	1615	167	1191	1615
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.17	0.45	0.45	0.04	0.28	0.28	0.01	0.35	0.35	0.05
Crit Moves:					****						****	
Green/Cycle:	0.51	0.51	0.51	0.51	0.51	0.51	0.39	0.39	0.39	0.39	0.39	0.39
Volume/Cap:	0.33	0.33	0.33	0.88	0.88	0.08	0.70	0.70	0.03	0.88	0.88	0.14
Delay/Veh:	9.0	9.0	9.0	26.5	26.5	7.6	18.3	18.3	11.2	32.8	32.8	11.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.0	9.0	9.0	26.5	26.5	7.6	18.3	18.3	11.2	32.8	32.8	11.8
LOS by Move:	A	A	A	C	C	A	B	B	B	C	C	B
HCM2kAvgQ:	61	61	61	340	340	16	234	234	5	235	235	25

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1034: 13th St / M St



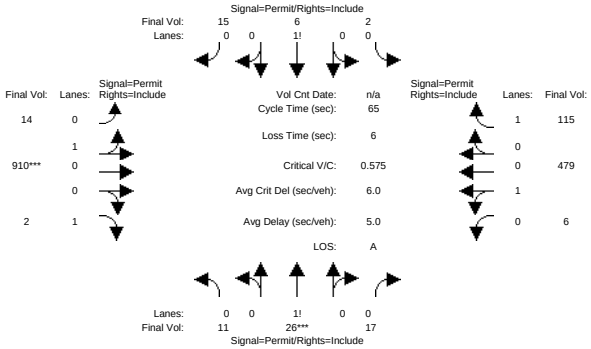
Street Name:	13th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	63	133	55	172	266	59	27	541	36	50	486	67
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	63	133	55	172	266	59	27	541	36	50	486	67
Added Vol:	0	3	7	118	1	0	0	16	0	13	20	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	63	136	62	290	267	59	27	557	36	63	506	67
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	136	62	290	267	59	27	557	36	63	506	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	136	62	290	267	59	27	557	36	63	506	67
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	136	62	290	267	59	27	557	36	63	506	67
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.69	0.69	0.69	0.69	0.69	0.85	0.97	0.97	0.85	0.72	0.72	0.85
Lanes:	0.24	0.52	0.24	0.52	0.48	1.00	0.05	0.95	1.00	0.11	0.89	1.00
Final Sat.:	317	683	312	683	628	1615	85	1749	1615	151	1213	1615
Capacity Analysis Module:												
Vol/Sat:	0.20	0.20	0.20	0.42	0.42	0.04	0.32	0.32	0.02	0.42	0.42	0.04
Crit Moves:					****						****	
Green/Cycle:	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Volume/Cap:	0.44	0.44	0.44	0.94	0.94	0.08	0.71	0.71	0.05	0.94	0.94	0.09
Delay/Veh:	11.7	11.7	11.7	37.8	37.8	9.3	16.5	16.5	9.5	37.7	37.7	9.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.7	11.7	11.7	37.8	37.8	9.3	16.5	16.5	9.5	37.7	37.7	9.7
LOS by Move:	B	B	B	D	D	A	B	B	A	D	D	A
HCM2kAvgQ:	77	77	77	377	377	16	256	256	10	308	308	17

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1035: 14th St / M St



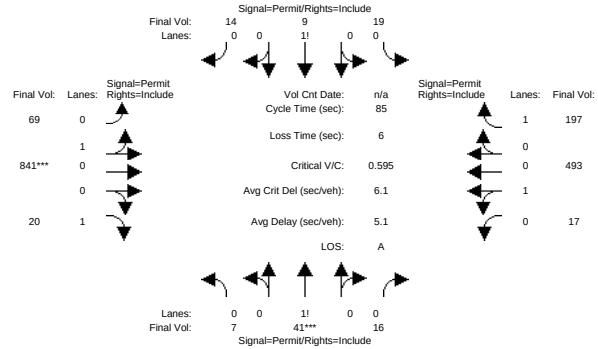
Street Name:	14th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	11		26	13	2		6	15	14		660	2	6		457	12
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	11		26	13	2		6	15	14		660	2	6		457	12
Added Vol:	0		0	4	0		0	0	0		250	0	0		22	103
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	11		26	17	2		6	15	14		910	2	6		479	115
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	11		26	17	2		6	15	14		910	2	6		479	115
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	11		26	17	2		6	15	14		910	2	6		479	115
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	11		26	17	2		6	15	14		910	2	6		479	115
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.91		0.91	0.91	0.89		0.89	0.89	0.99		0.99	0.85	0.99		0.99	0.85
Lanes:	0.20		0.49	0.31	0.09		0.26	0.65	0.02		0.98	1.00	0.01		0.99	1.00
Final Sat.:	351		830	543	148		443	1107	29		1854	1615	23		1865	1615
Capacity Analysis Module:																
Vol/Sat:	0.03		0.03	0.03	0.01		0.01	0.01	0.49		0.49	0.00	0.26		0.26	0.07
Crit Moves:			****								****					
Green/Cycle:	0.15		0.15	0.15	0.15		0.15	0.15	0.75		0.75	0.75	0.75		0.75	0.75
Volume/Cap:	0.20		0.20	0.20	0.09		0.09	0.09	0.65		0.65	0.00	0.34		0.34	0.09
Delay/Veh:	24.4		24.4	24.4	23.7		23.7	23.7	5.0		5.0	2.0	2.8		2.8	2.2
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	24.4		24.4	24.4	23.7		23.7	23.7	5.0		5.0	2.0	2.8		2.8	2.2
LOS by Move:	C		C	C	C		C	C	A		A	A	A		A	A
HCM2kAvgQ:	23		23	23	11		11	11	223		223	0	79		79	15

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1035: 14th St / M St



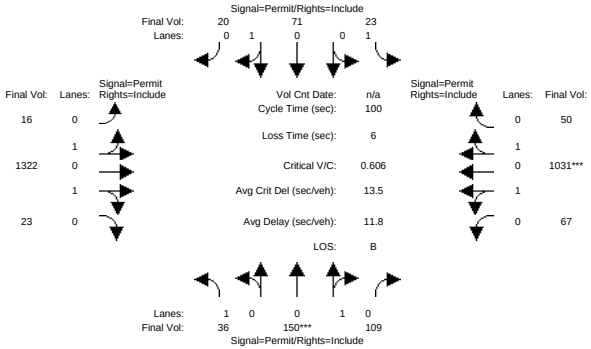
Street Name:	14th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	7		41	15	19		9	14	69		700	20	17		461	29
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	7		41	15	19		9	14	69		700	20	17		461	29
Added Vol:	0		0	1	0		0	0	0		141	0	0		32	168
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	7		41	16	19		9	14	69		841	20	17		493	197
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	7		41	16	19		9	14	69		841	20	17		493	197
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	7		41	16	19		9	14	69		841	20	17		493	197
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	7		41	16	19		9	14	69		841	20	17		493	197
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.94		0.94	0.94	0.83		0.83	0.83	0.93		0.93	0.85	0.97		0.97	0.85
Lanes:	0.11		0.64	0.25	0.46		0.21	0.33	0.08		0.92	1.00	0.03		0.97	1.00
Final Sat.:	195		1141	445	715		339	527	134		1628	1615	61		1783	1615
Capacity Analysis Module:																
Vol/Sat:	0.04		0.04	0.04	0.03		0.03	0.03	0.52		0.52	0.01	0.28		0.28	0.12
Crit Moves:			****								****					
Green/Cycle:	0.12		0.12	0.12	0.12		0.12	0.12	0.81		0.81	0.81	0.81		0.81	0.81
Volume/Cap:	0.31		0.31	0.31	0.23		0.23	0.23	0.64		0.64	0.02	0.34		0.34	0.15
Delay/Veh:	35.2		35.2	35.2	34.6		34.6	34.6	4.1		4.1	1.5	2.2		2.2	1.8
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	35.2		35.2	35.2	34.6		34.6	34.6	4.1		4.1	1.5	2.2		2.2	1.8
LOS by Move:	D		D	D	D		C	C	A		A	A	A		A	A
HCM2kAvgQ:	37		37	37	30		30	30	232		232	2	84		84	27

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1036: Main St / M St



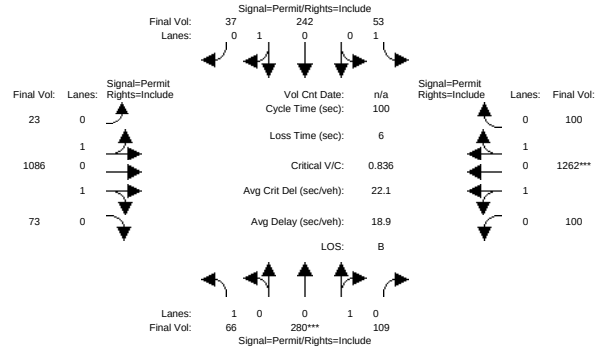
Street Name:	Main Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	35	149	109	23	71	20	16	1301	23	67	1017	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	149	109	23	71	20	16	1301	23	67	1017	50
Added Vol:	1	1	0	0	0	0	0	21	0	0	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	150	109	23	71	20	16	1322	23	67	1031	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	150	109	23	71	20	16	1322	23	67	1031	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	150	109	23	71	20	16	1322	23	67	1031	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	150	109	23	71	20	16	1322	23	67	1031	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.67	0.94	0.94	0.35	0.97	0.97	0.88	0.88	0.88	0.71	0.71	0.71
Lanes:	1.00	0.58	0.42	1.00	0.78	0.22	0.02	1.95	0.03	0.12	1.79	0.09
Final Sat.:	1265	1031	749	667	1433	404	40	3265	57	158	2431	118
Capacity Analysis Module:												
Vol/Sat:	0.03	0.15	0.15	0.03	0.05	0.05	0.40	0.40	0.40	0.42	0.42	0.42
Crit Moves:		****									****	
Green/Cycle:	0.24	0.24	0.24	0.24	0.24	0.24	0.70	0.70	0.70	0.70	0.70	0.70
Volume/Cap:	0.12	0.61	0.61	0.14	0.21	0.21	0.58	0.58	0.58	0.61	0.61	0.61
Delay/Veh:	29.9	36.3	36.3	30.3	30.6	30.6	7.9	7.9	7.9	8.4	8.4	8.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.9	36.3	36.3	30.3	30.6	30.6	7.9	7.9	7.9	8.4	8.4	8.4
LOS by Move:	C	D	D	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	23	196	196	17	57	57	268	268	268	241	241	241

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1036: Main St / M St



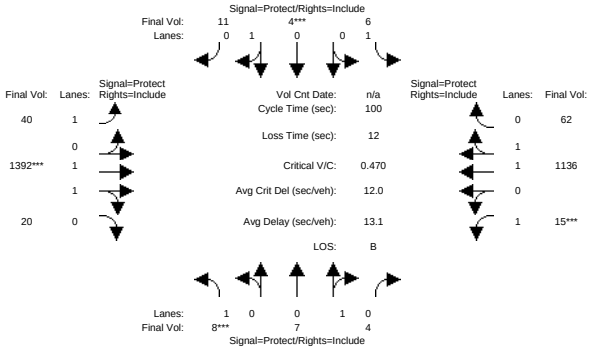
Street Name:	Main Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	66	280	109	53	241	37	23	1072	72	100	1241	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	66	280	109	53	241	37	23	1072	72	100	1241	100
Added Vol:	0	0	0	0	1	0	0	14	1	0	21	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	66	280	109	53	242	37	23	1086	73	100	1262	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	66	280	109	53	242	37	23	1086	73	100	1262	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	66	280	109	53	242	37	23	1086	73	100	1262	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	66	280	109	53	242	37	23	1086	73	100	1262	100
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.34	0.96	0.96	0.17	0.98	0.98	0.85	0.85	0.85	0.67	0.67	0.67
Lanes:	1.00	0.72	0.28	1.00	0.87	0.13	0.04	1.84	0.12	0.14	1.72	0.14
Final Sat.:	646	1310	510	317	1615	247	63	2962	199	175	2206	175
Capacity Analysis Module:												
Vol/Sat:	0.10	0.21	0.21	0.17	0.15	0.15	0.37	0.37	0.37	0.57	0.57	0.57
Crit Moves:		****									****	
Green/Cycle:	0.26	0.26	0.26	0.26	0.26	0.26	0.68	0.68	0.68	0.68	0.68	0.68
Volume/Cap:	0.40	0.84	0.84	0.65	0.59	0.59	0.54	0.54	0.54	0.84	0.84	0.84
Delay/Veh:	32.4	47.7	47.7	50.8	34.5	34.5	8.1	8.1	8.1	15.3	15.3	15.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.4	47.7	47.7	50.8	34.5	34.5	8.1	8.1	8.1	15.3	15.3	15.3
LOS by Move:	C	D	D	D	C	C	A	A	A	B	B	B
HCM2kAvgQ:	54	348	348	67	203	203	220	220	220	453	453	453

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1037: 18th St / M St



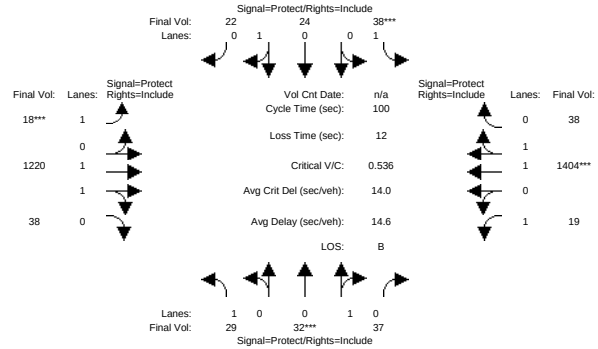
Street Name:	18th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	4	6	4	6	3	11	40	1387	4	15	1126	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	6	4	6	3	11	40	1387	4	15	1126	61
Added Vol:	4	1	0	0	1	0	0	5	16	0	10	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	7	4	6	4	11	40	1392	20	15	1136	62
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	7	4	6	4	11	40	1392	20	15	1136	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	7	4	6	4	11	40	1392	20	15	1136	62
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	8	7	4	6	4	11	40	1392	20	15	1136	62
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.89	0.89	0.95	0.95	0.95	0.95	0.94	0.94
Lanes:	1.00	0.64	0.36	1.00	0.27	0.73	1.00	1.97	0.03	1.00	1.90	0.10
Final Sat.:	1805	1143	653	1805	451	1240	1805	3552	51	1805	3396	185
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.00	0.01	0.01	0.02	0.39	0.39	0.01	0.33	0.33
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.10	0.10	0.07	0.10	0.10	0.12	0.64	0.64	0.07	0.59	0.59
Volume/Cap:	0.06	0.06	0.06	0.05	0.09	0.09	0.18	0.61	0.61	0.12	0.57	0.57
Delay/Veh:	43.6	40.9	40.9	43.5	41.1	41.1	39.7	11.1	11.1	44.0	13.2	13.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.6	40.9	40.9	43.5	41.1	41.1	39.7	11.1	11.1	44.0	13.2	13.2
LOS by Move:	D	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	7	9	9	4	10	10	26	331	331	13	304	304

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1037: 18th St / M St



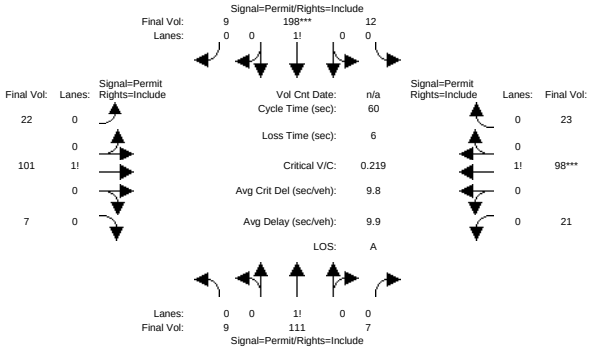
Street Name:	18th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	13	31	37	37	23	22	18	1210	34	19	1399	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	31	37	37	23	22	18	1210	34	19	1399	38
Added Vol:	16	1	0	1	1	0	0	10	4	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	32	37	38	24	22	18	1220	38	19	1404	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	32	37	38	24	22	18	1220	38	19	1404	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	32	37	38	24	22	18	1220	38	19	1404	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	32	37	38	24	22	18	1220	38	19	1404	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	1.00	0.46	0.54	1.00	0.52	0.48	1.00	1.94	0.06	1.00	1.95	0.05
Final Sat.:	1805	811	937	1805	920	843	1805	3487	109	1805	3501	95
Capacity Analysis Module:												
Vol/Sat:	0.02	0.04	0.04	0.02	0.03	0.03	0.01	0.35	0.35	0.01	0.40	0.40
Crit Moves:		****		****			****				****	
Green/Cycle:	0.07	0.10	0.10	0.07	0.10	0.10	0.07	0.59	0.59	0.12	0.64	0.64
Volume/Cap:	0.23	0.39	0.39	0.30	0.26	0.26	0.14	0.59	0.59	0.09	0.63	0.63
Delay/Veh:	44.9	43.6	43.6	45.5	42.4	42.4	44.2	13.3	13.3	39.5	11.4	11.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.9	43.6	43.6	45.5	42.4	42.4	44.2	13.3	13.3	39.5	11.4	11.4
LOS by Move:	D	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	26	60	60	27	32	32	12	312	312	14	358	358

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1038: 15th St / Canal St



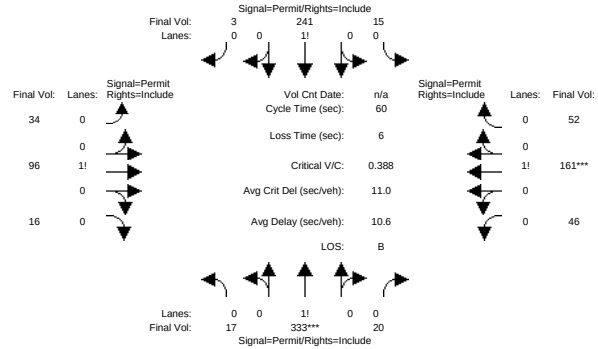
Street Name:	15th Street									Canal Street								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	9		79		7	12		68		9	22		101		7	21		98		23
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	9		79		7	12		68		9	22		101		7	21		98		23
Added Vol:	0		32		0	0		130		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	9		111		7	12		198		9	22		101		7	21		98		23
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	9		111		7	12		198		9	22		101		7	21		98		23
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	9		111		7	12		198		9	22		101		7	21		98		23
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	9		111		7	12		198		9	22		101		7	21		98		23
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.98		0.98		0.98	0.98		0.98		0.98	0.94		0.94		0.94	0.94		0.94		0.94
Lanes:	0.07		0.87		0.06	0.05		0.91		0.04	0.17		0.78		0.05	0.15		0.69		0.16
Final Sat.:	131		1621		102	102		1687		77	303		1393		97	263		1227		288
Capacity Analysis Module:																				
Vol/Sat:	0.07		0.07		0.07	0.12		0.12		0.12	0.07		0.07		0.07	0.08		0.08		0.08
Crit Moves:								****										****		
Green/Cycle:	0.54		0.54		0.54	0.54		0.54		0.54	0.36		0.36		0.36	0.36		0.36		0.36
Volume/Cap:	0.13		0.13		0.13	0.22		0.22		0.22	0.20		0.20		0.20	0.22		0.22		0.22
Delay/Veh:	7.0		7.0		7.0	7.4		7.4		7.4	13.2		13.2		13.2	13.3		13.3		13.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	7.0		7.0		7.0	7.4		7.4		7.4	13.2		13.2		13.2	13.3		13.3		13.3
LOS by Move:	A		A		A	A		A		A	B		B		B	B		B		B
HCM2kAvgQ:	30		30		30	52		52		52	43		43		43	48		48		48

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1038: 15th St / Canal St



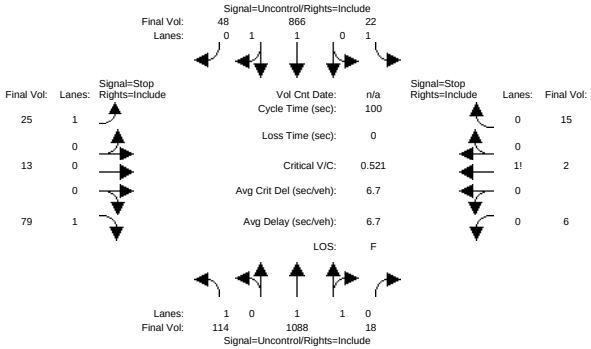
Street Name:	15th Street									Canal Street								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	17		203		20	15		209		3	34		96		16	46		161		52
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	17		203		20	15		209		3	34		96		16	46		161		52
Added Vol:	0		130		0	0		32		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	17		333		20	15		241		3	34		96		16	46		161		52
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	17		333		20	15		241		3	34		96		16	46		161		52
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	17		333		20	15		241		3	34		96		16	46		161		52
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	17		333		20	15		241		3	34		96		16	46		161		52
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.98		0.98		0.98	0.97		0.97		0.97	0.89		0.89		0.89	0.91		0.91		0.91
Lanes:	0.05		0.90		0.05	0.06		0.93		0.01	0.23		0.66		0.11	0.18		0.62		0.20
Final Sat.:	85		1671		100	107		1722		21	394		1111		185	307		1073		347
Capacity Analysis Module:																				
Vol/Sat:	0.20		0.20		0.20	0.14		0.14		0.14	0.09		0.09		0.09	0.15		0.15		0.15
Crit Moves:						****												****		
Green/Cycle:	0.51		0.51		0.51	0.51		0.51		0.51	0.39		0.39		0.39	0.39		0.39		0.39
Volume/Cap:	0.39		0.39		0.39	0.27		0.27		0.27	0.22		0.22		0.22	0.39		0.39		0.39
Delay/Veh:	9.1		9.1		9.1	8.4		8.4		8.4	12.5		12.5		12.5	13.7		13.7		13.7
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	9.1		9.1		9.1	8.4		8.4		8.4	12.5		12.5		12.5	13.7		13.7		13.7
LOS by Move:	A		A		A	A		A		A	B		B		B	B		B		B
HCM2kAvgQ:	109		109		109	65		65		65	48		48		48	94		94		94

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     114  903    18    22  653    48    25   13    79     6    2    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  114  903    18    22  653    48    25   13    79     6    2    15
Added Vol:      0  185     0     0  213     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  114 1088    18    22  866    48    25   13    79     6    2    15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   114 1088    18    22  866    48    25   13    79     6    2    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  114 1088    18    22  866    48    25   13    79     6    2    15
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  914 xxxx xxxxx  1106 xxxx xxxxx  1707 2268   457  1809 2283   553
Potent Cap.:  754 xxxx xxxxx   639 xxxx xxxxx    60   41   556    50   40   482
Move Cap.:    754 xxxx xxxxx   639 xxxx xxxxx    48   34   556    26   33   482
Volume/Cap:  0.15 xxxx  xxxx  0.03 xxxx  xxxx  0.52 0.39  0.14  0.23 0.06  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   13.3 xxxx xxxxx   2.7 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.6 xxxx xxxxx  10.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx    42 xxxx   174  xxxx   72 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   2.7 xxxxx  1.2 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 258.6 xxxx  46.7 xxxxx 76.9 xxxxx
Shared LOS:     *    *     *     *    *     *     F    *     E     *    F     *
ApproachDel:    xxxxxx           xxxxxx            108.7            76.9
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:  114 1088    18    22  866    48    25   13    79     6    2    15
ApproachDel:    xxxxxx           xxxxxx            108.7            76.9
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=117]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2296]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2296]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1039 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:  114 1088    18    22  866    48    25   13    79     6    2    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2156
Minor Approach Volume:           117
Minor Approach Volume Threshold: 44 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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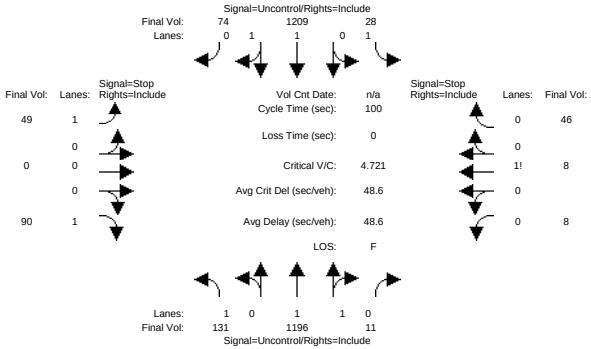
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1039: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     131  983    11    28 1024    74    49    0    90     8    8    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  131  983    11    28 1024    74    49    0    90     8    8    46
Added Vol:      0  213     0     0  185     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  131 1196    11    28 1209    74    49    0    90     8    8    46
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   131 1196    11    28 1209    74    49    0    90     8    8    46
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  131 1196    11    28 1209    74    49    0    90     8    8    46
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1283 xxxx xxxxx  1207 xxxx xxxxx  2166 xxxx   642  2124 2803   604
Potent Cap.:  548 xxxx xxxxx   585 xxxx xxxxx    27 xxxx   422    29   19   447
Move Cap.:    548 xxxx xxxxx   585 xxxx xxxxx    10 xxxx   422    18   13   447
Volume/Cap:  0.24 xxxx  xxxx  0.05 xxxx  xxxx  4.72 xxxx  0.21  0.44 0.59  0.10
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   23.2 xxxx xxxxx   3.8 xxxx xxxxx   183 xxxx  20.0  xxxx xxxx xxxxx
Control Del: 13.6 xxxx xxxxx  11.5 xxxx xxxxx  2388 xxxx  15.8 xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     F    *     C     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx   54 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  5.3 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  290 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    F     *
ApproachDel:    xxxxxx           xxxxxx            852.2           289.7
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
******************************************************************************
Intersection #1039 16th St / Canal St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:  131 1196    11    28 1209    74    49    0    90     8    8    46
ApproachDel:    xxxxxx           xxxxxx            852.2           289.7
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=32.9]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=139]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2850]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2850]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

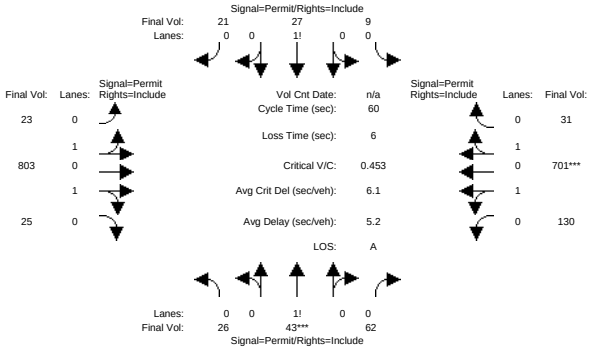
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
******************************************************************************
Intersection #1039 16th St / Canal St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:  131 1196    11    28 1209    74    49    0    90     8    8    46
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2649
Minor Approach Volume:           139
Minor Approach Volume Threshold: -45 [less than minimum of 150]
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1040: 11th St / Martin Luther King Wy



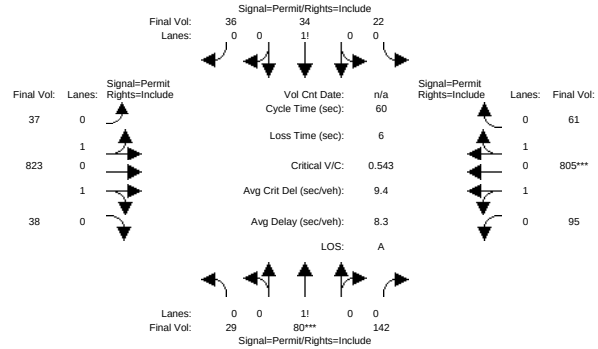
Street Name:	11th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	26	42	46	9	25	11	4	794	25	65	692	31
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	42	46	9	25	11	4	794	25	65	692	31
Added Vol:	0	1	16	0	2	10	19	9	0	65	9	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	43	62	9	27	21	23	803	25	130	701	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	43	62	9	27	21	23	803	25	130	701	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	43	62	9	27	21	23	803	25	130	701	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	43	62	9	27	21	23	803	25	130	701	31
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	0.88	0.88	0.90	0.90	0.90	0.88	0.88	0.88	0.69	0.69	0.69
Lanes:	0.20	0.33	0.47	0.16	0.47	0.37	0.05	1.89	0.06	0.30	1.63	0.07
Final Sat.:	330	546	787	271	812	632	90	3145	98	395	2132	94
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.03	0.03	0.03	0.26	0.26	0.26	0.33	0.33	0.33
Crit Moves:		****									****	
Green/Cycle:	0.17	0.17	0.17	0.17	0.17	0.17	0.73	0.73	0.73	0.73	0.73	0.73
Volume/Cap:	0.45	0.45	0.45	0.19	0.19	0.19	0.35	0.35	0.35	0.45	0.45	0.45
Delay/Veh:	23.3	23.3	23.3	21.5	21.5	21.5	3.1	3.1	3.1	3.5	3.5	3.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.3	23.3	23.3	21.5	21.5	21.5	3.1	3.1	3.1	3.5	3.5	3.5
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	69	69	69	26	26	26	73	73	73	85	85	85

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1040: 11th St / Martin Luther King Wy



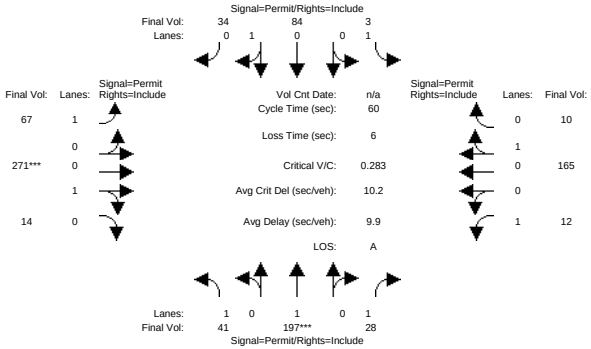
Street Name:	11th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	29	74	77	22	34	17	27	814	38	79	796	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	74	77	22	34	17	27	814	38	79	796	61
Added Vol:	0	6	65	0	0	19	10	9	0	16	9	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	80	142	22	34	36	37	823	38	95	805	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	80	142	22	34	36	37	823	38	95	805	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	80	142	22	34	36	37	823	38	95	805	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	80	142	22	34	36	37	823	38	95	805	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.89	0.86	0.86	0.86	0.85	0.85	0.85	0.74	0.74	0.74
Lanes:	0.11	0.32	0.57	0.24	0.37	0.39	0.08	1.84	0.08	0.20	1.67	0.13
Final Sat.:	195	539	956	392	606	642	132	2943	136	279	2367	179
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.15	0.06	0.06	0.06	0.28	0.28	0.28	0.34	0.34	0.34
Crit Moves:		****									****	
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.63	0.63	0.63	0.63	0.63	0.63
Volume/Cap:	0.54	0.54	0.54	0.20	0.20	0.20	0.45	0.45	0.45	0.54	0.54	0.54
Delay/Veh:	19.9	19.9	19.9	17.0	17.0	17.0	6.0	6.0	6.0	6.7	6.7	6.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.9	19.9	19.9	17.0	17.0	17.0	6.0	6.0	6.0	6.7	6.7	6.7
LOS by Move:	B	B	B	B	B	B	A	A	A	A	A	A
HCM2kAvgQ:	118	118	118	36	36	36	107	107	107	126	126	126

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1041: Main St / Martin Luther King Wy



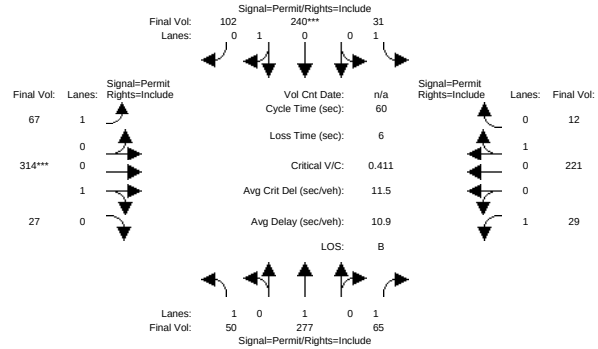
Street Name:	Main Street									Martin Luther King Way							
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	41		195		28	3		84		34	67		271		14	12		165		10
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	41		195		28	3		84		34	67		271		14	12		165		10
Added Vol:	0		2		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	41		197		28	3		84		34	67		271		14	12		165		10
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	41		197		28	3		84		34	67		271		14	12		165		10
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	41		197		28	3		84		34	67		271		14	12		165		10
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	41		197		28	3		84		34	67		271		14	12		165		10
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.68		1.00		0.85	0.58		0.96		0.96	0.64		0.99		0.99	0.54		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.71		0.29	1.00		0.95		0.05	1.00		0.94		0.06
Final Sat.:	1286		1900		1615	1100		1294		524	1216		1794		93	1022		1775		108
Capacity Analysis Module:																				
Vol/Sat:	0.03		0.10		0.02	0.00		0.06		0.06	0.06		0.15		0.15	0.01		0.09		0.09
Crit Moves:			****										****							
Green/Cycle:	0.37		0.37		0.37	0.37		0.37		0.37	0.53		0.53		0.53	0.53		0.53		0.53
Volume/Cap:	0.09		0.28		0.05	0.01		0.18		0.18	0.10		0.28		0.28	0.02		0.17		0.17
Delay/Veh:	12.5		13.7		12.3	12.1		13.0		13.0	7.0		7.8		7.8	6.6		7.3		7.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	12.5		13.7		12.3	12.1		13.0		13.0	7.0		7.8		7.8	6.6		7.3		7.3
LOS by Move:	B		B		B	B		B		B	A		A		A	A		A		A
HCM2kAvgQ:	14		68		9	1		39		39	15		69		69	3		43		43

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1041: Main St / Martin Luther King Wy



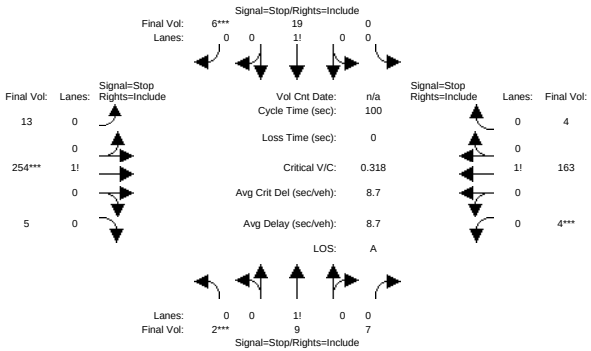
Street Name:	Main Street									Martin Luther King Way							
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	50		277		65	31		238		102	67		314		27	29		221		12
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	50		277		65	31		238		102	67		314		27	29		221		12
Added Vol:	0		0		0	0		2		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	50		277		65	31		240		102	67		314		27	29		221		12
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	50		277		65	31		240		102	67		314		27	29		221		12
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	50		277		65	31		240		102	67		314		27	29		221		12
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	50		277		65	31		240		102	67		314		27	29		221		12
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.46		1.00		0.85	0.52		0.96		0.96	0.56		0.99		0.99	0.45		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.70		0.30	1.00		0.92		0.08	1.00		0.95		0.05
Final Sat.:	872		1900		1615	990		1273		541	1066		1729		149	857		1788		97
Capacity Analysis Module:																				
Vol/Sat:	0.06		0.15		0.04	0.03		0.19		0.19	0.06		0.18		0.18	0.03		0.12		0.12
Crit Moves:								****					****							
Green/Cycle:	0.46		0.46		0.46	0.46		0.46		0.46	0.44		0.44		0.44	0.44		0.44		0.44
Volume/Cap:	0.13		0.32		0.09	0.07		0.41		0.41	0.14		0.41		0.41	0.08		0.28		0.28
Delay/Veh:	9.5		10.5		9.2	9.2		11.2		11.2	10.1		11.8		11.8	9.8		10.9		10.9
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	9.5		10.5		9.2	9.2		11.2		11.2	10.1		11.8		11.8	9.8		10.9		10.9
LOS by Move:	A		B		A	A		B		B	B		B		B	A		B		B
HCM2kAvgQ:	16		85		18	9		112		112	18		104		104	9		72		72

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1042: 18th St / Martin Luther King Wy

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Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    4     7     0    2     6    13  254     5     4  163     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    4     7     0    2     6    13  254     5     4  163     4
Added Vol:      0    5     0     0   17     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    9     7     0   19     6    13  254     5     4  163     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    9     7     0   19     6    13  254     5     4  163     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2    9     7     0   19     6    13  254     5     4  163     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    2    9     7     0   19     6    13  254     5     4  163     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.11 0.50  0.39  0.00 0.76  0.24  0.05 0.93  0.02  0.02 0.96  0.02
Final Sat.:    79  357   278     0  537   170    41  798    16    19  794    19
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.03  0.03  xxxx 0.04  0.04  0.32 0.32  0.32  0.21 0.21  0.21
Crit Moves:  ****                          ****        ****        ****
Delay/Veh:    7.7  7.7   7.7   0.0  7.8   7.8   9.1  9.1   9.1   8.3  8.3   8.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.7  7.7   7.7   0.0  7.8   7.8   9.1  9.1   9.1   8.3  8.3   8.3
LOS by Move:    A    A     A     *    A     A     A    A     A     A    A     A
ApproachDel:       7.7              7.8              9.1              8.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.7              7.8              9.1              8.3
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.5  0.5   0.5   0.8  0.8   0.8  11.3 11.3  11.3   6.2  6.2   6.2
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1042 18th St / Martin Luther King Wy
*******************************************************************************
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Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2    9     7    0   19     6   13  254     5    4  163     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             443
Minor Approach Volume:           25
Minor Approach Volume Threshold: 437
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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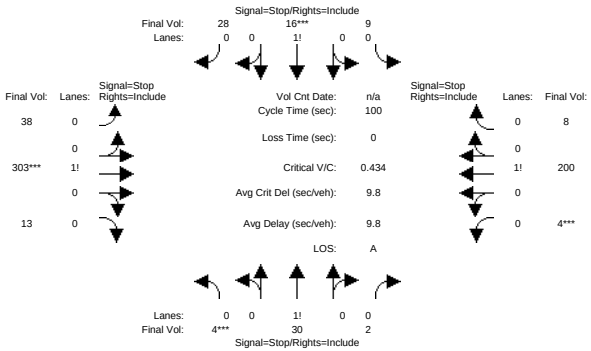
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1042: 18th St / Martin Luther King Wy



Street Name:	18th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	4	13	2	9	11	28	38	303	13	4	200	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	13	2	9	11	28	38	303	13	4	200	8
Added Vol:	0	17	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	30	2	9	16	28	38	303	13	4	200	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	30	2	9	16	28	38	303	13	4	200	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	30	2	9	16	28	38	303	13	4	200	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	30	2	9	16	28	38	303	13	4	200	8
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.11	0.83	0.06	0.17	0.30	0.53	0.11	0.85	0.04	0.02	0.94	0.04
Final Sat.:	70	526	35	114	202	353	87	698	30	15	741	30
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.06	0.08	0.08	0.08	0.43	0.43	0.43	0.27	0.27	0.27
Crit Moves:	****				****			****		****		
Delay/Veh:	8.4	8.4	8.4	8.2	8.2	8.2	10.5	10.5	10.5	9.0	9.0	9.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.4	8.4	8.4	8.2	8.2	8.2	10.5	10.5	10.5	9.0	9.0	9.0
LOS by Move:	A	A	A	A	A	A	B	B	B	A	A	A
ApproachDel:	8.4			8.2			10.5			9.0		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	8.4			8.2			10.5			9.0		
LOS by Appr:	A			A			B			A		
AllWayAvgQ:	1.2	1.2	1.2	1.7	1.7	1.7	18.1	18.1	18.1	8.6	8.6	8.6

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1042 18th St / Martin Luther King Wy

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L -	T -	R		L -	T -	R		L -	T -	R		L -	T -	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0	0	0	1!	0	0	0	1!	0	0	0	1!	0
Initial Vol:	4	30		2	9	16		28	38	303		13	4	200		8

Major Street Volume: 566
Minor Approach Volume: 53
Minor Approach Volume Threshold: 371

SIGNAL WARRANT DISCLAIMER

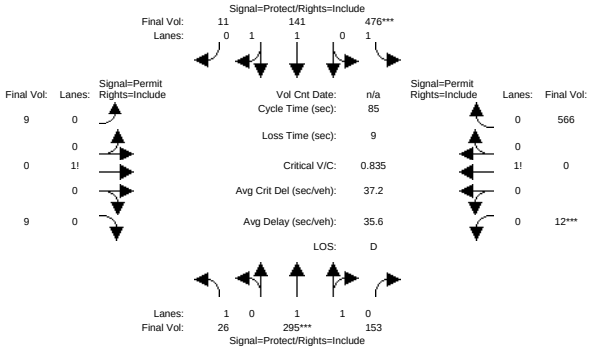
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1043: 16th St / H St



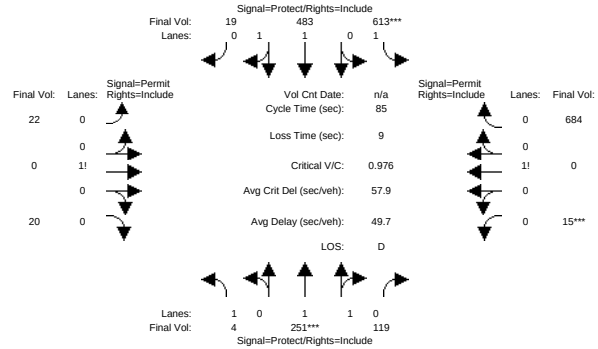
Street Name:	16th Street						H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	26	273	153	466	132	11	9	0	9	12	0	560
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	273	153	466	132	11	9	0	9	12	0	560
Added Vol:	0	22	0	10	9	0	0	0	0	0	0	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	295	153	476	141	11	9	0	9	12	0	566
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	295	153	476	141	11	9	0	9	12	0	566
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	295	153	476	141	11	9	0	9	12	0	566
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	295	153	476	141	11	9	0	9	12	0	566
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.94	0.94	0.78	1.00	0.78	0.86	1.00	0.86
Lanes:	1.00	1.32	0.68	1.00	1.86	0.14	0.50	0.00	0.50	0.02	0.00	0.98
Final Sat.:	1805	2256	1170	1805	3312	258	744	0	744	34	0	1609
Capacity Analysis Module:												
Vol/Sat:	0.01	0.13	0.13	0.26	0.04	0.04	0.01	0.00	0.01	0.35	0.00	0.35
Crit Moves:		****		****						****		
Green/Cycle:	0.19	0.16	0.16	0.32	0.28	0.28	0.42	0.00	0.42	0.42	0.00	0.42
Volume/Cap:	0.07	0.83	0.83	0.83	0.15	0.15	0.03	0.00	0.03	0.83	0.00	0.83
Delay/Veh:	28.1	45.6	45.6	37.3	23.2	23.2	14.4	0.0	14.4	30.6	0.0	30.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.1	45.6	45.6	37.3	23.2	23.2	14.4	0.0	14.4	30.6	0.0	30.6
LOS by Move:	C	D	D	D	C	C	B	A	B	C	A	C
HCM2kAvgQ:	15	216	216	356	40	40	7	0	7	363	0	363

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1043: 16th St / H St



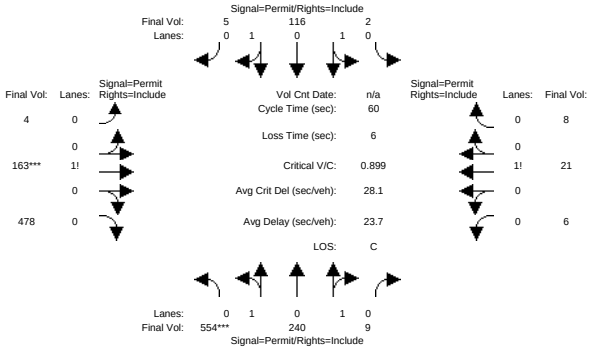
Street Name:	16th Street						H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	4	236	119	600	469	19	22	0	20	15	0	680
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	236	119	600	469	19	22	0	20	15	0	680
Added Vol:	0	15	0	13	14	0	0	0	0	0	0	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	251	119	613	483	19	22	0	20	15	0	684
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	251	119	613	483	19	22	0	20	15	0	684
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	251	119	613	483	19	22	0	20	15	0	684
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	251	119	613	483	19	22	0	20	15	0	684
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.94	0.94	0.72	1.00	0.72	0.86	1.00	0.86
Lanes:	1.00	1.36	0.64	1.00	1.92	0.08	0.52	0.00	0.48	0.02	0.00	0.98
Final Sat.:	1805	2331	1105	1805	3453	136	714	0	649	35	0	1607
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.11	0.34	0.14	0.14	0.03	0.00	0.03	0.43	0.00	0.43
Crit Moves:		****		****						****		
Green/Cycle:	0.17	0.12	0.12	0.34	0.29	0.29	0.43	0.00	0.43	0.43	0.00	0.43
Volume/Cap:	0.01	0.92	0.92	0.99	0.48	0.48	0.07	0.00	0.07	0.99	0.00	0.99
Delay/Veh:	29.3	62.1	62.1	59.9	25.2	25.2	14.2	0.0	14.2	53.9	0.0	53.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.3	62.1	62.1	59.9	25.2	25.2	14.2	0.0	14.2	53.9	0.0	53.9
LOS by Move:	C	E	E	E	C	C	B	A	B	D	A	D
HCM2kAvgQ:	2	212	212	564	151	151	16	0	16	565	0	565

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1044: Main St / H St

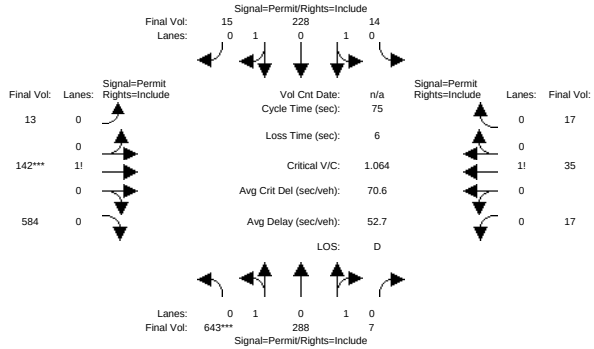



```
Street Name:            Main Street                     H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     548  238     9    2  116     5    4  163   468    6   21     8
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  548  238     9    2  116     5    4  163   468    6   21     8
Added Vol:      6    2     0    0    0     0    0    0    10    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  554  240     9    2  116     5    4  163   478    6   21     8
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   554  240     9    2  116     5    4  163   478    6   21     8
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  554  240     9    2  116     5    4  163   478    6   21     8
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  554  240     9    2  116     5    4  163   478    6   21     8
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.68 0.68  0.68 0.90 0.90  0.90 0.90 0.90  0.90 0.90 0.90  0.90
Lanes:       1.00 0.96  0.04 0.03 1.89  0.08 0.01 0.25  0.74 0.17 0.60  0.23
Final Sat.:  1284 1238    46   55 3208   138   11  432  1266  293 1024   390
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.43 0.19  0.19 0.04 0.04  0.04 0.38 0.38  0.38 0.02 0.02  0.02
Crit Moves:  ****                          ****
Green/Cycle: 0.48 0.48  0.48 0.48 0.48  0.48 0.42 0.42  0.42 0.42 0.42  0.42
Volume/Cap:  0.90 0.40  0.40 0.08 0.08  0.08 0.90 0.90  0.90 0.05 0.05  0.05
Delay/Veh:   26.2 10.2  10.2  8.4  8.4   8.4 30.4 30.4  30.4 10.3 10.3  10.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  26.2 10.2  10.2  8.4  8.4   8.4 30.4 30.4  30.4 10.3 10.3  10.3
LOS by Move:    C    B     B    A    A     A    C    C     C    B    B     B
HCM2kAvgQ:    271   75    75   17   17    17  325  325   325   10   10    10
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1044: Main St / H St

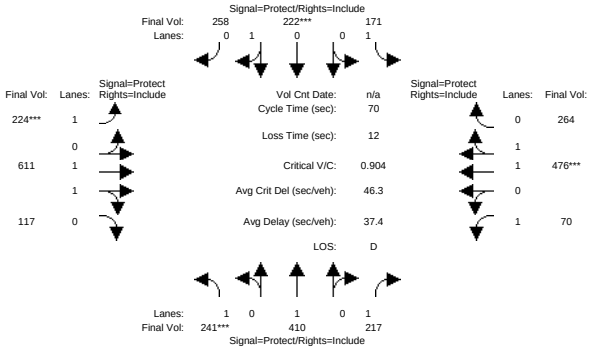



```
Street Name:            Main Street                     H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     639  288     7   14  226    15   13  142   571   17   35    17
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  639  288     7   14  226    15   13  142   571   17   35    17
Added Vol:      4    0     0    0    2     0    0    0    13    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  643  288     7   14  228    15   13  142   584   17   35    17
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   643  288     7   14  228    15   13  142   584   17   35    17
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  643  288     7   14  228    15   13  142   584   17   35    17
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  643  288     7   14  228    15   13  142   584   17   35    17
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.62 0.62  0.62 0.85 0.85  0.85 0.89 0.89  0.89 0.84 0.84  0.84
Lanes:       1.00 0.98  0.02 0.11 1.77  0.12 0.02 0.19  0.79 0.25 0.51  0.24
Final Sat.:  1187 1158    28  177 2875   189   30  325  1335  392  806   392
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.54 0.25  0.25 0.08 0.08  0.08 0.44 0.44  0.44 0.04 0.04  0.04
Crit Moves:  ****                          ****
Green/Cycle: 0.51 0.51  0.51 0.51 0.51  0.51 0.41 0.41  0.41 0.41 0.41  0.41
Volume/Cap:  1.06 0.49  0.49 0.16 0.16  0.16 1.06 1.06  1.06 0.11 0.11  0.11
Delay/Veh:   67.4 12.2  12.2  9.9  9.9   9.9 74.7 74.7  74.7 13.7 13.7  13.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  67.4 12.2  12.2  9.9  9.9   9.9 74.7 74.7  74.7 13.7 13.7  13.7
LOS by Move:    E    B     B    A    A     A    E    E     E    B    B     B
HCM2kAvgQ:    545  111   111   42   42    42  638  638   638   25   25    25
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1046: Main St / G St



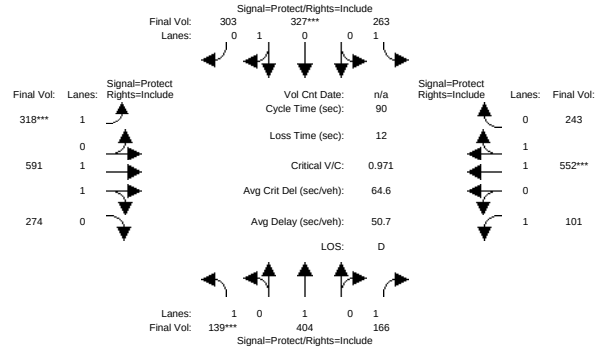
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	235	410	214	166	222	252	224	609	116	70	472	256
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	410	214	166	222	252	224	609	116	70	472	256
Added Vol:	6	0	3	5	0	6	0	2	1	0	4	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	241	410	217	171	222	258	224	611	117	70	476	264
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	241	410	217	171	222	258	224	611	117	70	476	264
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	241	410	217	171	222	258	224	611	117	70	476	264
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	241	410	217	171	222	258	224	611	117	70	476	264
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.00	1.00	1.00	0.46	0.54	1.00	1.68	0.32	1.00	1.29	0.71
Final Sat.:	1805	1900	1615	1805	808	939	1805	2957	566	1805	2197	1218
Capacity Analysis Module:												
Vol/Sat:	0.13	0.22	0.13	0.09	0.27	0.27	0.12	0.21	0.21	0.04	0.22	0.22
Crit Moves:	****				****		****				****	
Green/Cycle:	0.15	0.31	0.31	0.14	0.30	0.30	0.14	0.25	0.25	0.12	0.24	0.24
Volume/Cap:	0.90	0.70	0.44	0.66	0.90	0.90	0.90	0.81	0.81	0.32	0.90	0.90
Delay/Veh:	60.6	25.1	19.9	34.7	42.2	42.2	62.7	30.3	30.3	28.8	39.2	39.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.6	25.1	19.9	34.7	42.2	42.2	62.7	30.3	30.3	28.8	39.2	39.2
LOS by Move:	E	C	B	C	D	D	E	C	C	C	D	D
HCM2kAvgQ:	218	229	103	91	291	291	145	210	210	34	242	242

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1046: Main St / G St



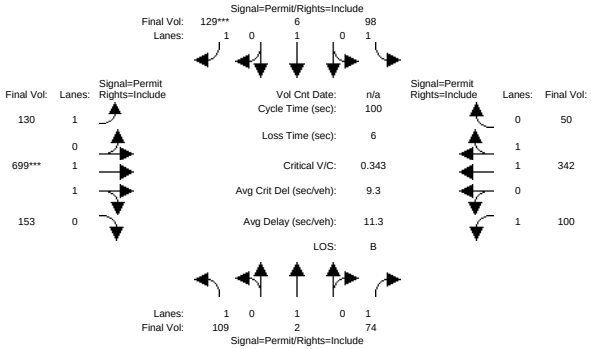
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	138	404	165	255	327	296	318	588	268	99	549	238
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	138	404	165	255	327	296	318	588	268	99	549	238
Added Vol:	1	0	1	8	0	7	0	3	6	2	3	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	139	404	166	263	327	303	318	591	274	101	552	243
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	139	404	166	263	327	303	318	591	274	101	552	243
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	139	404	166	263	327	303	318	591	274	101	552	243
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	139	404	166	263	327	303	318	591	274	101	552	243
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.90	0.90	0.95	0.91	0.91
Lanes:	1.00	1.00	1.00	1.00	0.52	0.48	1.00	1.37	0.63	1.00	1.39	0.61
Final Sat.:	1805	1900	1615	1805	915	848	1805	2348	1089	1805	2391	1053
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.10	0.15	0.36	0.36	0.18	0.25	0.25	0.06	0.23	0.23
Crit Moves:	****				****		****				****	
Green/Cycle:	0.08	0.27	0.27	0.18	0.37	0.37	0.18	0.32	0.32	0.10	0.24	0.24
Volume/Cap:	0.97	0.80	0.39	0.80	0.97	0.97	0.97	0.79	0.79	0.57	0.97	0.97
Delay/Veh:	107.4	39.7	27.6	48.4	56.0	56.0	78.3	31.6	31.6	42.9	58.4	58.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	107.4	39.7	27.6	48.4	56.0	56.0	78.3	31.6	31.6	42.9	58.4	58.4
LOS by Move:	F	D	C	D	E	E	E	C	C	D	E	E
HCM2kAvgQ:	185	316	100	188	522	522	271	295	295	68	357	357

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #1047: 18th St / G St



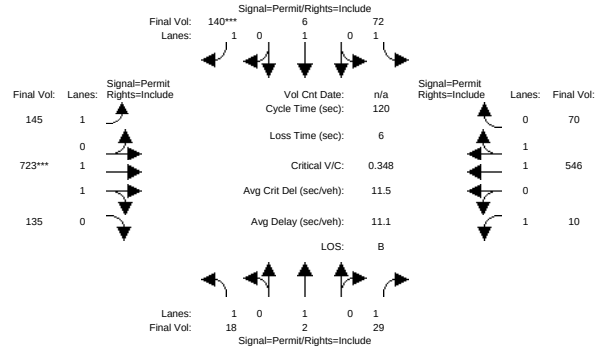
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	109	2	74	98	6	128	126	693	153	100	331	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	109	2	74	98	6	128	126	693	153	100	331	50
Added Vol:	0	0	0	0	0	1	4	6	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	109	2	74	98	6	129	130	699	153	100	342	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	109	2	74	98	6	129	130	699	153	100	342	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	109	2	74	98	6	129	130	699	153	100	342	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	109	2	74	98	6	129	130	699	153	100	342	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.85	0.77	1.00	0.85	0.51	0.92	0.92	0.30	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.64	0.36	1.00	1.74	0.26
Final Sat.:	1452	1900	1615	1457	1900	1615	975	2882	631	564	3090	452
Capacity Analysis Module:												
Vol/Sat:	0.08	0.00	0.05	0.07	0.00	0.08	0.13	0.24	0.24	0.18	0.11	0.11
Crit Moves:						****		****				
Green/Cycle:	0.23	0.23	0.23	0.23	0.23	0.23	0.71	0.71	0.71	0.71	0.71	0.71
Volume/Cap:	0.32	0.00	0.20	0.29	0.01	0.34	0.19	0.34	0.34	0.25	0.16	0.16
Delay/Veh:	32.4	29.5	31.1	32.0	29.5	32.5	5.1	5.7	5.7	5.5	4.9	4.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.4	29.5	31.1	32.0	29.5	32.5	5.1	5.7	5.7	5.5	4.9	4.9
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	74	1	47	66	4	88	32	126	126	33	52	52

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS_OPTION B_MITIGATION

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #1047: 18th St / G St



Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	18	2	29	72	6	136	144	712	135	10	540	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	18	2	29	72	6	136	144	712	135	10	540	70
Added Vol:	0	0	0	0	0	4	1	11	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	18	2	29	72	6	140	145	723	135	10	546	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	2	29	72	6	140	145	723	135	10	546	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	2	29	72	6	140	145	723	135	10	546	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	2	29	72	6	140	145	723	135	10	546	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.85	0.77	1.00	0.85	0.39	0.93	0.93	0.29	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.69	0.31	1.00	1.77	0.23
Final Sat.:	1452	1900	1615	1457	1900	1615	739	2969	554	555	3145	403
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.02	0.05	0.00	0.09	0.20	0.24	0.24	0.02	0.17	0.17
Crit Moves:						****		****				
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.70	0.70	0.70	0.70	0.70	0.70
Volume/Cap:	0.05	0.00	0.07	0.20	0.01	0.35	0.28	0.35	0.35	0.03	0.25	0.25
Delay/Veh:	34.3	33.8	34.5	35.8	33.9	37.5	7.0	7.2	7.2	5.5	6.6	6.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.3	33.8	34.5	35.8	33.9	37.5	7.0	7.2	7.2	5.5	6.6	6.6
LOS by Move:	C	C	C	D	C	D	A	A	A	A	A	A
HCM2kAvgQ:	13	1	20	54	4	109	48	156	156	3	106	106

Note: Queue reported is the distance per lane in feet.

HEAVY MANTENANCE FACILITY ANALYSIS - CASTLE COMMERCE

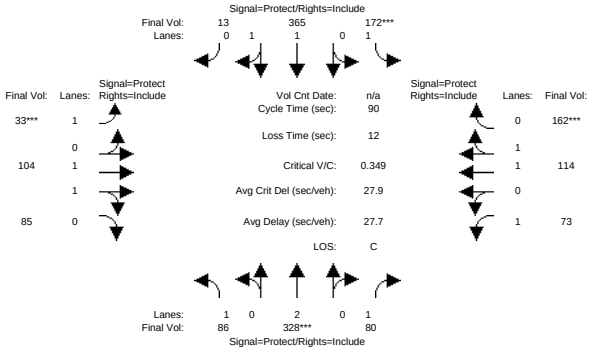
EXISTING CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1: Winton Wy/Bellevue Rd



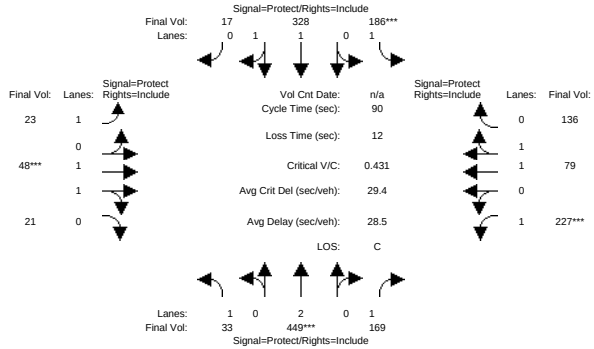
Street Name:	N. Winton Way						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	328	80	172	365	13	33	104	85	73	114	162
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	328	80	172	365	13	33	104	85	73	114	162
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	86	328	80	172	365	13	33	104	85	73	114	162
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	328	80	172	365	13	33	104	85	73	114	162
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	328	80	172	365	13	33	104	85	73	114	162
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	328	80	172	365	13	33	104	85	73	114	162
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.95	0.95	0.89	0.89	0.95	0.87	0.87
Lanes:	1.00	2.00	1.00	1.00	1.93	0.07	1.00	1.10	0.90	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3468	124	1805	1853	1515	1805	1646	1646
Capacity Analysis Module:												
Vol/Sat:	0.05	0.09	0.05	0.10	0.11	0.11	0.02	0.06	0.06	0.04	0.07	0.10
Crit Moves:		****		****			****					****
Green/Cycle:	0.21	0.25	0.25	0.26	0.30	0.30	0.08	0.21	0.21	0.14	0.27	0.27
Volume/Cap:	0.22	0.36	0.20	0.36	0.35	0.35	0.24	0.27	0.27	0.28	0.25	0.36
Delay/Veh:	29.6	27.9	26.7	27.4	24.6	24.6	39.8	30.3	30.3	34.9	25.7	26.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.6	27.9	26.7	27.4	24.6	24.6	39.8	30.3	30.3	34.9	25.7	26.7
LOS by Move:	C	C	C	C	C	C	D	C	C	C	C	C
HCM2kAvgQ:	2	4	2	4	4	4	1	2	2	2	3	4

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1: Winton Wy/Bellevue Rd



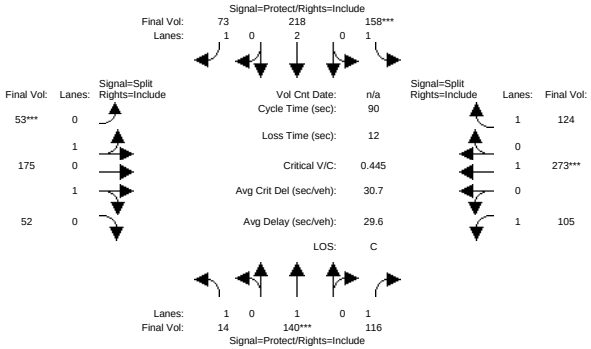
Street Name:	N. Winton Way						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	33	449	169	186	328	17	23	48	21	227	79	136
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	449	169	186	328	17	23	48	21	227	79	136
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	449	169	186	328	17	23	48	21	227	79	136
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	33	449	169	186	328	17	23	48	21	227	79	136
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	449	169	186	328	17	23	48	21	227	79	136
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	33	449	169	186	328	17	23	48	21	227	79	136
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.94	0.94	0.95	0.91	0.91	0.95	0.86	0.86
Lanes:	1.00	2.00	1.00	1.00	1.90	0.10	1.00	1.39	0.61	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3408	177	1805	2396	1048	1805	1634	1634
Capacity Analysis Module:												
Vol/Sat:	0.02	0.12	0.10	0.10	0.10	0.10	0.01	0.02	0.02	0.13	0.05	0.08
Crit Moves:		****		****				****		****		
Green/Cycle:	0.20	0.27	0.27	0.22	0.29	0.29	0.16	0.11	0.11	0.27	0.22	0.22
Volume/Cap:	0.09	0.47	0.39	0.47	0.34	0.34	0.08	0.18	0.18	0.47	0.22	0.37
Delay/Veh:	29.4	28.0	27.7	31.4	25.6	25.6	32.6	36.5	36.5	28.2	28.6	30.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.4	28.0	27.7	31.4	25.6	25.6	32.6	36.5	36.5	28.2	28.6	30.0
LOS by Move:	C	C	C	C	C	C	C	D	D	C	C	C
HCM2kAvgQ:	1	6	4	5	4	4	1	1	1	6	2	4

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #2: Atwater Blvd / Applegate Rd



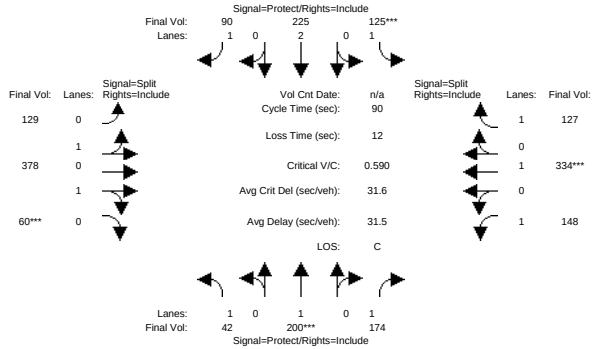
Street Name:	Atwater Boulevard									Applegate Road-Winton Way								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	14		140		116	158		218		73	53		175		52	105		273		124
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	14		140		116	158		218		73	53		175		52	105		273		124
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	14		140		116	158		218		73	53		175		52	105		273		124
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	14		140		116	158		218		73	53		175		52	105		273		124
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	14		140		116	158		218		73	53		175		52	105		273		124
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	14		140		116	158		218		73	53		175		52	105		273		124
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.95		0.85	0.92		0.92		0.92	0.95		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		2.00		1.00	0.38		1.25		0.37	1.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		3610		1615	658		2173		646	1805		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.01		0.07		0.07	0.09		0.06		0.05	0.08		0.08		0.08	0.06		0.14		0.08
Crit Moves:			****			****					****							****		
Green/Cycle:	0.15		0.17		0.17	0.20		0.21		0.21	0.18		0.18		0.18	0.32		0.32		0.32
Volume/Cap:	0.05		0.44		0.43	0.44		0.28		0.21	0.44		0.44		0.44	0.18		0.44		0.24
Delay/Veh:	32.9		34.8		34.9	32.7		29.8		29.5	33.3		33.3		33.3	22.0		24.6		22.6
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	32.9		34.8		34.9	32.7		29.8		29.5	33.3		33.3		33.3	22.0		24.6		22.6
LOS by Move:	C		C		C	C		C		C	C		C		C	C		C		C
HCM2kAvgQ:	0		4		3	4		3		2	4		4		4	2		6		3

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #2: Atwater Blvd / Applegate Rd



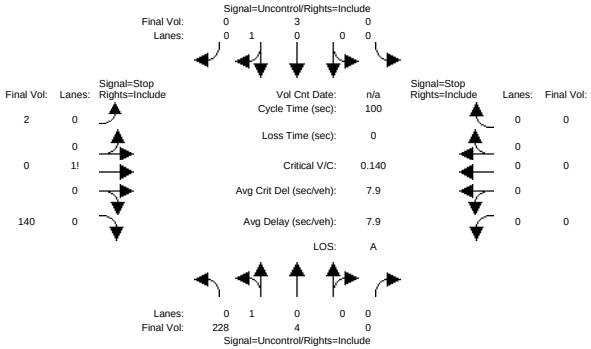
Street Name:	Atwater Boulevard									Applegate Road-Winton Way								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	42		200		174	125		225		90	129		378		60	148		334		127
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	42		200		174	125		225		90	129		378		60	148		334		127
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	42		200		174	125		225		90	129		378		60	148		334		127
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	42		200		174	125		225		90	129		378		60	148		334		127
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	42		200		174	125		225		90	129		378		60	148		334		127
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	42		200		174	125		225		90	129		378		60	148		334		127
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.95		0.85	0.92		0.92		0.92	0.95		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		2.00		1.00	0.46		1.33		0.21	1.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		3610		1615	799		2342		372	1805		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.11		0.11	0.07		0.06		0.06	0.16		0.16		0.16	0.08		0.18		0.08
Crit Moves:			****			****									****			****		
Green/Cycle:	0.12		0.18		0.18	0.12		0.17		0.17	0.27		0.27		0.27	0.30		0.30		0.30
Volume/Cap:	0.19		0.59		0.60	0.59		0.36		0.32	0.59		0.59		0.59	0.28		0.59		0.26
Delay/Veh:	36.0		36.7		37.7	42.0		33.1		33.2	29.3		29.3		29.3	24.5		28.6		24.4
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	36.0		36.7		37.7	42.0		33.1		33.2	29.3		29.3		29.3	24.5		28.6		24.4
LOS by Move:	D		D		D	D		C		C	C		C		C	C		C		C
HCM2kAvgQ:	1		6		5	4		3		2	7		7		7	3		8		3

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #3: Sycamore Ave / SR-99 NB Ramps




```
Street Name:         Sycamore Avenue                    SR-99 NB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     228    4     0     0    3     0     2    0   140     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  228    4     0     0    3     0     2    0   140     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  228    4     0     0    3     0     2    0   140     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   228    4     0     0    3     0     2    0   140     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  228    4     0     0    3     0     2    0   140     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:    3 xxxx xxxxx  xxxx xxxx xxxxx   463  463     3  xxxx xxxx xxxxx
Potent Cap.: 1632 xxxx xxxxx  xxxx xxxx xxxxx   561  499  1087  xxxx xxxx xxxxx
Move Cap.:   1632 xxxx xxxxx  xxxx xxxx xxxxx   492  419  1087  xxxx xxxx xxxxx
Volume/Cap:  0.14 xxxx  xxxx  xxxx xxxx  xxxx  0.00 0.00  0.13  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.5 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 1069 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.5 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  8.9 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx               8.9           xxxxxx
ApproachLOS:         *                *                 A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  228    4     0     0    3     0     2    0   140     0    0     0
ApproachDel:    xxxxxx           xxxxxx               8.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=142]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=377]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

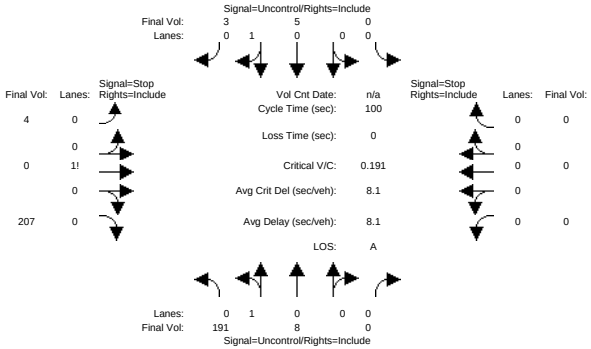
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  228    4     0     0    3     0     2    0   140     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             235
Minor Approach Volume:           142
Minor Approach Volume Threshold: 606
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #3: Sycamore Ave / SR-99 NB Ramps




```
Street Name:         Sycamore Avenue                    SR-99 NB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     191    8     0     0    5     3     4    0   207     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  191    8     0     0    5     3     4    0   207     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  191    8     0     0    5     3     4    0   207     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   191    8     0     0    5     3     4    0   207     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  191    8     0     0    5     3     4    0   207     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:    8 xxxx xxxxx  xxxx xxxx xxxxx   397  397     7  xxxx xxxx xxxxx
Potent Cap.: 1625 xxxx xxxxx  xxxx xxxx xxxxx   613  544  1082  xxxx xxxx xxxxx
Move Cap.:   1625 xxxx xxxxx  xxxx xxxx xxxxx   551  472  1082  xxxx xxxx xxxxx
Volume/Cap:  0.12 xxxx  xxxx  xxxx xxxx  xxxx  0.01 0.00  0.19  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.4 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 1063 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.7 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.2 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              9.2           xxxxxx
ApproachLOS:         *                *                A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  191    8     0     0    5     3     4    0   207     0    0     0
ApproachDel:    xxxxxx           xxxxxx              9.2           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=211]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=418]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

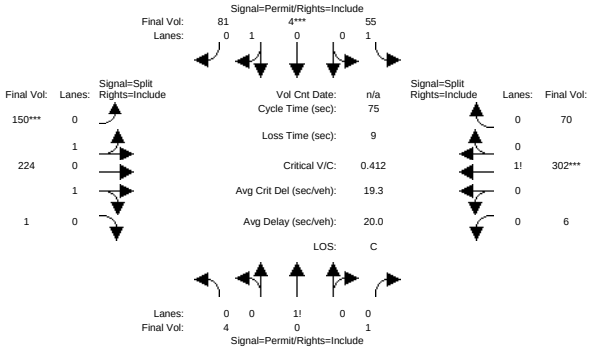
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  191    8     0     0    5     3     4    0   207     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             207
Minor Approach Volume:           211
Minor Approach Volume Threshold: 639
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #4: Sycamore Ave / Applegate Rd

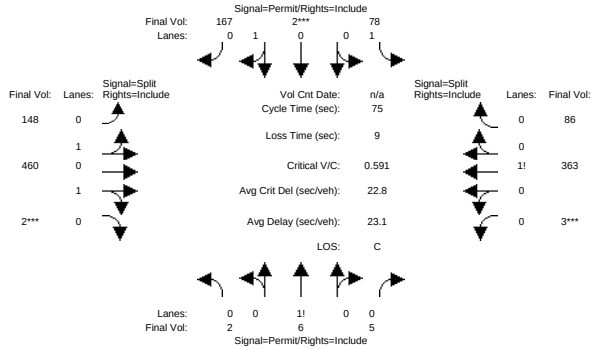



```
Street Name:         Sycamore Avenue                    Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    0     1   55    4    81  150  224     1    6  302    70
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    4    0     1   55    4    81  150  224     1    6  302    70
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:    4    0     1   55    4    81  150  224     1    6  302    70
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     4    0     1   55    4    81  150  224     1    6  302    70
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    4    0     1   55    4    81  150  224     1    6  302    70
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    4    0     1   55    4    81  150  224     1    6  302    70
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.81 1.00  0.81 0.77 0.86  0.86 0.93 0.93  0.93 0.97 0.97  0.97
Lanes:       0.80 0.00  0.20 1.00 0.05  0.95 0.80 1.19  0.01 0.02 0.80  0.18
Final Sat.:  1238    0   309 1471   77  1552 1415 2113     9   29 1479   343
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.04 0.05  0.05 0.11 0.11  0.11 0.20 0.20  0.20
Crit Moves:                          ****        ****                 ****
Green/Cycle: 0.13 0.00  0.13 0.13 0.13  0.13 0.26 0.26  0.26 0.49 0.49  0.49
Volume/Cap:  0.02 0.00  0.02 0.28 0.39  0.39 0.42 0.42  0.42 0.42 0.42  0.42
Delay/Veh:   28.3  0.0  28.3 30.0 30.9  30.9 23.6 23.6  23.6 12.5 12.5  12.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  28.3  0.0  28.3 30.0 30.9  30.9 23.6 23.6  23.6 12.5 12.5  12.5
LOS by Move:    C    A     C    C    C     C    C    C     C    B    B     B
HCM2kAvgQ:      0    0     0    1    2     2    4    4     4    5    5     5
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #4: Sycamore Ave / Applegate Rd

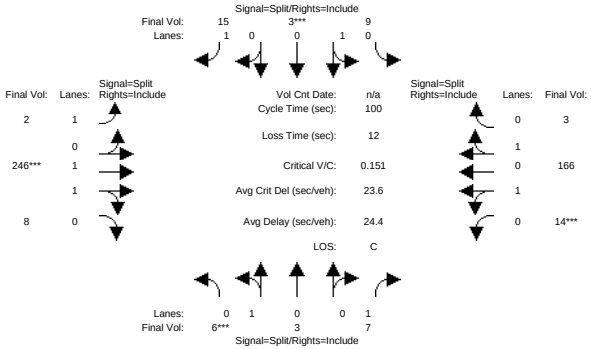



```
Street Name:         Sycamore Avenue                    Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    6     5   78    2   167  148  460     2    3  363    86
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    2    6     5   78    2   167  148  460     2    3  363    86
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:    2    6     5   78    2   167  148  460     2    3  363    86
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     2    6     5   78    2   167  148  460     2    3  363    86
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    2    6     5   78    2   167  148  460     2    3  363    86
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    2    6     5   78    2   167  148  460     2    3  363    86
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.91 0.91  0.91 0.77 0.85  0.85 0.94 0.94  0.94 0.97 0.97  0.97
Lanes:       0.15 0.47  0.38 1.00 0.01  0.99 0.48 1.51  0.01 0.01 0.80  0.19
Final Sat.:   267  801   668 1457   19  1600  865 2690    12   12 1486   352
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.01  0.01 0.05 0.10  0.10 0.17 0.17  0.17 0.24 0.24  0.24
Crit Moves:                          ****                 ****  ****
Green/Cycle: 0.18 0.18  0.18 0.18 0.18  0.18 0.29 0.29  0.29 0.41 0.41  0.41
Volume/Cap:  0.04 0.04  0.04 0.30 0.59  0.59 0.59 0.59  0.59 0.59 0.59  0.59
Delay/Veh:   25.7 25.7  25.7 27.5 31.6  31.6 23.7 23.7  23.7 18.3 18.3  18.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  25.7 25.7  25.7 27.5 31.6  31.6 23.7 23.7  23.7 18.3 18.3  18.3
LOS by Move:    C    C     C    C    C     C    C    C     C    B    B     B
HCM2kAvgQ:      0    0     0    2    5     5    6    6     6    8    8     8
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #5: Bell Ln-Mall Access / SR-99 SB Ramps



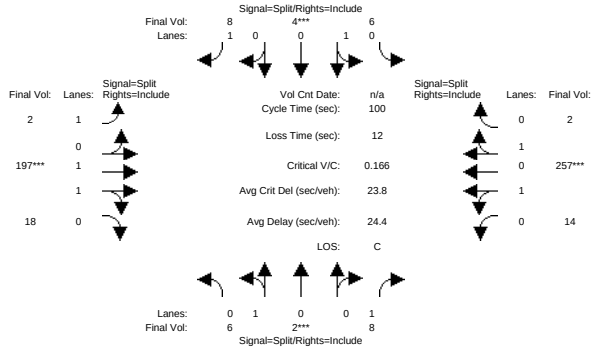
Street Name:	Bell Ln-Mall Access						SR-99 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	6	3	7	9	3	15	2	246	8	14	166	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	3	7	9	3	15	2	246	8	14	166	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	3	7	9	3	15	2	246	8	14	166	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	3	7	9	3	15	2	246	8	14	166	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	3	7	9	3	15	2	246	8	14	166	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	3	7	9	3	15	2	246	8	14	166	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.96	0.96	0.85	0.95	0.95	0.95	0.94	0.94	0.94
Lanes:	0.67	0.33	1.00	0.75	0.25	1.00	1.00	1.94	0.06	0.15	1.82	0.03
Final Sat.:	1226	613	1615	1374	458	1615	1805	3479	113	275	3255	59
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.07	0.07	0.05	0.05	0.05
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.10	0.10	0.10	0.10	0.10	0.40	0.40	0.40	0.28	0.28	0.28
Volume/Cap:	0.05	0.05	0.04	0.07	0.07	0.09	0.00	0.18	0.18	0.18	0.18	0.18
Delay/Veh:	40.8	40.8	40.8	40.9	40.9	41.1	18.3	19.7	19.7	27.0	27.0	27.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.8	40.8	40.8	40.9	40.9	41.1	18.3	19.7	19.7	27.0	27.0	27.0
LOS by Move:	D	D	D	D	D	D	B	B	B	C	C	C
HCM2kAvgQ:	0	0	0	0	0	0	0	3	3	2	2	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #5: Bell Ln-Mall Access / SR-99 SB Ramps



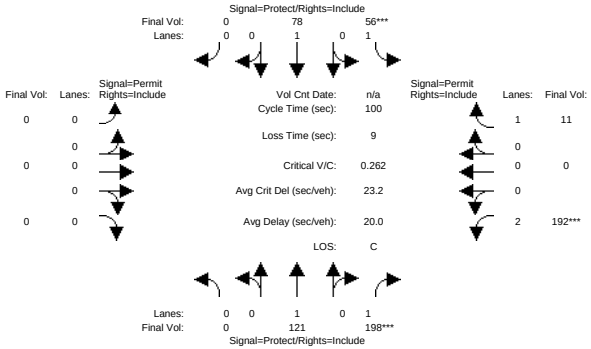
Street Name:	Bell Ln-Mall Access						SR-99 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	6	2	8	6	4	8	2	197	18	14	257	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	2	8	6	4	8	2	197	18	14	257	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	2	8	6	4	8	2	197	18	14	257	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	2	8	6	4	8	2	197	18	14	257	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	2	8	6	4	8	2	197	18	14	257	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	2	8	6	4	8	2	197	18	14	257	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.96	0.96	0.85	0.97	0.97	0.85	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.75	0.25	1.00	0.60	0.40	1.00	1.00	1.83	0.17	0.10	1.89	0.01
Final Sat.:	1374	458	1615	1107	738	1615	1805	3265	298	184	3385	26
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.06	0.06	0.08	0.08	0.08
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.10	0.10	0.10	0.10	0.10	0.30	0.30	0.30	0.38	0.38	0.38
Volume/Cap:	0.04	0.04	0.05	0.05	0.05	0.05	0.00	0.20	0.20	0.20	0.20	0.20
Delay/Veh:	40.8	40.8	40.8	40.8	40.8	40.8	24.5	26.1	26.1	20.9	20.9	20.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.8	40.8	40.8	40.8	40.8	40.8	24.5	26.1	26.1	20.9	20.9	20.9
LOS by Move:	D	D	D	D	D	D	C	C	C	C	C	C
HCM2kAvgQ:	0	0	0	0	0	0	0	2	2	3	3	3

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #6: Bell Dr/Bell Ln



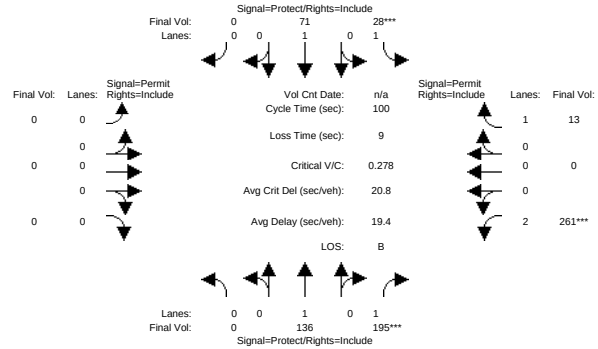
Street Name:	Bell Dr									Bell Ln-SR99 SB Ramp Rd								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0		10		10	7		10		0	0		0		0	10		0		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	0		121		198	56		78		0	0		0		0	192		0		11
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	0		121		198	56		78		0	0		0		0	192		0		11
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	0		121		198	56		78		0	0		0		0	192		0		11
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	0		121		198	56		78		0	0		0		0	192		0		11
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	0		121		198	56		78		0	0		0		0	192		0		11
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	0		121		198	56		78		0	0		0		0	192		0		11
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	1.00		1.00		0.85	0.95		1.00		1.00	1.00		1.00		1.00	0.59		1.00		0.85
Lanes:	0.00		1.00		1.00	1.00		1.00		0.00	0.00		0.00		0.00	2.00		0.00		1.00
Final Sat.:	0		1900		1615	1805		1900		0	0		0		0	2256		0		1615
Capacity Analysis Module:																				
Vol/Sat:	0.00		0.06		0.12	0.03		0.04		0.00	0.00		0.00		0.00	0.09		0.00		0.01
Crit Moves:					****	****										****				
Green/Cycle:	0.00		0.47		0.47	0.12		0.59		0.00	0.00		0.00		0.00	0.32		0.00		0.32
Volume/Cap:	0.00		0.14		0.26	0.26		0.07		0.00	0.00		0.00		0.00	0.26		0.00		0.02
Delay/Veh:	0.0		15.2		16.4	40.8		9.0		0.0	0.0		0.0		0.0	25.1		0.0		23.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	0.0		15.2		16.4	40.8		9.0		0.0	0.0		0.0		0.0	25.1		0.0		23.0
LOS by Move:	A		B		B	D		A		A	A		A		A	C		A		C
HCM2kAvgQ:	0		2		4	2		1		0	0		0		0	2		0		0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #6: Bell Dr/Bell Ln



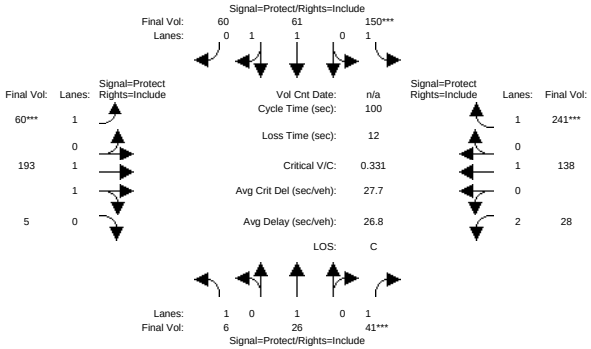
Street Name:	Bell Dr									Bell Ln-SR99 SB Ramp Rd								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0		10		10	7		10		0	0		0		0	10		0		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	0		136		195	28		71		0	0		0		0	261		0		13
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	0		136		195	28		71		0	0		0		0	261		0		13
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	0		136		195	28		71		0	0		0		0	261		0		13
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	0		136		195	28		71		0	0		0		0	261		0		13
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	0		136		195	28		71		0	0		0		0	261		0		13
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	0		136		195	28		71		0	0		0		0	261		0		13
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	1.00		1.00		0.85	0.95		1.00		1.00	1.00		1.00		1.00	0.59		1.00		0.85
Lanes:	0.00		1.00		1.00	1.00		1.00		0.00	0.00		0.00		0.00	2.00		0.00		1.00
Final Sat.:	0		1900		1615	1805		1900		0	0		0		0	2241		0		1615
Capacity Analysis Module:																				
Vol/Sat:	0.00		0.07		0.12	0.02		0.04		0.00	0.00		0.00		0.00	0.12		0.00		0.01
Crit Moves:					****	****										****				
Green/Cycle:	0.00		0.43		0.43	0.07		0.50		0.00	0.00		0.00		0.00	0.41		0.00		0.41
Volume/Cap:	0.00		0.17		0.28	0.22		0.08		0.00	0.00		0.00		0.00	0.28		0.00		0.02
Delay/Veh:	0.0		17.7		18.9	44.8		13.1		0.0	0.0		0.0		0.0	19.7		0.0		17.4
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	0.0		17.7		18.9	44.8		13.1		0.0	0.0		0.0		0.0	19.7		0.0		17.4
LOS by Move:	A		B		B	D		B		A	A		A		A	B		A		B
HCM2kAvgQ:	0		2		4	1		1		0	0		0		0	3		0		0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #7: Bel Dr-Commerce / Applegate Rd



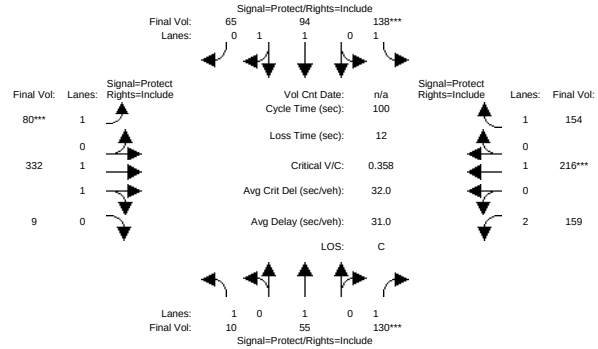
Street Name:	Bell Dr-Commerce									Applegate Road								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	6		26		41	150		61		60	60		193		5	28		138		241
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	6		26		41	150		61		60	60		193		5	28		138		241
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	6		26		41	150		61		60	60		193		5	28		138		241
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	6		26		41	150		61		60	60		193		5	28		138		241
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	6		26		41	150		61		60	60		193		5	28		138		241
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	6		26		41	150		61		60	60		193		5	28		138		241
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.88		0.88	0.95		0.95		0.95	0.92		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		1.01		0.99	1.00		1.95		0.05	2.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		1685		1658	1805		3505		91	3502		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.00		0.01		0.03	0.08		0.04		0.04	0.03		0.06		0.06	0.01		0.07		0.15
Crit Moves:					****	****					****									****
Green/Cycle:	0.14		0.10		0.10	0.24		0.20		0.20	0.10		0.32		0.32	0.22		0.44		0.44
Volume/Cap:	0.02		0.14		0.25	0.34		0.18		0.18	0.34		0.17		0.17	0.04		0.17		0.34
Delay/Veh:	37.0		41.4		42.4	31.6		33.1		33.1	43.3		24.9		24.9	30.6		17.1		18.8
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	37.0		41.4		42.4	31.6		33.1		33.1	43.3		24.9		24.9	30.6		17.1		18.8
LOS by Move:	D		D		D	C		C		C	D		C		C	C		B		B
HCM2kAvgQ:	0		1		1	4		2		2	2		2		2	0		2		5

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #7: Bel Dr-Commerce / Applegate Rd



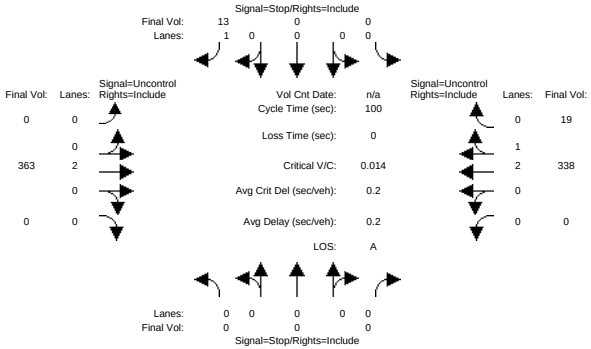
Street Name:	Bell Dr-Commerce									Applegate Road								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	10		55		130	138		94		65	80		332		9	159		216		154
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	10		55		130	138		94		65	80		332		9	159		216		154
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	10		55		130	138		94		65	80		332		9	159		216		154
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	10		55		130	138		94		65	80		332		9	159		216		154
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	10		55		130	138		94		65	80		332		9	159		216		154
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	10		55		130	138		94		65	80		332		9	159		216		154
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.89		0.89	0.95		0.95		0.95	0.92		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		1.18		0.82	1.00		1.95		0.05	2.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		2004		1386	1805		3501		95	3502		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.01		0.03		0.08	0.08		0.05		0.05	0.04		0.09		0.09	0.05		0.11		0.10
Crit Moves:					****	****					****									****
Green/Cycle:	0.18		0.22		0.22	0.21		0.26		0.26	0.12		0.26		0.26	0.18		0.32		0.32
Volume/Cap:	0.03		0.13		0.36	0.36		0.18		0.18	0.36		0.37		0.37	0.25		0.36		0.30
Delay/Veh:	33.8		31.1		33.3	34.1		29.0		29.0	41.1		30.5		30.5	35.3		26.6		26.1
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	33.8		31.1		33.3	34.1		29.0		29.0	41.1		30.5		30.5	35.3		26.6		26.1
LOS by Move:	C		C		C	C		C		C	D		C		C	D		C		C
HCM2kAvgQ:	0		1		4	3		2		2	3		5		5	2		5		3

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #8: Mall Access / Applegate Rd




```
Street Name:            Mall Access                     Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0    13     0  363     0     0  338    19
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0    13     0  363     0     0  338    19
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0    13     0  363     0     0  338    19
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0    13     0  363     0     0  338    19
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0    13     0  363     0     0  338    19
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   122  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   912  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   912  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.01  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx   9.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     A     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx              9.0           xxxxxx           xxxxxx
ApproachLOS:         *                A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    13     0  363     0     0  338    19
ApproachDel:    xxxxxx              9.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=13]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=733]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

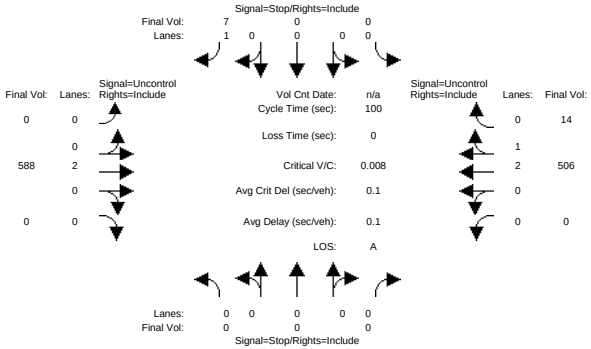
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    13     0  363     0     0  338    19
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             720
Minor Approach Volume:           13
Minor Approach Volume Threshold: 398
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #8: Mall Access / Applegate Rd




```
Street Name:            Mall Access                     Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0     7     0  588     0     0  506    14
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0     7     0  588     0     0  506    14
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0     7     0  588     0     0  506    14
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0     7     0  588     0     0  506    14
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0     7     0  588     0     0  506    14
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   176  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   843  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   843  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.01  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx   9.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     A     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx              9.3           xxxxxx           xxxxxx
ApproachLOS:         *                A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0     7     0  588     0     0  506    14
ApproachDel:    xxxxxx              9.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=7]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1115]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0     7     0  588     0     0  506    14
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1108
Minor Approach Volume:           7
Minor Approach Volume Threshold: 250
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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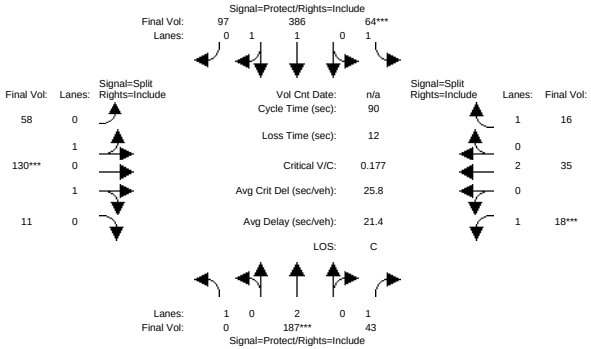
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #9: Santa Fe Dr / Buhach Rd-AirdromeEntry



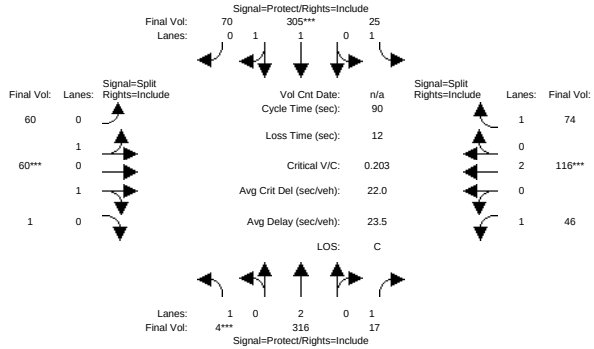
Street Name:	Santa Fe Drive						Buhach Road - Airdrome Entry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	187	43	64	386	97	58	130	11	18	35	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	187	43	64	386	97	58	130	11	18	35	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	187	43	64	386	97	58	130	11	18	35	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	187	43	64	386	97	58	130	11	18	35	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	187	43	64	386	97	58	130	11	18	35	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	187	43	64	386	97	58	130	11	18	35	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	0.95	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	1.60	0.40	0.58	1.31	0.11	1.00	2.00	1.00
Final Sat.:	1900	3610	1615	1805	2798	703	1029	2307	195	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.05	0.03	0.04	0.14	0.14	0.06	0.06	0.06	0.01	0.01	0.01
Crit Moves:		****		****				****		****		
Green/Cycle:	0.00	0.27	0.27	0.19	0.46	0.46	0.30	0.30	0.30	0.11	0.11	0.11
Volume/Cap:	0.00	0.19	0.10	0.19	0.30	0.30	0.19	0.19	0.19	0.09	0.09	0.09
Delay/Veh:	0.0	25.2	24.6	31.1	15.4	15.4	23.7	23.7	23.7	36.1	36.0	36.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	25.2	24.6	31.1	15.4	15.4	23.7	23.7	23.7	36.1	36.0	36.1
LOS by Move:	A	C	C	C	B	B	C	C	C	D	D	D
HCM2kAvgQ:	0	2	1	2	4	4	2	2	2	1	1	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #9: Santa Fe Dr / Buhach Rd-AirdromeEntry



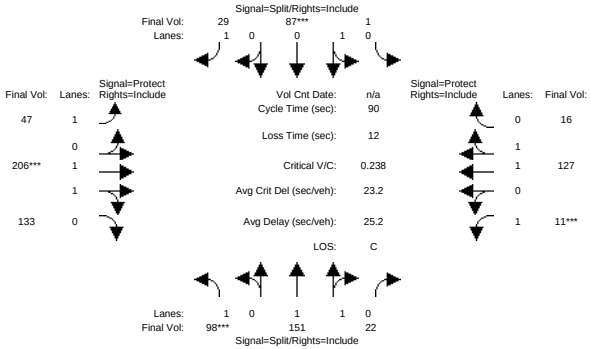
Street Name:	Santa Fe Drive						Buhach Road - Airdrome Entry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	4	316	17	25	305	70	60	60	1	46	116	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	316	17	25	305	70	60	60	1	46	116	74
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	316	17	25	305	70	60	60	1	46	116	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	316	17	25	305	70	60	60	1	46	116	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	316	17	25	305	70	60	60	1	46	116	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	316	17	25	305	70	60	60	1	46	116	74
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	1.63	0.37	0.99	0.99	0.02	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	2854	655	1745	1745	29	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.01	0.01	0.11	0.11	0.03	0.03	0.03	0.03	0.03	0.05
Crit Moves:	****				****			****			****	
Green/Cycle:	0.08	0.31	0.31	0.22	0.45	0.45	0.14	0.14	0.14	0.19	0.19	0.19
Volume/Cap:	0.03	0.28	0.03	0.06	0.24	0.24	0.24	0.24	0.24	0.13	0.17	0.24
Delay/Veh:	38.4	23.6	21.6	28.0	15.3	15.3	34.3	34.3	34.3	30.2	30.4	31.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.4	23.6	21.6	28.0	15.3	15.3	34.3	34.3	34.3	30.2	30.4	31.1
LOS by Move:	D	C	C	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	0	3	0	1	3	3	2	2	2	1	1	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #10: Buhach Rd/Bellevue Rd



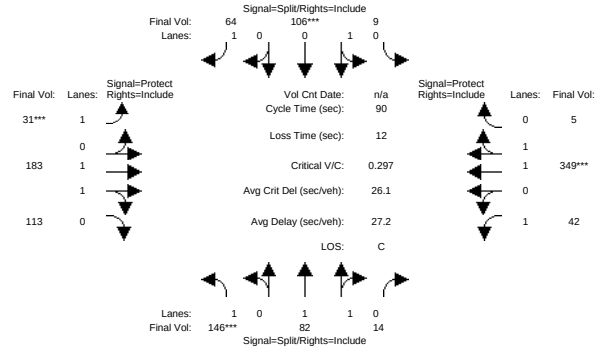
Street Name:	N. Buhach Road						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	98	151	22	1	87	29	47	206	133	11	127	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	151	22	1	87	29	47	206	133	11	127	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	151	22	1	87	29	47	206	133	11	127	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	151	22	1	87	29	47	206	133	11	127	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	151	22	1	87	29	47	206	133	11	127	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	151	22	1	87	29	47	206	133	11	127	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	1.00	1.00	0.85	0.95	0.89	0.89	0.95	0.93	0.93
Lanes:	1.00	1.75	0.25	0.01	0.99	1.00	1.00	1.22	0.78	1.00	1.78	0.22
Final Sat.:	1805	3091	450	22	1877	1615	1805	2064	1333	1805	3152	397
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.05	0.05	0.02	0.03	0.10	0.10	0.01	0.04	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.21	0.21	0.21	0.18	0.18	0.18	0.19	0.39	0.39	0.08	0.28	0.28
Volume/Cap:	0.25	0.23	0.23	0.25	0.25	0.10	0.13	0.25	0.25	0.08	0.15	0.15
Delay/Veh:	29.8	29.4	29.4	31.9	31.9	30.8	30.2	18.5	18.5	38.7	24.6	24.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.8	29.4	29.4	31.9	31.9	30.8	30.2	18.5	18.5	38.7	24.6	24.6
LOS by Move:	C	C	C	C	C	C	C	B	B	D	C	C
HCM2kAvgQ:	2	2	2	2	2	1	1	3	3	0	1	1

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #10: Buhach Rd/Bellevue Rd



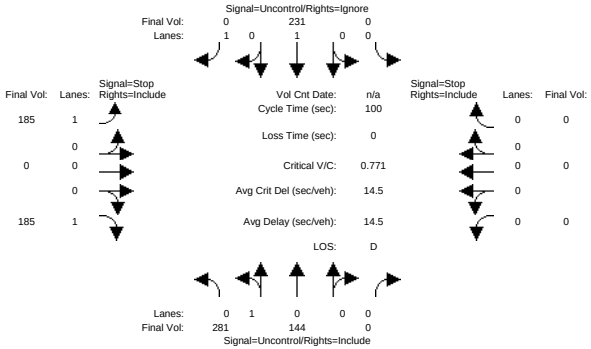
Street Name:	N. Buhach Road						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	146	82	14	9	106	64	31	183	113	42	349	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	146	82	14	9	106	64	31	183	113	42	349	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	146	82	14	9	106	64	31	183	113	42	349	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	146	82	14	9	106	64	31	183	113	42	349	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	82	14	9	106	64	31	183	113	42	349	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	82	14	9	106	64	31	183	113	42	349	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	1.00	1.00	0.85	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.71	0.29	0.08	0.92	1.00	1.00	1.24	0.76	1.00	1.97	0.03
Final Sat.:	1805	3016	515	148	1744	1615	1805	2105	1300	1805	3552	51
Capacity Analysis Module:												
Vol/Sat:	0.08	0.03	0.03	0.06	0.06	0.04	0.02	0.09	0.09	0.02	0.10	0.10
Crit Moves:	****				****		****				****	
Green/Cycle:	0.27	0.27	0.27	0.20	0.20	0.20	0.08	0.24	0.24	0.17	0.32	0.32
Volume/Cap:	0.30	0.10	0.10	0.30	0.30	0.20	0.22	0.37	0.37	0.14	0.30	0.30
Delay/Veh:	26.7	25.0	25.0	31.1	31.1	30.3	39.7	29.1	29.1	32.3	23.0	23.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.7	25.0	25.0	31.1	31.1	30.3	39.7	29.1	29.1	32.3	23.0	23.0
LOS by Move:	C	C	C	C	C	C	D	C	C	C	C	C
HCM2kAvgQ:	3	1	1	3	3	1	1	4	4	1	4	4

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #11: Ashby Rd/ Buhach Rd

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Street Name:      Ashby Road- Buhach Rd                    Buhach Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     281  144     0     0  231   188   185    0   185     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  281  144     0     0  231   188   185    0   185     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  281  144     0     0  231   188   185    0   185     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   281  144     0     0  231     0   185    0   185     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  281  144     0     0  231     0   185    0   185     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  231 xxxx xxxxx  xxxx xxxx xxxxx   937 xxxx   231  xxxx xxxx xxxxx
Potent Cap.: 1349 xxxx xxxxx  xxxx xxxx xxxxx   296 xxxx   813  xxxx xxxx xxxxx
Move Cap.:   1349 xxxx xxxxx  xxxx xxxx xxxxx   240 xxxx   813  xxxx xxxx xxxxx
Volume/Cap:  0.21 xxxx  xxxx  xxxx xxxx  xxxx  0.77 xxxx  0.23  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.8 xxxx xxxxx  xxxx xxxx xxxxx   5.6 xxxx   0.9  xxxx xxxx xxxxx
Control Del:  8.4 xxxx xxxxx xxxxx xxxx xxxxx  57.2 xxxx  10.7 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             34.0           xxxxxx
ApproachLOS:         *                *                D                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #11 Ashby Rd/ Buhach Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



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------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:  281  144     0     0  231   188   185    0   185     0    0     0
ApproachDel:    xxxxxx           xxxxxx             34.0           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=370]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1214]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

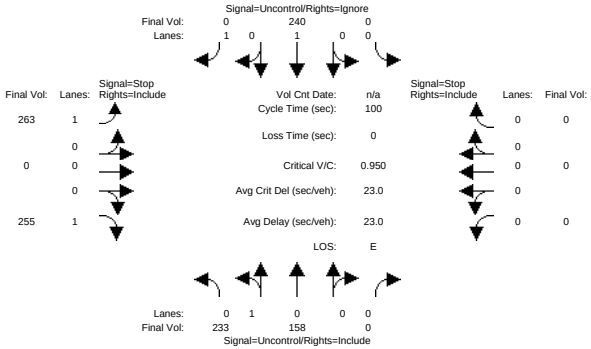
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #11 Ashby Rd/ Buhach Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:  281  144     0     0  231   188   185    0   185     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             844
Minor Approach Volume:           370
Minor Approach Volume Threshold: 447
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #11: Ashby Rd/ Buhach Rd




```
Street Name:      Ashby Road- Buhach Rd                    Buhach Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     233  158     0     0  240   215   263    0   255     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  233  158     0     0  240   215   263    0   255     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  233  158     0     0  240   215   263    0   255     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   233  158     0     0  240     0   263    0   255     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  233  158     0     0  240     0   263    0   255     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  240 xxxx xxxxx  xxxx xxxx xxxxx   864 xxxx   240  xxxx xxxx xxxxx
Potent Cap.: 1339 xxxx xxxxx  xxxx xxxx xxxxx   327 xxxx   804  xxxx xxxx xxxxx
Move Cap.:   1339 xxxx xxxxx  xxxx xxxx xxxxx   277 xxxx   804  xxxx xxxx xxxxx
Volume/Cap:  0.17 xxxx  xxxx  xxxx xxxx  xxxx  0.95 xxxx  0.32  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.6 xxxx xxxxx  xxxx xxxx xxxxx   9.1 xxxx   1.4  xxxx xxxx xxxxx
Control Del:  8.3 xxxx xxxxx xxxxx xxxx xxxxx  82.1 xxxx  11.5 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             47.4           xxxxxx
ApproachLOS:         *                *                E                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #11 Ashby Rd/ Buhach Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:  233  158     0     0  240   215   263    0   255     0    0     0
ApproachDel:    xxxxxx           xxxxxx             47.4           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=6.8]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=518]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1364]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

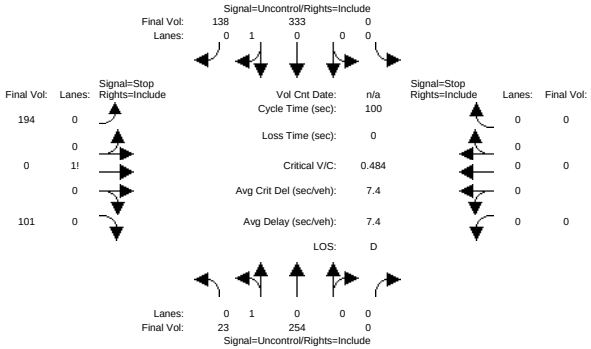
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #11 Ashby Rd/ Buhach Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:  233  158     0     0  240   215   263    0   255     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             846
Minor Approach Volume:           518
Minor Approach Volume Threshold: 446
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #12: Ashby Rd / N 193




```
Street Name:             Ashby Road                          N 193
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      23  254     0     0  333   138   194    0   101     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   23  254     0     0  333   138   194    0   101     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   23  254     0     0  333   138   194    0   101     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    23  254     0     0  333   138   194    0   101     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   23  254     0     0  333   138   194    0   101     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  471 xxxx xxxxx  xxxx xxxx xxxxx   702  702   402  xxxx xxxx xxxxx
Potent Cap.: 1101 xxxx xxxxx  xxxx xxxx xxxxx   407  365   653  xxxx xxxx xxxxx
Move Cap.:   1101 xxxx xxxxx  xxxx xxxx xxxxx   401  357   653  xxxx xxxx xxxxx
Volume/Cap:  0.02 xxxx  xxxx  xxxx xxxx  xxxx  0.48 0.00  0.15  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  462 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  4.4 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 25.6 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    D     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             25.6           xxxxxx
ApproachLOS:         *                *                D                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #12 Ashby Rd / N 193
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   23  254     0     0  333   138   194    0   101     0    0     0
ApproachDel:    xxxxxx           xxxxxx             25.6           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=295]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1043]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

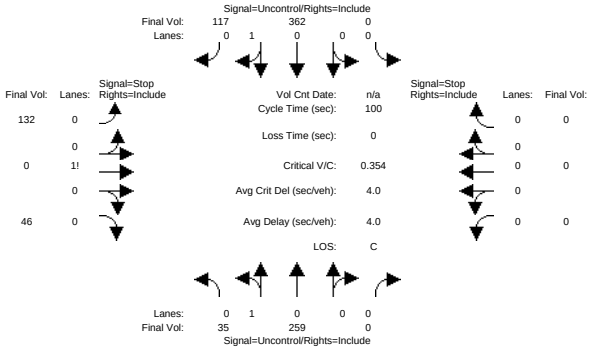
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #12 Ashby Rd / N 193
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   23  254     0     0  333   138   194    0   101     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             748
Minor Approach Volume:           295
Minor Approach Volume Threshold: 297
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #12: Ashby Rd / N 193




```
Street Name:             Ashby Road                          N 193
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      35  259     0     0  362   117   132    0    46     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   35  259     0     0  362   117   132    0    46     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   35  259     0     0  362   117   132    0    46     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    35  259     0     0  362   117   132    0    46     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   35  259     0     0  362   117   132    0    46     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  479 xxxx xxxxx  xxxx xxxx xxxxx   750  750   421  xxxx xxxx xxxxx
Potent Cap.: 1094 xxxx xxxxx  xxxx xxxx xxxxx   382  343   637  xxxx xxxx xxxxx
Move Cap.:   1094 xxxx xxxxx  xxxx xxxx xxxxx   373  331   637  xxxx xxxx xxxxx
Volume/Cap:  0.03 xxxx  xxxx  xxxx xxxx  xxxx  0.35 0.00  0.07  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  417 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  2.1 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 19.9 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    C     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             19.9           xxxxxx
ApproachLOS:         *                *               C                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #12 Ashby Rd / N 193
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   35  259     0     0  362   117   132    0    46     0    0     0
ApproachDel:    xxxxxx           xxxxxx             19.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=178]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=951]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

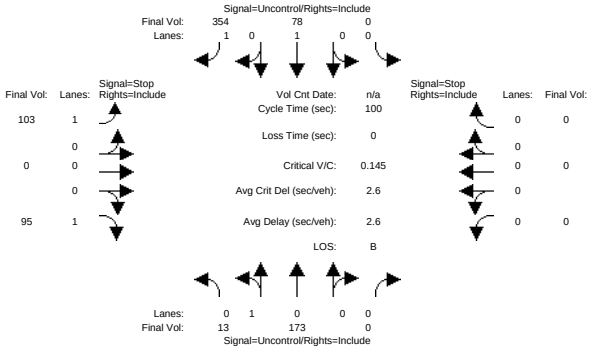
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #12 Ashby Rd / N 193
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   35  259     0     0  362   117   132    0    46     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             773
Minor Approach Volume:           178
Minor Approach Volume Threshold: 288
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #13: Ashby Rd / SR-99 SB Ramps




```
Street Name:             Ashby Road                    SR-99 SB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      13  173     0     0   78   354   103    0    95     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   13  173     0     0   78   354   103    0    95     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   13  173     0     0   78   354   103    0    95     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    13  173     0     0   78   354   103    0    95     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   13  173     0     0   78   354   103    0    95     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  432 xxxx xxxxx  xxxx xxxx xxxxx   277 xxxx    78  xxxx xxxx xxxxx
Potent Cap.: 1138 xxxx xxxxx  xxxx xxxx xxxxx   717 xxxx   988  xxxx xxxx xxxxx
Move Cap.:   1138 xxxx xxxxx  xxxx xxxx xxxxx   711 xxxx   988  xxxx xxxx xxxxx
Volume/Cap:  0.01 xxxx  xxxx  xxxx xxxx  xxxx  0.14 xxxx  0.10  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx   0.3  xxxx xxxx xxxxx
Control Del:  8.2 xxxx xxxxx xxxxx xxxx xxxxx  10.9 xxxx   9.0 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     B    *     A     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             10.0           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #13 Ashby Rd / SR-99 SB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:   13  173     0     0   78   354   103    0    95     0    0     0
ApproachDel:    xxxxxx           xxxxxx             10.0           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=198]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=816]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

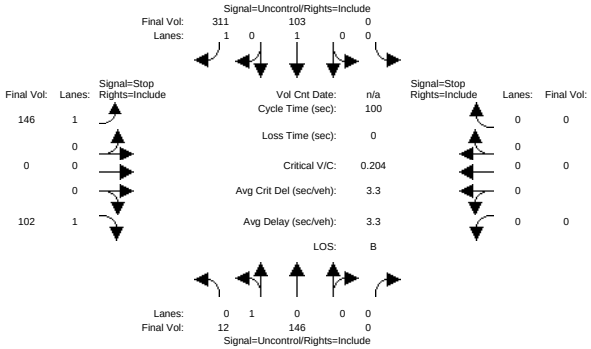
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #13 Ashby Rd / SR-99 SB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:   13  173     0     0   78   354   103    0    95     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             618
Minor Approach Volume:           198
Minor Approach Volume Threshold: 581
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #13: Ashby Rd / SR-99 SB Ramps




```
Street Name:             Ashby Road                    SR-99 SB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      12  146     0     0  103   311   146    0   102     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   12  146     0     0  103   311   146    0   102     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   12  146     0     0  103   311   146    0   102     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    12  146     0     0  103   311   146    0   102     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   12  146     0     0  103   311   146    0   102     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  414 xxxx xxxxx  xxxx xxxx xxxxx   273 xxxx   103  xxxx xxxx xxxxx
Potent Cap.: 1156 xxxx xxxxx  xxxx xxxx xxxxx   721 xxxx   957  xxxx xxxx xxxxx
Move Cap.:   1156 xxxx xxxxx  xxxx xxxx xxxxx   715 xxxx   957  xxxx xxxx xxxxx
Volume/Cap:  0.01 xxxx  xxxx  xxxx xxxx  xxxx  0.20 xxxx  0.11  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx   0.8 xxxx   0.4  xxxx xxxx xxxxx
Control Del:  8.1 xxxx xxxxx xxxxx xxxx xxxxx  11.3 xxxx   9.2 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     B    *     A     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             10.5           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #13 Ashby Rd / SR-99 SB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:   12  146     0     0  103   311   146    0   102     0    0     0
ApproachDel:    xxxxxx           xxxxxx             10.5           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=248]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=820]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

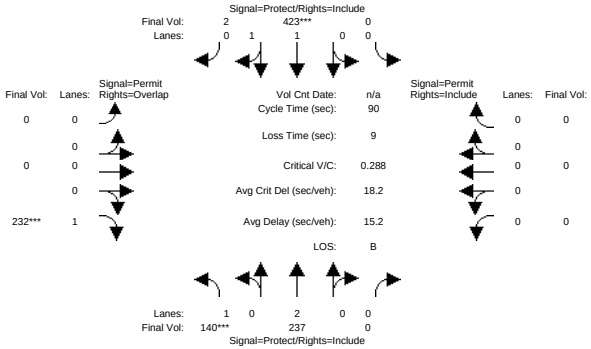
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #13 Ashby Rd / SR-99 SB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:   12  146     0     0  103   311   146    0   102     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             572
Minor Approach Volume:           248
Minor Approach Volume Threshold: 614
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #14: Santa Fe Dr / Bellevue Rd



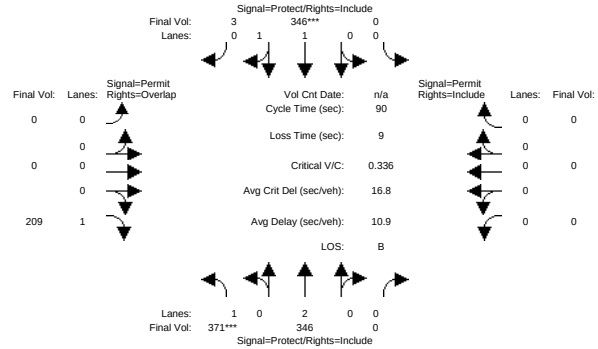
Street Name:	Santa Fe Drive								Bellevue Road							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	0		0	10	10		0	0	10		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	140	237	0		0	423	2		0	0	232		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	140	237	0		0	423	2		0	0	232		0	0	0	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	140	237	0		0	423	2		0	0	232		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	140	237	0		0	423	2		0	0	232		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	140	237	0		0	423	2		0	0	232		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	140	237	0		0	423	2		0	0	232		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.95	1.00		1.00	0.95	0.95		1.00	1.00	0.87		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		0.00	1.99	0.01		0.00	0.00	1.00		0.00	0.00	0.00	
Final Sat.:	1805	3610	0		0	3589	17		0	0	1644		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.07	0.00		0.00	0.12	0.12		0.00	0.00	0.14		0.00	0.00	0.00	
Crit Moves:	****					****					****					
Green/Cycle:	0.27	0.68	0.00		0.00	0.41	0.41		0.00	0.00	0.49		0.00	0.00	0.00	
Volume/Cap:	0.29	0.10	0.00		0.00	0.29	0.29		0.00	0.00	0.29		0.00	0.00	0.00	
Delay/Veh:	26.4	5.0	0.0		0.0	17.9	17.9		0.0	0.0	13.8		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	26.4	5.0	0.0		0.0	17.9	17.9		0.0	0.0	13.8		0.0	0.0	0.0	
LOS by Move:	C	A	A		A	B	B		A	A	B		A	A	A	
HCM2kAvgQ:	3	1	0		0	4	4		0	0	4		0	0	0	

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #14: Santa Fe Dr / Bellevue Rd



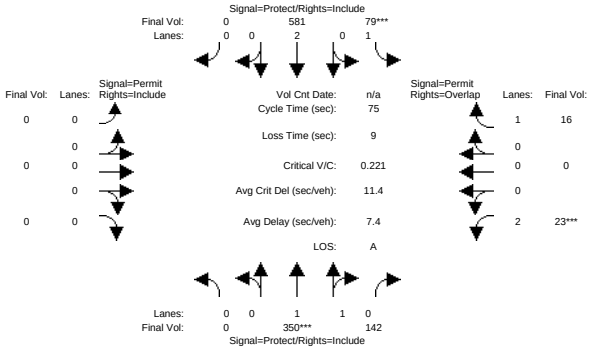
Street Name:	Santa Fe Drive								Bellevue Road							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	0		0	10	10		0	0	10		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	371	346	0		0	346	3		0	0	209		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	371	346	0		0	346	3		0	0	209		0	0	0	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	371	346	0		0	346	3		0	0	209		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	371	346	0		0	346	3		0	0	209		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	371	346	0		0	346	3		0	0	209		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	371	346	0		0	346	3		0	0	209		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.95	1.00		1.00	0.95	0.95		1.00	1.00	0.87		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		0.00	1.98	0.02		0.00	0.00	1.00		0.00	0.00	0.00	
Final Sat.:	1805	3610	0		0	3575	31		0	0	1644		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.21	0.10	0.00		0.00	0.10	0.10		0.00	0.00	0.13		0.00	0.00	0.00	
Crit Moves:	****					****										
Green/Cycle:	0.61	0.90	0.00		0.00	0.29	0.29		0.00	0.00	0.61		0.00	0.00	0.00	
Volume/Cap:	0.34	0.11	0.00		0.00	0.34	0.34		0.00	0.00	0.21		0.00	0.00	0.00	
Delay/Veh:	8.7	0.5	0.0		0.0	25.4	25.4		0.0	0.0	7.9		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	8.7	0.5	0.0		0.0	25.4	25.4		0.0	0.0	7.9		0.0	0.0	0.0	
LOS by Move:	A	A	A		A	C	C		A	A	A		A	A	A	
HCM2kAvgQ:	5	1	0		0	4	4		0	0	2		0	0	0	

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #15: Santa Fe Dr / F St

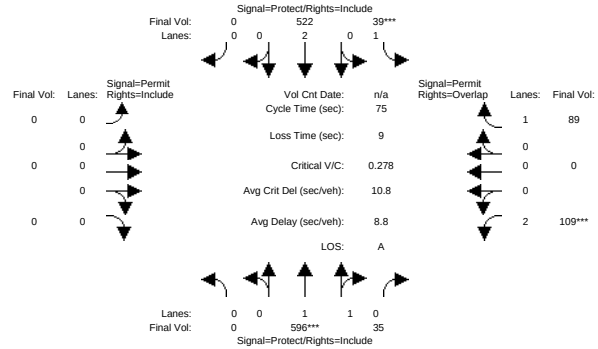



```
Street Name:          Santa Fe Drive                        F Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  350   142    79  581     0     0    0     0    23    0    16
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  350   142    79  581     0     0    0     0    23    0    16
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  350   142    79  581     0     0    0     0    23    0    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  350   142    79  581     0     0    0     0    23    0    16
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  350   142    79  581     0     0    0     0    23    0    16
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  350   142    79  581     0     0    0     0    23    0    16
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.91  0.91  0.95 0.95  1.00  1.00 1.00  1.00  0.71 1.00  0.85
Lanes:       0.00 1.42  0.58  1.00 2.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 2458   997  1805 3610     0     0    0     0  2698    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.14  0.14  0.04 0.16  0.00  0.00 0.00  0.00  0.01 0.00  0.01
Crit Moves:        ****        ****                             ****
Green/Cycle: 0.00 0.57  0.57  0.18 0.75  0.00  0.00 0.00  0.00  0.13 0.00  0.31
Volume/Cap:  0.00 0.25  0.25  0.25 0.22  0.00  0.00 0.00  0.00  0.06 0.00  0.03
Delay/Veh:    0.0  8.1   8.1  27.1  2.9   0.0   0.0  0.0   0.0  28.5  0.0  18.1
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  8.1   8.1  27.1  2.9   0.0   0.0  0.0   0.0  28.5  0.0  18.1
LOS by Move:    A    A     A     C    A     A     A    A     A     C    A     B
HCM2kAvgQ:      0    3     3     2    2     0     0    0     0     0    0     0
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #15: Santa Fe Dr / F St

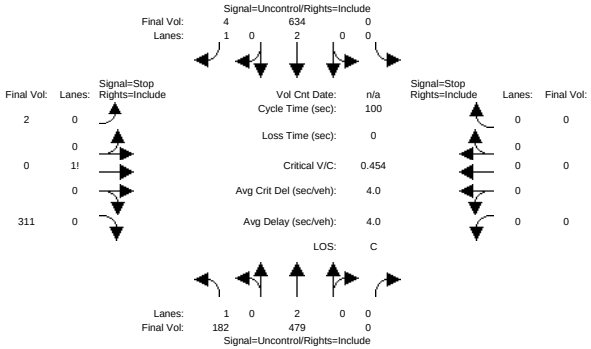



```
Street Name:          Santa Fe Drive                        F Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  596    35    39  522     0     0    0     0   109    0    89
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  596    35    39  522     0     0    0     0   109    0    89
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  596    35    39  522     0     0    0     0   109    0    89
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  596    35    39  522     0     0    0     0   109    0    89
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  596    35    39  522     0     0    0     0   109    0    89
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  596    35    39  522     0     0    0     0   109    0    89
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.94  0.94  0.95 0.95  1.00  1.00 1.00  1.00  0.62 1.00  0.85
Lanes:       0.00 1.89  0.11  1.00 2.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 3382   199  1805 3610     0     0    0     0  2348    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.18  0.18  0.02 0.14  0.00  0.00 0.00  0.00  0.05 0.00  0.06
Crit Moves:        ****        ****                             ****
Green/Cycle: 0.00 0.62  0.62  0.09 0.72  0.00  0.00 0.00  0.00  0.16 0.00  0.26
Volume/Cap:  0.00 0.28  0.28  0.23 0.20  0.00  0.00 0.00  0.00  0.28 0.00  0.21
Delay/Veh:    0.0  6.6   6.6  32.2  3.6   0.0   0.0  0.0   0.0  27.9  0.0  22.1
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  6.6   6.6  32.2  3.6   0.0   0.0  0.0   0.0  27.9  0.0  22.1
LOS by Move:    A    A     A     C    A     A     A    A     A     C    A     C
HCM2kAvgQ:      0    4     4     1    2     0     0    0     0     1    0     2
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #16: Santa Fe Dr / W Ave 2




```
Street Name:           Santa Fe Drive                        W Ave 2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     182  479     0     0  634     4     2    0   311     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  182  479     0     0  634     4     2    0   311     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  182  479     0     0  634     4     2    0   311     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   182  479     0     0  634     4     2    0   311     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  182  479     0     0  634     4     2    0   311     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  638 xxxx xxxxx  xxxx xxxx xxxxx  1238 1477   317  xxxx xxxx xxxxx
Potent Cap.:  956 xxxx xxxxx  xxxx xxxx xxxxx   171  127   685  xxxx xxxx xxxxx
Move Cap.:    956 xxxx xxxxx  xxxx xxxx xxxxx   146  103   685  xxxx xxxx xxxxx
Volume/Cap:  0.19 xxxx  xxxx  xxxx xxxx  xxxx  0.01 0.00  0.45  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.7 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  669 xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  2.5 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 15.0 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             15.0           xxxxxx
ApproachLOS:         *                *               C                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  182  479     0     0  634     4     2    0   311     0    0     0
ApproachDel:    xxxxxx           xxxxxx             15.0           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=313]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1612]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

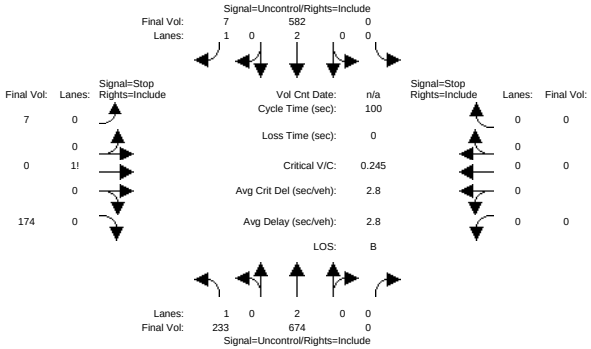
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                   Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  182  479     0     0  634     4     2    0   311     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1299
Minor Approach Volume:           313
Minor Approach Volume Threshold: 195
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #16: Santa Fe Dr / W Ave 2




```
Street Name:           Santa Fe Drive                        W Ave 2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     233  674     0     0  582     7     7    0   174     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  233  674     0     0  582     7     7    0   174     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  233  674     0     0  582     7     7    0   174     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   233  674     0     0  582     7     7    0   174     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  233  674     0     0  582     7     7    0   174     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  589 xxxx xxxxx  xxxx xxxx xxxxx  1385 1722   291  xxxx xxxx xxxxx
Potent Cap.:  996 xxxx xxxxx  xxxx xxxx xxxxx   137   90   712  xxxx xxxx xxxxx
Move Cap.:    996 xxxx xxxxx  xxxx xxxx xxxxx   112   69   712  xxxx xxxx xxxxx
Volume/Cap:  0.23 xxxx  xxxx  xxxx xxxx  xxxx  0.06 0.00  0.24  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.9 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  590 xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  1.3 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 13.8 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    B     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             13.8           xxxxxx
ApproachLOS:         *                *               B                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  233  674     0     0  582     7     7    0   174     0    0     0
ApproachDel:    xxxxxx           xxxxxx             13.8           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=181]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1677]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

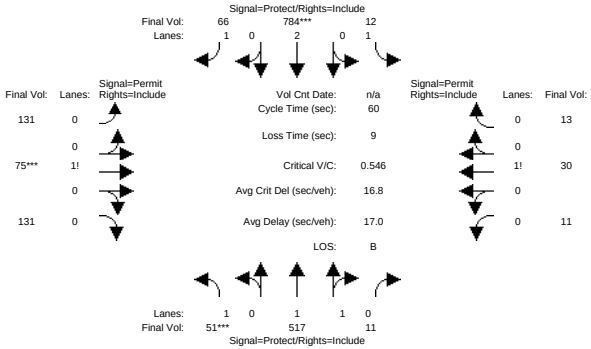
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  233  674     0     0  582     7     7    0   174     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1496
Minor Approach Volume:           181
Minor Approach Volume Threshold: 146
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #17: Santa Fe Dr / N Franklin Rd



Street Name:	Santa Fe Drive						N Franklin Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	51	517	11	12	784	66	131	75	131	11	30	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	51	517	11	12	784	66	131	75	131	11	30	13
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	51	517	11	12	784	66	131	75	131	11	30	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	517	11	12	784	66	131	75	131	11	30	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	517	11	12	784	66	131	75	131	11	30	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	517	11	12	784	66	131	75	131	11	30	13
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.95	0.85	0.81	0.81	0.81	0.90	0.90	0.90
Lanes:	1.00	1.96	0.04	1.00	2.00	1.00	0.39	0.22	0.39	0.20	0.56	0.24
Final Sat.:	1805	3524	75	1805	3610	1615	600	344	600	348	948	411
Capacity Analysis Module:												
Vol/Sat:	0.03	0.15	0.15	0.01	0.22	0.04	0.22	0.22	0.22	0.03	0.03	0.03
Crit Moves:	****				****			****				
Green/Cycle:	0.12	0.28	0.28	0.20	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Volume/Cap:	0.24	0.52	0.52	0.03	0.59	0.11	0.59	0.59	0.59	0.09	0.09	0.09
Delay/Veh:	24.7	18.5	18.5	19.4	16.2	12.7	17.0	17.0	17.0	12.4	12.4	12.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.7	18.5	18.5	19.4	16.2	12.7	17.0	17.0	17.0	12.4	12.4	12.4
LOS by Move:	C	B	B	B	B	B	B	B	B	B	B	B
HCM2kAvgQ:	1	5	5	0	7	1	6	6	6	1	1	1

Note: Queue reported is the number of cars per lane.

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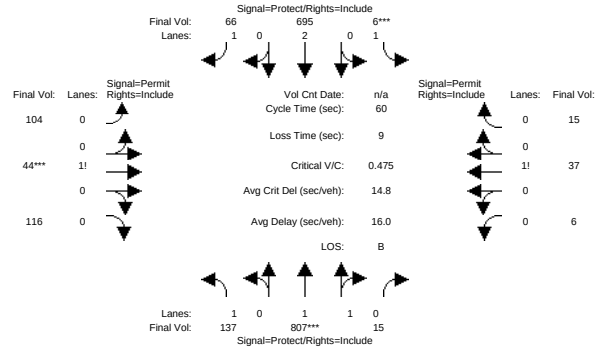
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #17: Santa Fe Dr / N Franklin Rd



Street Name:	Santa Fe Drive						N Franklin Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	137	807	15	6	695	66	104	44	116	6	37	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	137	807	15	6	695	66	104	44	116	6	37	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	137	807	15	6	695	66	104	44	116	6	37	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	137	807	15	6	695	66	104	44	116	6	37	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	137	807	15	6	695	66	104	44	116	6	37	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	137	807	15	6	695	66	104	44	116	6	37	15
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.95	0.85	0.81	0.81	0.81	0.94	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	2.00	1.00	0.39	0.17	0.44	0.10	0.64	0.26
Final Sat.:	1805	3533	66	1805	3610	1615	605	256	675	184	1135	460
Capacity Analysis Module:												
Vol/Sat:	0.08	0.23	0.23	0.00	0.19	0.04	0.17	0.17	0.17	0.03	0.03	0.03
Crit Moves:		****		****				****				
Green/Cycle:	0.20	0.42	0.42	0.12	0.33	0.33	0.31	0.31	0.31	0.31	0.31	0.31
Volume/Cap:	0.38	0.55	0.55	0.03	0.58	0.12	0.55	0.55	0.55	0.10	0.10	0.10
Delay/Veh:	21.3	13.6	13.6	23.5	17.2	14.0	18.3	18.3	18.3	14.6	14.6	14.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.3	13.6	13.6	23.5	17.2	14.0	18.3	18.3	18.3	14.6	14.6	14.6
LOS by Move:	C	B	B	C	B	B	B	B	B	B	B	B
HCM2kAvgQ:	3	7	7	0	6	1	5	5	5	1	1	1

Note: Queue reported is the number of cars per lane.

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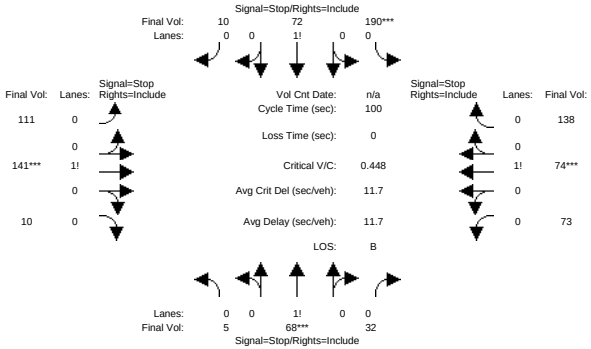
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #18: Ashby Rd / Franklin Rd




```
Street Name:             Ashby Road                        Franklin Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5   68    32   190   72    10   111  141    10    73   74   138
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    5   68    32   190   72    10   111  141    10    73   74   138
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    5   68    32   190   72    10   111  141    10    73   74   138
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     5   68    32   190   72    10   111  141    10    73   74   138
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    5   68    32   190   72    10   111  141    10    73   74   138
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    5   68    32   190   72    10   111  141    10    73   74   138
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.05 0.65  0.30  0.70 0.26  0.04  0.42 0.54  0.04  0.26 0.26  0.48
Final Sat.:    27  371   175   424  161    22   267  339    24   171  173   323
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18  0.18  0.45 0.45  0.45  0.42 0.42  0.42  0.43 0.43  0.43
Crit Moves:        ****        ****                 ****              ****
Delay/Veh:    9.7  9.7   9.7  12.5 12.5  12.5  11.9 11.9  11.9  11.5 11.5  11.5
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.7  9.7   9.7  12.5 12.5  12.5  11.9 11.9  11.9  11.5 11.5  11.5
LOS by Move:    A    A     A     B    B     B     B    B     B     B    B     B
ApproachDel:       9.7             12.5             11.9             11.5
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        9.7             12.5             11.9             11.5
LOS by Appr:         A                B                B                B
AllWayAvgQ:   0.2  0.2   0.2   0.7  0.7   0.7   0.6  0.6   0.6   0.6  0.6   0.6
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #18 Ashby Rd / Franklin Rd

****

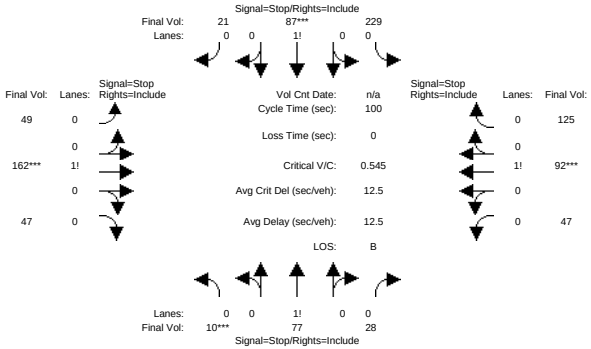

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5   68    32   190   72    10   111  141    10    73   74   138
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             547
Minor Approach Volume:           272
Minor Approach Volume Threshold: 380
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #18: Ashby Rd / Franklin Rd




```
Street Name:             Ashby Road                    Franklin Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10    77    28   229    87    21    49   162    47    47    92   125
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   10    77    28   229    87    21    49   162    47    47    92   125
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   10    77    28   229    87    21    49   162    47    47    92   125
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    10    77    28   229    87    21    49   162    47    47    92   125
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   10    77    28   229    87    21    49   162    47    47    92   125
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   10    77    28   229    87    21    49   162    47    47    92   125
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.09  0.67  0.24  0.68  0.26  0.06  0.19  0.63  0.18  0.18  0.35  0.47
Final Sat.:    49   375   136   420   160    39   117   386   112   113   221   300
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.21  0.21  0.21  0.55  0.55  0.55  0.42  0.42  0.42  0.42  0.42  0.42
Crit Moves:  ****                  ****              ****              ****
Delay/Veh:   10.0  10.0  10.0  14.4  14.4  14.4  12.0  12.0  12.0  11.6  11.6  11.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.0  10.0  10.0  14.4  14.4  14.4  12.0  12.0  12.0  11.6  11.6  11.6
LOS by Move:    A     A     A     B     B     B     B     B     B     B     B     B
ApproachDel:       10.0              14.4              12.0              11.6
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        10.0              14.4              12.0              11.6
LOS by Appr:          A                 B                 B                 B
AllWayAvgQ:   0.2   0.2   0.2   1.0   1.0   1.0   0.6   0.6   0.6   0.6   0.6   0.6
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #18 Ashby Rd / Franklin Rd

****

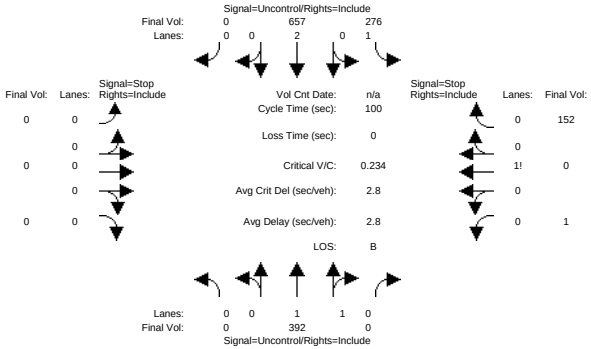

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   10   77    28   229   87    21    49  162    47    47   92   125
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             522
Minor Approach Volume:           337
Minor Approach Volume Threshold: 393
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #19: Santa Fe Dr / Belcher Ave




```
Street Name:           Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  392     0   276  657     0     0    0     0     1    0   152
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  392     0   276  657     0     0    0     0     1    0   152
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  392     0   276  657     0     0    0     0     1    0   152
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  392     0   276  657     0     0    0     0     1    0   152
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  392     0   276  657     0     0    0     0     1    0   152
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   392 xxxx xxxxx  xxxx xxxx xxxxx  1273 1601   196
Potent Cap.: xxxx xxxx xxxxx  1178 xxxx xxxxx  xxxx xxxx xxxxx   162  107   819
Move Cap.:   xxxx xxxx xxxxx  1178 xxxx xxxxx  xxxx xxxx xxxxx   133   82   819
Volume/Cap:  xxxx xxxx  xxxx  0.23 xxxx  xxxx  xxxx xxxx  xxxx  0.01 0.00  0.19
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.9 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   9.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  792 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.7 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 10.6 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             10.6
ApproachLOS:         *                *                *                B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  392     0   276  657     0     0    0     0     1    0   152
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             10.6
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=153]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1478]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

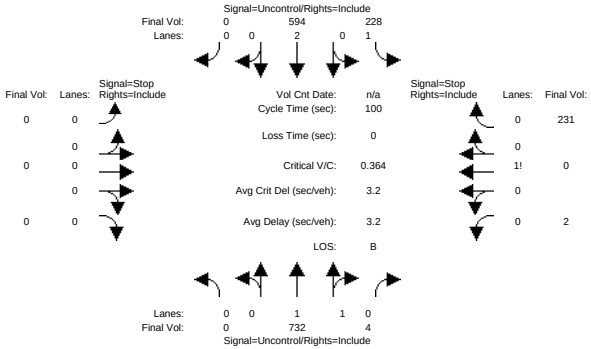
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  392     0   276  657     0     0    0     0     1    0   152
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1325
Minor Approach Volume:           153
Minor Approach Volume Threshold: 188
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #19: Santa Fe Dr / Belcher Ave




```
Street Name:           Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  732     4   228  594     0     0    0     0     2    0   231
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  732     4   228  594     0     0    0     0     2    0   231
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  732     4   228  594     0     0    0     0     2    0   231
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  732     4   228  594     0     0    0     0     2    0   231
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  732     4   228  594     0     0    0     0     2    0   231
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   736 xxxx xxxxx  xxxx xxxx xxxxx  1487 1784   368
Potent Cap.: xxxx xxxx xxxxx   879 xxxx xxxxx  xxxx xxxx xxxxx   117   83   635
Move Cap.:   xxxx xxxx xxxxx   879 xxxx xxxxx  xxxx xxxx xxxxx    94   61   635
Volume/Cap:  xxxx xxxx  xxxx  0.26 xxxx  xxxx  xxxx xxxx  xxxx  0.02 0.00  0.36
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   1.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  10.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     B    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  605 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  1.8 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 14.6 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             14.6
ApproachLOS:         *                *                *                B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  732     4   228  594     0     0    0     0     2    0   231
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             14.6
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=233]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1791]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

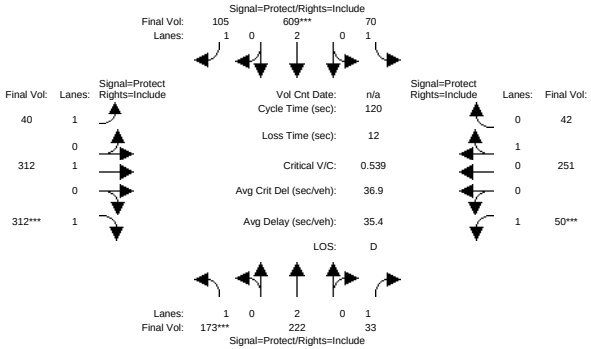
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  732     4   228  594     0     0    0     0     2    0   231
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1558
Minor Approach Volume:           233
Minor Approach Volume Threshold: 132
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

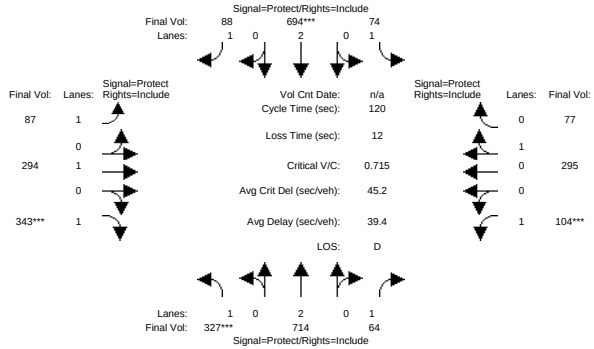



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     173  222    33    70  609   105    40  312   312    50  251    42
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  173  222    33    70  609   105    40  312   312    50  251    42
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  173  222    33    70  609   105    40  312   312    50  251    42
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   173  222    33    70  609   105    40  312   312    50  251    42
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  173  222    33    70  609   105    40  312   312    50  251    42
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  173  222    33    70  609   105    40  312   312    50  251    42
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.98  0.98
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.86  0.14
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1593   267
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.06  0.02  0.04 0.17  0.07  0.02 0.16  0.19  0.03 0.16  0.16
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.18 0.29  0.29  0.20 0.31  0.31  0.11 0.36  0.36  0.06 0.30  0.30
Volume/Cap:  0.54 0.21  0.07  0.19 0.54  0.21  0.20 0.46  0.54  0.47 0.52  0.52
Delay/Veh:   47.0 32.7  31.3  40.2 34.9  30.7  48.9 30.3  32.0  58.1 35.6  35.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  47.0 32.7  31.3  40.2 34.9  30.7  48.9 30.3  32.0  58.1 35.6  35.6
LOS by Move:    D    C     C     D    C     C     D    C     C     E    D     D
HCM2kAvgQ:    143   78    21    54  250    71    36  222   237    61  229   229
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

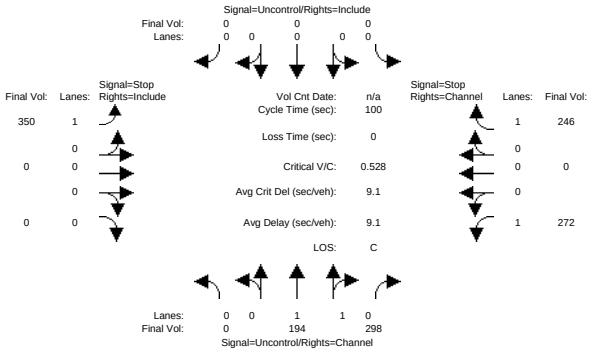



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     327  714    64    74  694    88    87  294   343   104  295    77
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  327  714    64    74  694    88    87  294   343   104  295    77
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  327  714    64    74  694    88    87  294   343   104  295    77
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   327  714    64    74  694    88    87  294   343   104  295    77
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  327  714    64    74  694    88    87  294   343   104  295    77
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  327  714    64    74  694    88    87  294   343   104  295    77
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.97  0.97
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.79  0.21
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1460   381
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.20  0.04  0.04 0.19  0.05  0.05 0.15  0.21  0.06 0.20  0.20
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.25 0.40  0.40  0.12 0.27  0.27  0.08 0.30  0.30  0.08 0.29  0.29
Volume/Cap:  0.71 0.49  0.10  0.34 0.71  0.20  0.57 0.52  0.71  0.71 0.69  0.69
Delay/Veh:   46.2 26.9  22.3  49.5 42.3  34.1  57.9 35.9  42.7  69.3 41.4  41.4
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  46.2 26.9  22.3  49.5 42.3  34.1  57.9 35.9  42.7  69.3 41.4  41.4
LOS by Move:    D    C     C     D    D     C     E    D     D     E    D     D
HCM2kAvgQ:    271  245    34    69  331    63    99  230   311   131  325   325
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #25: 16th St / SR-59




```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  194   298     0    0     0   350    0     0   272    0   246
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  194   298     0    0     0   350    0     0   272    0   246
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  194   298     0    0     0   350    0     0   272    0   246
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  194   298     0    0     0   350    0     0   272    0   246
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  194   298     0    0     0   350    0     0   272    0   246
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx    97 xxxx xxxxx   343 xxxx    97
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   890 xxxx xxxxx   615 xxxx   965
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   663 xxxx xxxxx   615 xxxx   965
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.53 xxxx  xxxx  0.44 xxxx  0.25
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  77.7 xxxx xxxxx  56.5 xxxx  25.4
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  16.3 xxxx xxxxx  15.4 xxxx  10.0
LOS by Move:    *    *     *     *    *     *     C    *     *     C    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             16.3            12.8
ApproachLOS:         *                *                C               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  194   298     0    0     0   350    0     0   272    0   246
ApproachDel:    xxxxxx           xxxxxx             16.3            12.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=350]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1360]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.8]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=518]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1360]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

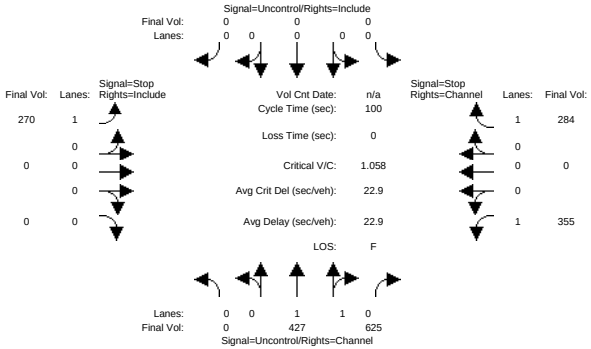
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  194   298     0    0     0   350    0     0   272    0   246
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             492
Minor Approach Volume:           518
Minor Approach Volume Threshold: 679
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #25: 16th St / SR-59




```
Street Name:            16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  427   625     0    0     0   270    0     0   355    0   284
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  427   625     0    0     0   270    0     0   355    0   284
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  427   625     0    0     0   270    0     0   355    0   284
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  427   625     0    0     0   270    0     0   355    0   284
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  427   625     0    0     0   270    0     0   355    0   284
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   214 xxxx xxxxx   740 xxxx   214
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   748 xxxx xxxxx   335 xxxx   832
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   492 xxxx xxxxx   335 xxxx   832
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.55 xxxx  xxxx  1.06 xxxx  0.34
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  81.5 xxxx xxxxx   321 xxxx  38.1
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  20.8 xxxx xxxxx 101.5 xxxx  11.6
LOS by Move:    *    *     *     *    *     *     C    *     *     F    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             20.8            61.5
ApproachLOS:         *                *                C               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  427   625     0    0     0   270    0     0   355    0   284
ApproachDel:    xxxxxx           xxxxxx             20.8            61.5
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=270]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1961]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=10.9]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=639]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1961]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

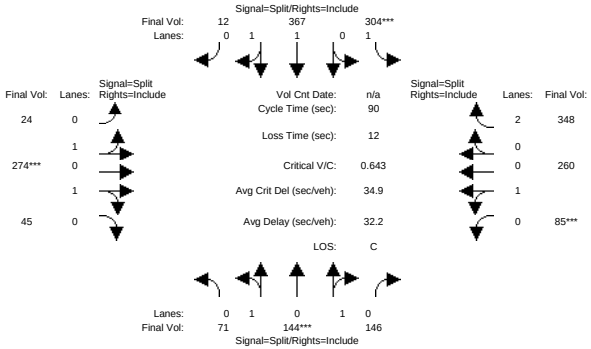
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  427   625     0    0     0   270    0     0   355    0   284
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1052
Minor Approach Volume:           639
Minor Approach Volume Threshold: 352
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

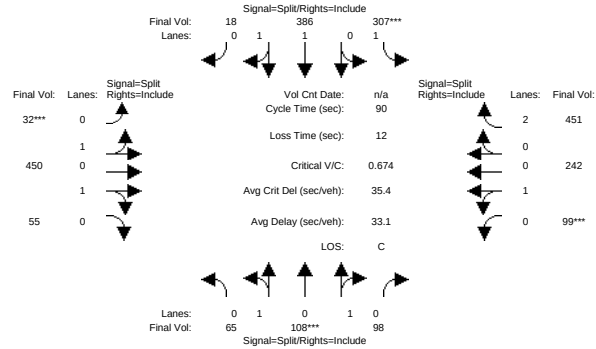



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  144   146  304  367    12   24  274    45   85  260   348
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   71  144   146  304  367    12   24  274    45   85  260   348
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   71  144   146  304  367    12   24  274    45   85  260   348
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    71  144   146  304  367    12   24  274    45   85  260   348
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   71  144   146  304  367    12   24  274    45   85  260   348
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   71  144   146  304  367    12   24  274    45   85  260   348
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.88 0.88  0.88 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.39 0.80  0.81 1.00 1.94  0.06 0.14 1.60  0.26 0.25 0.75  2.00
Final Sat.:   660 1339  1357 1805 3478   114  247 2818   463  462 1415  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.11  0.11 0.17 0.11  0.11 0.10 0.10  0.10 0.18 0.18  0.12
Crit Moves:        ****        ****                ****        ****
Green/Cycle: 0.17 0.17  0.17 0.26 0.26  0.26 0.15 0.15  0.15 0.29 0.29  0.29
Volume/Cap:  0.64 0.64  0.64 0.64 0.40  0.40 0.64 0.64  0.64 0.64 0.64  0.43
Delay/Veh:   37.5 37.5  37.5 32.5 27.7  27.7 38.6 38.6  38.6 30.8 30.8  26.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  37.5 37.5  37.5 32.5 27.7  27.7 38.6 38.6  38.6 30.8 30.8  26.5
LOS by Move:    D    D     D    C    C     C    D    D     D    C    C     C
HCM2kAvgQ:    151  151   151  210  119   119  146  146   146  231  231   119
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

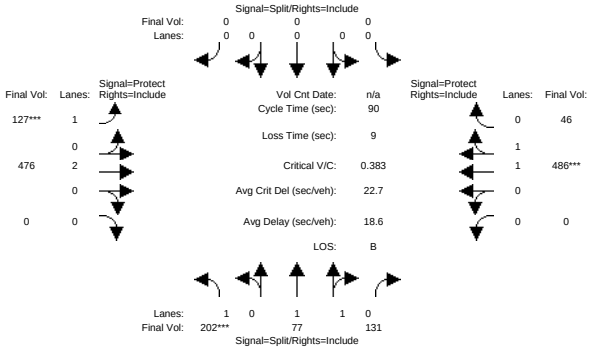



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      65  108    98  307  386    18   32  450    55   99  242   451
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   65  108    98  307  386    18   32  450    55   99  242   451
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   65  108    98  307  386    18   32  450    55   99  242   451
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    65  108    98  307  386    18   32  450    55   99  242   451
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   65  108    98  307  386    18   32  450    55   99  242   451
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   65  108    98  307  386    18   32  450    55   99  242   451
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.89 0.89  0.89 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.48 0.80  0.72 1.00 1.91  0.09 0.12 1.68  0.20 0.29 0.71  2.00
Final Sat.:   809 1345  1220 1805 3425   160  211 2971   363  544 1330  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.08  0.08 0.17 0.11  0.11 0.15 0.15  0.15 0.18 0.18  0.16
Crit Moves:        ****        ****                ****        ****
Green/Cycle: 0.12 0.12  0.12 0.25 0.25  0.25 0.22 0.22  0.22 0.27 0.27  0.27
Volume/Cap:  0.67 0.67  0.67 0.67 0.45  0.45 0.67 0.67  0.67 0.67 0.67  0.59
Delay/Veh:   42.4 42.4  42.4 34.3 28.7  28.7 34.2 34.2  34.2 32.9 32.9  29.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  42.4 42.4  42.4 34.3 28.7  28.7 34.2 34.2  34.2 32.9 32.9  29.7
LOS by Move:    D    D     D    C    C     C    C    C     C    C    C     C
HCM2kAvgQ:    128  128   128  220  132   132  208  208   208  237  237   173
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #27: 14th St - SR-99 NB Onramp / V St

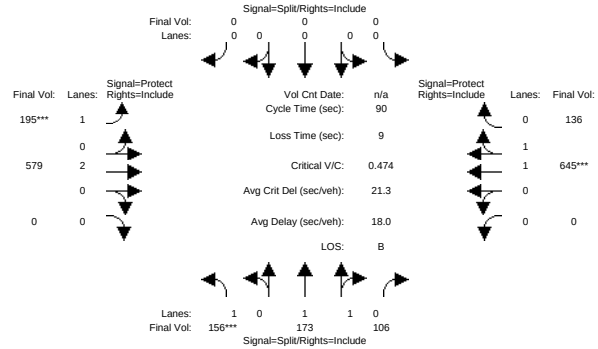



```
Street Name:    14th St - SR-99 NB Onramp                 V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     202   77   131     0    0     0   127  476     0     0  486    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  202   77   131     0    0     0   127  476     0     0  486    46
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  202   77   131     0    0     0   127  476     0     0  486    46
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   202   77   131     0    0     0   127  476     0     0  486    46
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  202   77   131     0    0     0   127  476     0     0  486    46
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  202   77   131     0    0     0   127  476     0     0  486    46
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.86  0.86  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       1.00 1.00  1.00  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.83  0.17
Final Sat.:  1615 1635  1635     0    0     0  1805 3610     0     0 3255   308
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.05  0.08  0.00 0.00  0.00  0.07 0.13  0.00  0.00 0.15  0.15
Crit Moves:  ****                             ****                  ****
Green/Cycle: 0.33 0.33  0.33  0.00 0.00  0.00  0.18 0.57  0.00  0.00 0.39  0.39
Volume/Cap:  0.38 0.14  0.25  0.00 0.00  0.00  0.38 0.23  0.00  0.00 0.38  0.38
Delay/Veh:   23.8 21.5  22.3   0.0  0.0   0.0  33.0  9.5   0.0   0.0 19.9  19.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  23.8 21.5  22.3   0.0  0.0   0.0  33.0  9.5   0.0   0.0 19.9  19.9
LOS by Move:    C    C     C     A    A     A     C    A     A     A    B     B
HCM2kAvgQ:    112   40    71     0    0     0    85   84     0     0  134   134
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #27: 14th St - SR-99 NB Onramp / V St

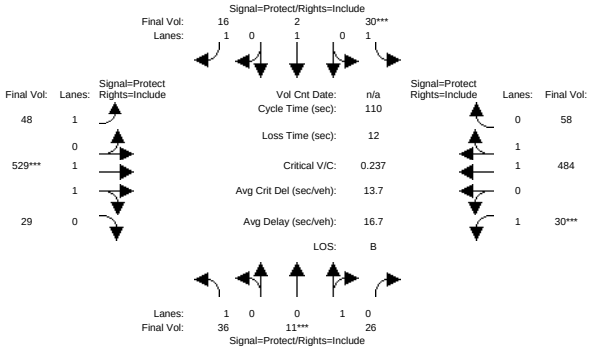



```
Street Name:    14th St - SR-99 NB Onramp                 V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156  173   106     0    0     0   195  579     0     0  645   136
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  156  173   106     0    0     0   195  579     0     0  645   136
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  156  173   106     0    0     0   195  579     0     0  645   136
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   156  173   106     0    0     0   195  579     0     0  645   136
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  156  173   106     0    0     0   195  579     0     0  645   136
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  156  173   106     0    0     0   195  579     0     0  645   136
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.90  0.90  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.93  0.93
Lanes:       1.00 1.24  0.76  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.65  0.35
Final Sat.:  1615 2111  1293     0    0     0  1805 3610     0     0 2904   612
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.08  0.08  0.00 0.00  0.00  0.11 0.16  0.00  0.00 0.22  0.22
Crit Moves:  ****                             ****                  ****
Green/Cycle: 0.20 0.20  0.20  0.00 0.00  0.00  0.23 0.70  0.00  0.00 0.47  0.47
Volume/Cap:  0.47 0.40  0.40  0.00 0.00  0.00  0.47 0.23  0.00  0.00 0.47  0.47
Delay/Veh:   32.7 31.5  31.5   0.0  0.0   0.0  30.9  5.0   0.0   0.0 16.6  16.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  32.7 31.5  31.5   0.0  0.0   0.0  30.9  5.0   0.0   0.0 16.6  16.6
LOS by Move:    C    C     C     A    A     A     C    A     A     A    B     B
HCM2kAvgQ:    108   96    96     0    0     0   127   76     0     0  189   189
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #28: 15th St / V St



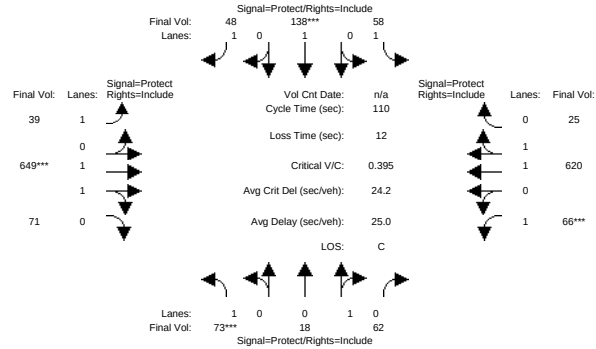
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	36	11	26	30	2	16	48	529	29	30	484	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	11	26	30	2	16	48	529	29	30	484	58
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	11	26	30	2	16	48	529	29	30	484	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	11	26	30	2	16	48	529	29	30	484	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	11	26	30	2	16	48	529	29	30	484	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	11	26	30	2	16	48	529	29	30	484	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.79	0.21
Final Sat.:	1805	506	1195	1805	1900	1615	1805	3395	186	1805	3172	380
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.02	0.00	0.01	0.03	0.16	0.16	0.02	0.15	0.15
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.09	0.09	0.07	0.10	0.10	0.21	0.66	0.66	0.07	0.51	0.51
Volume/Cap:	0.30	0.24	0.24	0.24	0.01	0.10	0.12	0.24	0.24	0.24	0.30	0.30
Delay/Veh:	50.3	47.1	47.1	49.3	45.1	45.8	35.0	7.7	7.7	49.3	15.4	15.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.3	47.1	47.1	49.3	45.1	45.8	35.0	7.7	7.7	49.3	15.4	15.4
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	36	34	34	29	2	14	31	97	97	23	131	131

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #28: 15th St / V St



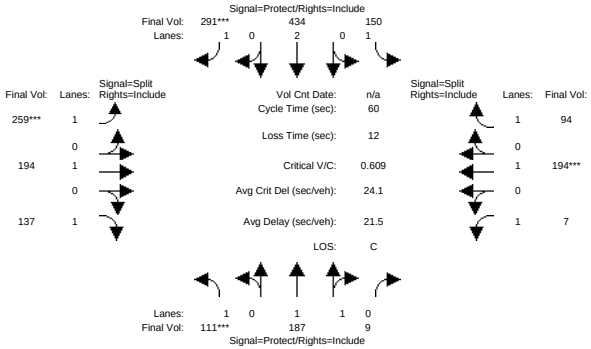
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	73	18	62	58	138	48	39	649	71	66	620	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	18	62	58	138	48	39	649	71	66	620	25
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	18	62	58	138	48	39	649	71	66	620	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	18	62	58	138	48	39	649	71	66	620	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	18	62	58	138	48	39	649	71	66	620	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	18	62	58	138	48	39	649	71	66	620	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.23	0.77	1.00	1.00	1.00	1.00	1.80	0.20	1.00	1.92	0.08
Final Sat.:	1805	378	1302	1805	1900	1615	1805	3205	351	1805	3449	139
Capacity Analysis Module:												
Vol/Sat:	0.04	0.05	0.05	0.03	0.07	0.03	0.02	0.20	0.20	0.04	0.18	0.18
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.17	0.17	0.12	0.18	0.18	0.16	0.51	0.51	0.09	0.45	0.45
Volume/Cap:	0.40	0.28	0.28	0.27	0.40	0.16	0.14	0.40	0.40	0.40	0.40	0.40
Delay/Veh:	47.6	40.5	40.5	44.9	40.3	38.0	40.1	16.5	16.5	48.6	20.7	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.6	40.5	40.5	44.9	40.3	38.0	40.1	16.5	16.5	48.6	20.7	20.7
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	C
HCM2kAvgQ:	68	63	63	50	109	36	27	189	189	51	183	183

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #29: 16th St / V St



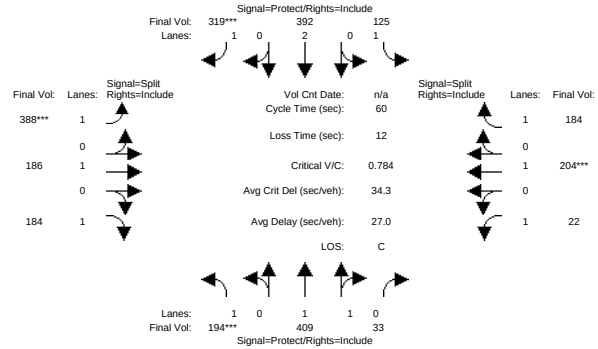
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	111	187	9	150	434	291	259	194	137	7	194	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	111	187	9	150	434	291	259	194	137	7	194	94
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	111	187	9	150	434	291	259	194	137	7	194	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	111	187	9	150	434	291	259	194	137	7	194	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	187	9	150	434	291	259	194	137	7	194	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	111	187	9	150	434	291	259	194	137	7	194	94
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.91	0.09	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3420	165	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.06	0.05	0.05	0.08	0.12	0.18	0.14	0.10	0.08	0.00	0.10	0.06
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.24	0.24	0.17	0.29	0.29	0.23	0.23	0.23	0.17	0.17	0.17
Volume/Cap:	0.53	0.23	0.23	0.50	0.42	0.63	0.63	0.45	0.37	0.02	0.61	0.35
Delay/Veh:	27.4	18.6	18.6	24.0	17.6	21.3	23.8	20.6	20.1	20.9	26.7	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.4	18.6	18.6	24.0	17.6	21.3	23.8	20.6	20.1	20.9	26.7	22.9
LOS by Move:	C	B	B	C	B	C	C	C	C	C	C	C
HCM2kAvgQ:	49	37	37	81	95	144	110	76	52	3	111	48

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #29: 16th St / V St



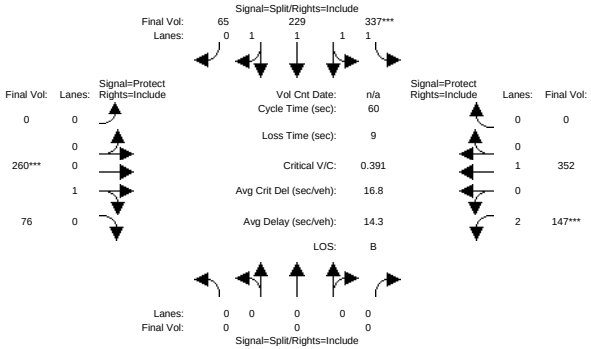
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	194	409	33	125	392	319	388	186	184	22	204	184
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	409	33	125	392	319	388	186	184	22	204	184
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	194	409	33	125	392	319	388	186	184	22	204	184
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	194	409	33	125	392	319	388	186	184	22	204	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	194	409	33	125	392	319	388	186	184	22	204	184
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	194	409	33	125	392	319	388	186	184	22	204	184
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.85	0.15	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3304	267	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.11	0.12	0.12	0.07	0.11	0.20	0.21	0.10	0.11	0.01	0.11	0.11
Crit Moves:	****					****	****				****	
Green/Cycle:	0.13	0.22	0.22	0.15	0.24	0.24	0.26	0.26	0.26	0.17	0.17	0.17
Volume/Cap:	0.82	0.57	0.57	0.45	0.45	0.82	0.82	0.37	0.44	0.07	0.64	0.68
Delay/Veh:	45.4	21.9	21.9	24.3	19.8	34.6	31.8	18.6	19.2	21.2	27.9	30.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.4	21.9	21.9	24.3	19.8	34.6	31.8	18.6	19.2	21.2	27.9	30.6
LOS by Move:	D	C	C	C	B	C	C	B	B	C	C	C
HCM2kAvgQ:	99	96	96	67	93	209	185	68	70	10	120	118

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #30: 13th St / R St



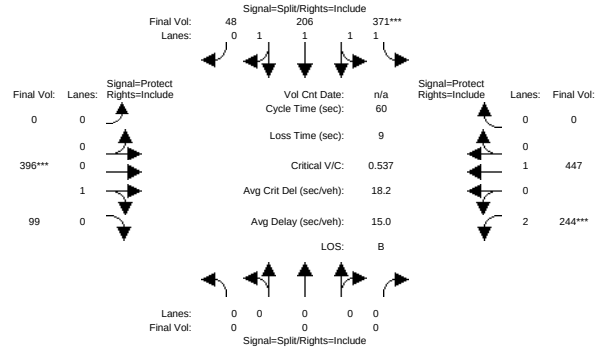
Street Name:	13th Street									R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	337	229	65	0	260	76	147	352	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	337	229	65	0	260	76	147	352	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	337	229	65	0	260	76	147	352	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	337	229	65	0	260	76	147	352	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	337	229	65	0	260	76	147	352	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	337	229	65	0	260	76	147	352	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.56	0.44	0.00	0.77	0.23	2.00	1.00	0.00
Final Sat.:	0	0	0	3134	2441	693	0	1425	416	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.09	0.09	0.00	0.18	0.18	0.04	0.19	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.27	0.27	0.27	0.00	0.46	0.46	0.12	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.40	0.35	0.35	0.00	0.40	0.40	0.36	0.32	0.00
Delay/Veh:	0.0	0.0	0.0	18.0	17.7	17.7	0.0	10.9	10.9	25.0	6.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	18.0	17.7	17.7	0.0	10.9	10.9	25.0	6.7	0.0
LOS by Move:	A	A	A	B	B	B	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	79	67	67	0	108	108	32	83	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #30: 13th St / R St



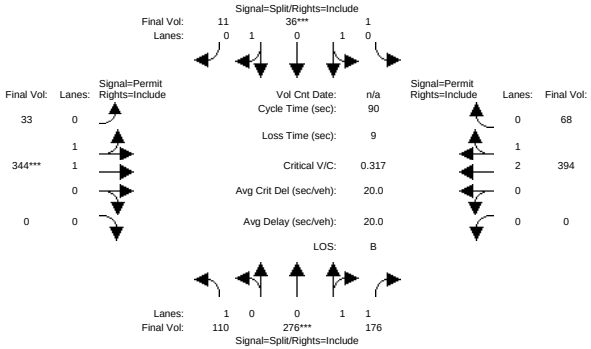
Street Name:	13th Street									R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	371	206	48	0	396	99	244	447	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	371	206	48	0	396	99	244	447	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	371	206	48	0	396	99	244	447	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	371	206	48	0	396	99	244	447	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	371	206	48	0	396	99	244	447	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	371	206	48	0	396	99	244	447	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.62	0.38	0.00	0.80	0.20	2.00	1.00	0.00
Final Sat.:	0	0	0	3112	2524	588	0	1479	370	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.12	0.08	0.08	0.00	0.27	0.27	0.07	0.24	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.22	0.22	0.22	0.00	0.50	0.50	0.13	0.63	0.00
Volume/Cap:	0.00	0.00	0.00	0.54	0.37	0.37	0.00	0.54	0.54	0.54	0.37	0.00
Delay/Veh:	0.0	0.0	0.0	21.1	19.9	19.9	0.0	10.9	10.9	25.7	5.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.1	19.9	19.9	0.0	10.9	10.9	25.7	5.6	0.0
LOS by Move:	A	A	A	C	B	B	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	103	64	64	0	170	170	55	99	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #31: SR-99 NB Off-Ramp - 14th St / R Street

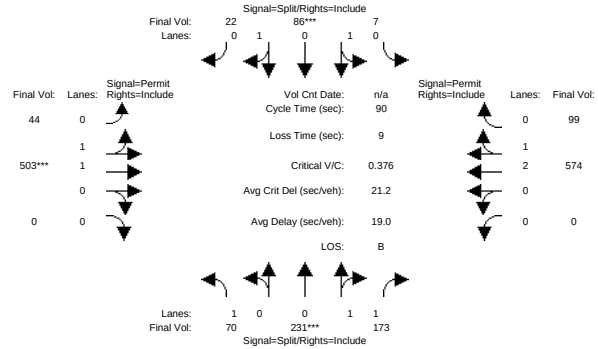



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10   10   10   10   10   10   10   10   10   10
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     110  276  176    1   36   11   33  344    0    0  394   68
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  110  276  176    1   36   11   33  344    0    0  394   68
Added Vol:      0    0    0    0    0    0    0    0    0    0    0    0
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:  110  276  176    1   36   11   33  344    0    0  394   68
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   110  276  176    1   36   11   33  344    0    0  394   68
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  110  276  176    1   36   11   33  344    0    0  394   68
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  110  276  176    1   36   11   33  344    0    0  394   68
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.94 0.94 0.92 0.92 0.92 0.84 0.84 1.00 1.00 0.89 0.89
Lanes:       1.00 1.00 1.00 0.04 1.50 0.46 0.18 1.82 0.00 0.00 2.56 0.44
Final Sat.:  1805 1790 1790   73 2613  798  281 2928    0    0 4326  747
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.15 0.10 0.01 0.01 0.01 0.12 0.12 0.00 0.00 0.09 0.09
Crit Moves:        ****            ****            ****
Green/Cycle: 0.45 0.45 0.45 0.11 0.11 0.11 0.34 0.34 0.00 0.00 0.34 0.34
Volume/Cap:  0.14 0.34 0.22 0.12 0.12 0.12 0.34 0.34 0.00 0.00 0.27 0.27
Delay/Veh:   14.7 16.4 15.3 36.2 36.2 36.2 22.3 22.3  0.0  0.0 21.6 21.6
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  14.7 16.4 15.3 36.2 36.2 36.2 22.3 22.3  0.0  0.0 21.6 21.6
LOS by Move:    B    B    B    D    D    D    C    C    A    A    C    C
HCM2kAvgQ:     44  126   74   18   18   18   99   99    0    0   81   81
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #31: SR-99 NB Off-Ramp - 14th St / R Street

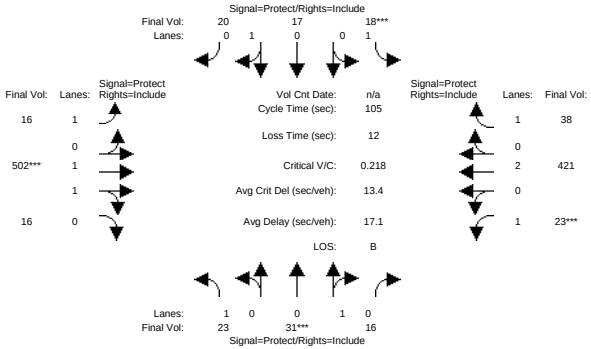



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10   10   10   10   10   10   10   10   10   10
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      70  231  173    7   86   22   44  503    0    0  574   99
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   70  231  173    7   86   22   44  503    0    0  574   99
Added Vol:      0    0    0    0    0    0    0    0    0    0    0    0
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:   70  231  173    7   86   22   44  503    0    0  574   99
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   70  231  173    7   86   22   44  503    0    0  574   99
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:   70  231  173    7   86   22   44  503    0    0  574   99
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   70  231  173    7   86   22   44  503    0    0  574   99
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.94 0.94 0.92 0.92 0.92 0.82 0.82 1.00 1.00 0.89 0.89
Lanes:       1.00 1.00 1.00 0.12 1.50 0.38 0.16 1.84 0.00 0.00 2.56 0.44
Final Sat.:  1805 1778 1778  213 2613  669  250 2862    0    0 4327  746
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.13 0.10 0.03 0.03 0.03 0.18 0.18 0.00 0.00 0.13 0.13
Crit Moves:        ****            ****            ****
Green/Cycle: 0.34 0.34 0.34 0.11 0.11 0.11 0.45 0.45 0.00 0.00 0.45 0.45
Volume/Cap:  0.12 0.39 0.29 0.30 0.30 0.30 0.39 0.39 0.00 0.00 0.29 0.29
Delay/Veh:   20.8 23.1 22.1 37.2 37.2 37.2 16.5 16.5  0.0  0.0 15.6 15.6
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  20.8 23.1 22.1 37.2 37.2 37.2 16.5 16.5  0.0  0.0 15.6 15.6
LOS by Move:    C    C    C    D    D    D    B    B    A    A    B    B
HCM2kAvgQ:     34  126   90   45   45   45  127  127    0    0  103  103
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #32: 15th St / R St



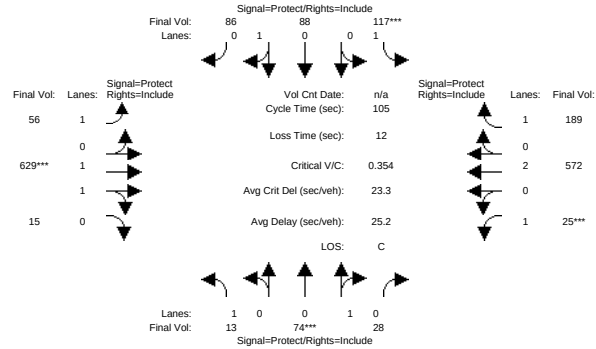
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	23	31	16	18	17	20	16	502	16	23	421	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	31	16	18	17	20	16	502	16	23	421	38
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	23	31	16	18	17	20	16	502	16	23	421	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	31	16	18	17	20	16	502	16	23	421	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	31	16	18	17	20	16	502	16	23	421	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	31	16	18	17	20	16	502	16	23	421	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.66	0.34	1.00	0.46	0.54	1.00	1.94	0.06	1.00	2.00	1.00
Final Sat.:	1805	1189	614	1805	802	944	1805	3481	111	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.01	0.02	0.02	0.01	0.14	0.14	0.01	0.12	0.02
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.12	0.12	0.07	0.11	0.11	0.26	0.64	0.64	0.07	0.45	0.45
Volume/Cap:	0.17	0.23	0.23	0.15	0.20	0.20	0.03	0.23	0.23	0.19	0.26	0.05
Delay/Veh:	46.1	42.8	42.8	46.8	43.3	43.3	29.3	8.1	8.1	47.1	18.2	16.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.1	42.8	42.8	46.8	43.3	43.3	29.3	8.1	8.1	47.1	18.2	16.4
LOS by Move:	D	D	D	D	D	D	C	A	A	D	B	B
HCM2kAvgQ:	21	38	38	17	31	31	9	90	90	17	107	16

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #32: 15th St / R St



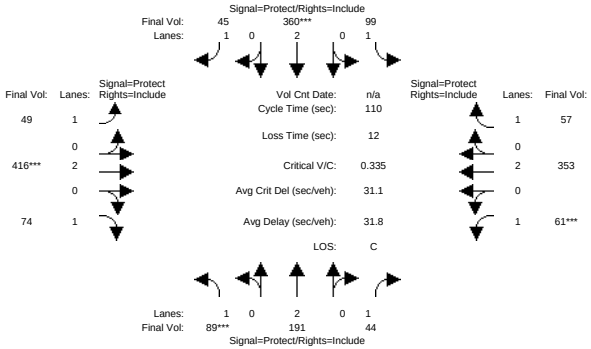
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	13	74	28	117	88	86	56	629	15	25	572	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	74	28	117	88	86	56	629	15	25	572	189
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	74	28	117	88	86	56	629	15	25	572	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	74	28	117	88	86	56	629	15	25	572	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	74	28	117	88	86	56	629	15	25	572	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	74	28	117	88	86	56	629	15	25	572	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.73	0.27	1.00	0.51	0.49	1.00	1.95	0.05	1.00	2.00	1.00
Final Sat.:	1805	1322	500	1805	890	870	1805	3515	84	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.06	0.06	0.10	0.10	0.03	0.18	0.18	0.01	0.16	0.12
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.15	0.15	0.18	0.20	0.20	0.16	0.49	0.49	0.07	0.39	0.39
Volume/Cap:	0.05	0.37	0.37	0.37	0.50	0.50	0.19	0.37	0.37	0.21	0.41	0.30
Delay/Veh:	39.9	40.7	40.7	38.7	38.7	38.7	38.1	16.8	16.8	47.2	23.3	22.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.9	40.7	40.7	38.7	38.7	38.7	38.1	16.8	16.8	47.2	23.3	22.3
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	C
HCM2kAvgQ:	10	81	81	89	137	137	37	163	163	18	168	100

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #33: 16th St / R St



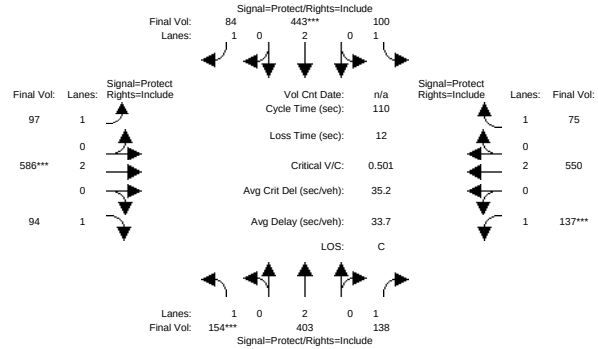
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	89	191	44	99	360	45	49	416	74	61	353	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	191	44	99	360	45	49	416	74	61	353	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	191	44	99	360	45	49	416	74	61	353	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	191	44	99	360	45	49	416	74	61	353	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	191	44	99	360	45	49	416	74	61	353	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	191	44	99	360	45	49	416	74	61	353	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.03	0.05	0.10	0.03	0.03	0.12	0.05	0.03	0.10	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.15	0.26	0.26	0.18	0.30	0.30	0.18	0.34	0.34	0.10	0.27	0.27
Volume/Cap:	0.33	0.20	0.10	0.30	0.33	0.09	0.15	0.33	0.13	0.33	0.36	0.13
Delay/Veh:	42.8	31.7	30.9	39.3	30.3	28.0	38.7	26.9	24.9	47.1	32.7	30.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.8	31.7	30.9	39.3	30.3	28.0	38.7	26.9	24.9	47.1	32.7	30.5
LOS by Move:	D	C	C	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	73	66	28	69	119	26	33	131	41	47	122	35

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #33: 16th St / R St



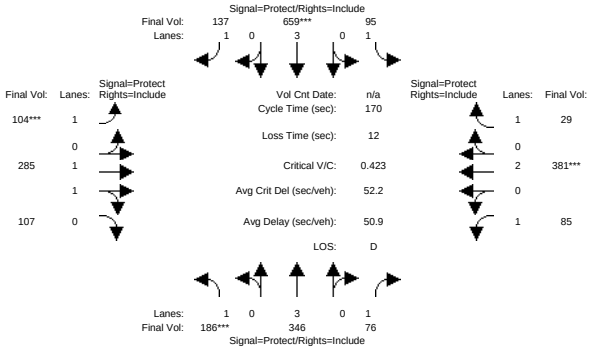
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	154	403	138	100	443	84	97	586	94	137	550	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	154	403	138	100	443	84	97	586	94	137	550	75
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	154	403	138	100	443	84	97	586	94	137	550	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	154	403	138	100	443	84	97	586	94	137	550	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	403	138	100	443	84	97	586	94	137	550	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	403	138	100	443	84	97	586	94	137	550	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.11	0.09	0.06	0.12	0.05	0.05	0.16	0.06	0.08	0.15	0.05
Crit Moves:	****				****			****		****		
Green/Cycle:	0.17	0.26	0.26	0.15	0.24	0.24	0.14	0.32	0.32	0.15	0.34	0.34
Volume/Cap:	0.50	0.42	0.32	0.37	0.50	0.21	0.38	0.50	0.18	0.50	0.45	0.14
Delay/Veh:	42.7	33.8	33.0	42.8	36.2	33.3	43.9	30.3	26.8	44.3	28.9	25.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.7	33.8	33.0	42.8	36.2	33.3	43.9	30.3	26.8	44.3	28.9	25.6
LOS by Move:	D	C	C	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	131	152	97	73	164	54	72	204	54	104	185	42

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #34: Olive Ave / R St



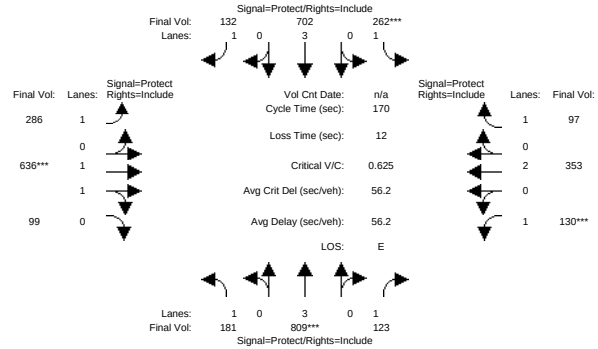
Street Name:	Olive Avenue									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	186		346	76	95		659	137	104		285	107	85		381	29
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	186		346	76	95		659	137	104		285	107	85		381	29
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	186		346	76	95		659	137	104		285	107	85		381	29
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	186		346	76	95		659	137	104		285	107	85		381	29
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	186		346	76	95		659	137	104		285	107	85		381	29
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	186		346	76	95		659	137	104		285	107	85		381	29
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.91	0.85	0.95		0.91	0.85	0.95		0.91	0.91	0.95		0.95	0.85
Lanes:	1.00		3.00	1.00	1.00		3.00	1.00	1.00		1.45	0.55	1.00		2.00	1.00
Final Sat.:	1805		5187	1615	1805		5187	1615	1805		2517	945	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.10		0.07	0.05	0.05		0.13	0.08	0.06		0.11	0.11	0.05		0.11	0.02
Crit Moves:	****						****		****						****	
Green/Cycle:	0.24		0.30	0.30	0.24		0.30	0.30	0.14		0.27	0.27	0.11		0.25	0.25
Volume/Cap:	0.42		0.22	0.15	0.22		0.42	0.28	0.42		0.42	0.42	0.42		0.42	0.07
Delay/Veh:	54.9		44.2	43.4	52.1		47.9	45.8	68.5		51.1	51.1	71.5		53.9	48.8
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	54.9		44.2	43.4	52.1		47.9	45.8	68.5		51.1	51.1	71.5		53.9	48.8
LOS by Move:	D		D	D	D		D	D	E		D	D	E		D	D
HCM2kAvgQ:	195		116	68	94		239	129	130		217	217	110		217	28

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #34: Olive Ave / R St



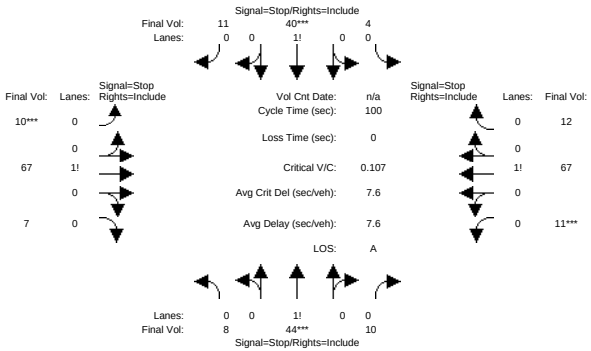
Street Name:	Olive Avenue									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	181		809	123	262		702	132	286		636	99	130		353	97
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	181		809	123	262		702	132	286		636	99	130		353	97
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	181		809	123	262		702	132	286		636	99	130		353	97
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	181		809	123	262		702	132	286		636	99	130		353	97
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	181		809	123	262		702	132	286		636	99	130		353	97
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	181		809	123	262		702	132	286		636	99	130		353	97
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.91	0.85	0.95		0.91	0.85	0.95		0.93	0.93	0.95		0.95	0.85
Lanes:	1.00		3.00	1.00	1.00		3.00	1.00	1.00		1.73	0.27	1.00		2.00	1.00
Final Sat.:	1805		5187	1615	1805		5187	1615	1805		3061	477	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.10		0.16	0.08	0.15		0.14	0.08	0.16		0.21	0.21	0.07		0.10	0.06
Crit Moves:			****		****						****		****			
Green/Cycle:	0.21		0.25	0.25	0.23		0.28	0.28	0.28		0.33	0.33	0.12		0.17	0.17
Volume/Cap:	0.49		0.63	0.31	0.63		0.49	0.30	0.57		0.63	0.63	0.63		0.57	0.35
Delay/Veh:	60.7		57.7	52.2	61.6		51.7	48.8	54.4		48.9	48.9	77.6		66.1	63.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	60.7		57.7	52.2	61.6		51.7	48.8	54.4		48.9	48.9	77.6		66.1	63.0
LOS by Move:	E		E	D	E		D	D	D		D	D	E		E	E
HCM2kAvgQ:	198		330	123	293		264	127	322		424	424	183		233	114

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #35: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8    44    10     4    40    11    10    67     7    11    67    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    8    44    10     4    40    11    10    67     7    11    67    12
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    8    44    10     4    40    11    10    67     7    11    67    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     8    44    10     4    40    11    10    67     7    11    67    12
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    8    44    10     4    40    11    10    67     7    11    67    12
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    8    44    10     4    40    11    10    67     7    11    67    12
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.13 0.71  0.16  0.07 0.73  0.20  0.12 0.80  0.08  0.12 0.75  0.13
Final Sat.:   105  578   131    60  596   164    99  662    69   102  624   112
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.08  0.08  0.07 0.07  0.07  0.10 0.10  0.10  0.11 0.11  0.11
Crit Moves:        ****              ****        ****              ****
Delay/Veh:    7.6  7.6   7.6   7.5  7.5   7.5   7.7  7.7   7.7   7.7  7.7   7.7
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.6  7.6   7.6   7.5  7.5   7.5   7.7  7.7   7.7   7.7  7.7   7.7
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       7.6              7.5              7.7              7.7
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.6              7.5              7.7              7.7
LOS by Appr:         A                A                A                A
AllWayAvgQ:   1.9  1.9   1.9   1.7  1.7   1.7   2.6  2.6   2.6   2.8  2.8   2.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #35 15th St / O St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    8   44    10     4   40    11    10   67     7    11   67    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             174
Minor Approach Volume:           62
Minor Approach Volume Threshold: 686
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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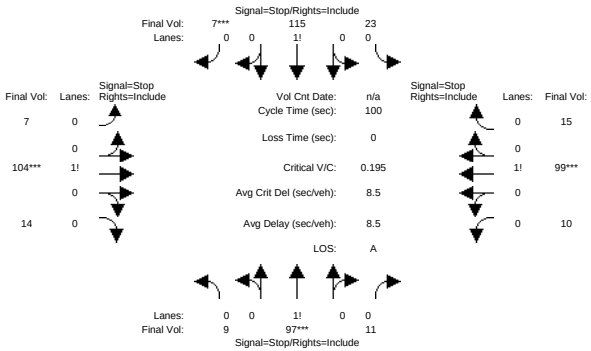
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #35: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9    97    11    23   115     7     7   104    14    10    99    15
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    9    97    11    23   115     7     7   104    14    10    99    15
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    9    97    11    23   115     7     7   104    14    10    99    15
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     9    97    11    23   115     7     7   104    14    10    99    15
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    9    97    11    23   115     7     7   104    14    10    99    15
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    9    97    11    23   115     7     7   104    14    10    99    15
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.08  0.83  0.09  0.16  0.79  0.05  0.06  0.83  0.11  0.08  0.80  0.12
Final Sat.:    57   617    70   118   591    36    42   620    83    60   595    90
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16  0.16  0.16  0.19  0.19  0.19  0.17  0.17  0.17  0.17  0.17  0.17
Crit Moves:        ****                    ****        ****              ****
Delay/Veh:    8.4   8.4   8.4   8.7   8.7   8.7   8.5   8.5   8.5   8.4   8.4   8.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.4   8.4   8.4   8.7   8.7   8.7   8.5   8.5   8.5   8.4   8.4   8.4
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:       8.4              8.7              8.5              8.4
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.4              8.7              8.5              8.4
LOS by Appr:         A                A                A                A
AllWayAvgQ:   4.2   4.2   4.2   5.4   5.4   5.4   4.5   4.5   4.5   4.4   4.4   4.4
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #35 15th St / O St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9   97    11    23  115     7     7  104    14    10   99    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             262
Minor Approach Volume:           125
Minor Approach Volume Threshold: 577
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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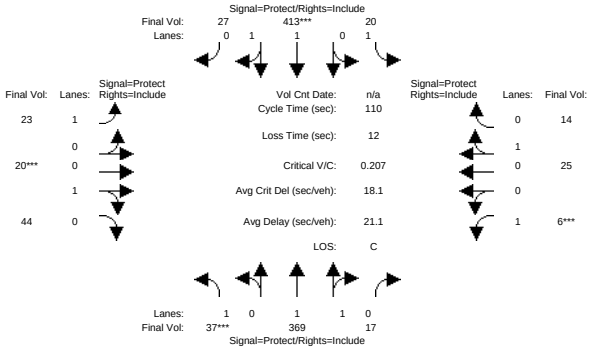
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #36: 16th St / O St



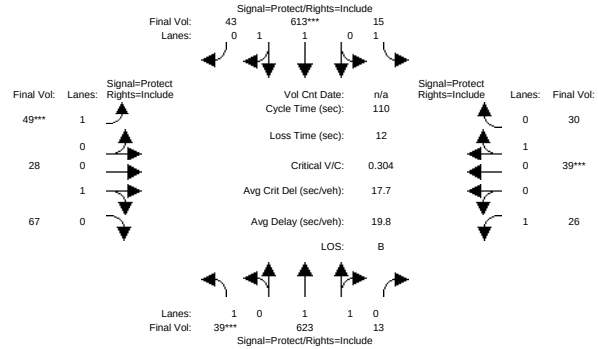
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	37	369	17	20	413	27	23	20	44	6	25	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	369	17	20	413	27	23	20	44	6	25	14
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	37	369	17	20	413	27	23	20	44	6	25	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	369	17	20	413	27	23	20	44	6	25	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	369	17	20	413	27	23	20	44	6	25	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	369	17	20	413	27	23	20	44	6	25	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.91	0.09	1.00	1.88	0.12	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3427	158	1805	3358	220	1805	533	1172	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.02	0.11	0.11	0.01	0.12	0.12	0.01	0.04	0.04	0.00	0.02	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.09	0.41	0.41	0.24	0.56	0.56	0.10	0.17	0.17	0.06	0.14	0.14
Volume/Cap:	0.22	0.26	0.26	0.05	0.22	0.22	0.13	0.22	0.22	0.05	0.16	0.16
Delay/Veh:	46.8	21.4	21.4	31.9	12.1	12.1	45.8	39.6	39.6	48.6	42.0	42.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.8	21.4	21.4	31.9	12.1	12.1	45.8	39.6	39.6	48.6	42.0	42.0
LOS by Move:	D	C	C	C	B	B	D	D	D	D	D	D
HCM2kAvgQ:	33	111	111	13	95	95	20	49	49	6	31	31

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #36: 16th St / O St



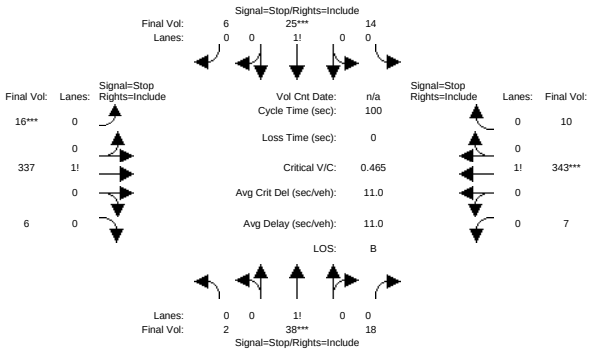
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	39	623	13	15	613	43	49	28	67	26	39	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	623	13	15	613	43	49	28	67	26	39	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	623	13	15	613	43	49	28	67	26	39	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	623	13	15	613	43	49	28	67	26	39	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	623	13	15	613	43	49	28	67	26	39	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	623	13	15	613	43	49	28	67	26	39	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.87	0.13	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3526	74	1805	3340	234	1805	501	1198	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.02	0.18	0.18	0.01	0.18	0.18	0.03	0.06	0.06	0.01	0.04	0.04
Crit Moves:	****				****		****				****	
Green/Cycle:	0.07	0.50	0.50	0.18	0.60	0.60	0.09	0.13	0.13	0.09	0.13	0.13
Volume/Cap:	0.30	0.36	0.36	0.05	0.30	0.30	0.30	0.44	0.44	0.16	0.30	0.30
Delay/Veh:	49.9	17.1	17.1	37.5	10.7	10.7	48.0	45.8	45.8	46.8	44.3	44.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.9	17.1	17.1	37.5	10.7	10.7	48.0	45.8	45.8	46.8	44.3	44.3
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	39	170	170	11	139	139	46	86	86	23	59	59

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #37: 15th St / M St

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Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    38    18    14    25     6    16   337     6     7   343    10
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2    38    18    14    25     6    16   337     6     7   343    10
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    2    38    18    14    25     6    16   337     6     7   343    10
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     2    38    18    14    25     6    16   337     6     7   343    10
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    2    38    18    14    25     6    16   337     6     7   343    10
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    2    38    18    14    25     6    16   337     6     7   343    10
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.03  0.66  0.31  0.31  0.56  0.13  0.04  0.94  0.02  0.02  0.95  0.03
Final Sat.:    21   393   186   180   322    77    34   724    13    15   737    21
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10  0.10  0.10  0.08  0.08  0.08  0.47  0.47  0.47  0.47  0.47  0.47
Crit Moves:        ****              ****        ****                    ****
Delay/Veh:    8.8   8.8   8.8   8.9   8.9   8.9  11.3  11.3  11.3  11.3  11.3  11.3
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.8   8.8   8.8   8.9   8.9   8.9  11.3  11.3  11.3  11.3  11.3  11.3
LOS by Move:    A     A     A     A     A     A     B     B     B     B     B     B
ApproachDel:       8.8               8.9              11.3              11.3
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:        8.8               8.9              11.3              11.3
LOS by Appr:         A                 A                 B                 B
AllWayAvgQ:   2.1   2.1   2.1   1.6   1.6   1.6  20.1  20.1  20.1  20.2  20.2  20.2
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #37 15th St / M St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2   38    18    14   25     6    16  337     6     7  343    10
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             719
Minor Approach Volume:           58
Minor Approach Volume Threshold: 307
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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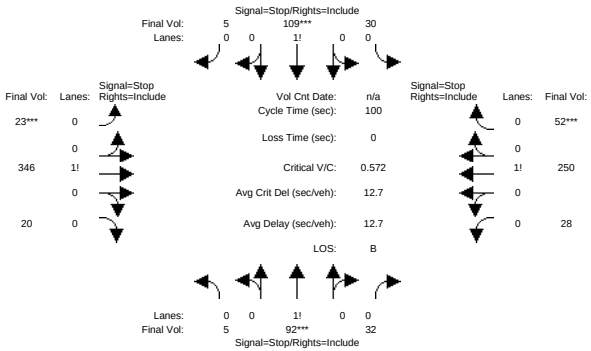
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #37: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    92    32    30   109     5    23   346    20    28   250    52
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    5    92    32    30   109     5    23   346    20    28   250    52
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    5    92    32    30   109     5    23   346    20    28   250    52
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     5    92    32    30   109     5    23   346    20    28   250    52
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    5    92    32    30   109     5    23   346    20    28   250    52
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    5    92    32    30   109     5    23   346    20    28   250    52
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.04  0.71  0.25  0.21  0.76  0.03  0.06  0.89  0.05  0.08  0.76  0.16
Final Sat.:    21   394   137   114   414    19    40   605    35    57   509   106
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23  0.23  0.23  0.26  0.26  0.26  0.57  0.57  0.57  0.49  0.49  0.49
Crit Moves:        ****              ****        ****                        ****
Delay/Veh:   10.3  10.3  10.3  10.7  10.7  10.7  14.3  14.3  14.3  12.6  12.6  12.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.3  10.3  10.3  10.7  10.7  10.7  14.3  14.3  14.3  12.6  12.6  12.6
LOS by Move:    B     B     B     B     B     B     B     B     B     B     B     B
ApproachDel:       10.3              10.7              14.3              12.6
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        10.3              10.7              14.3              12.6
LOS by Appr:          B                 B                 B                 B
AllWayAvgQ:    5.7   5.7   5.7   6.9   6.9   6.9  29.0  29.0  29.0  21.0  21.0  21.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #37 15th St / M St
*******************************************************************************
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Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5    92    32    30   109     5    23   346    20    28   250    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             719
Minor Approach Volume:           144
Minor Approach Volume Threshold: 307
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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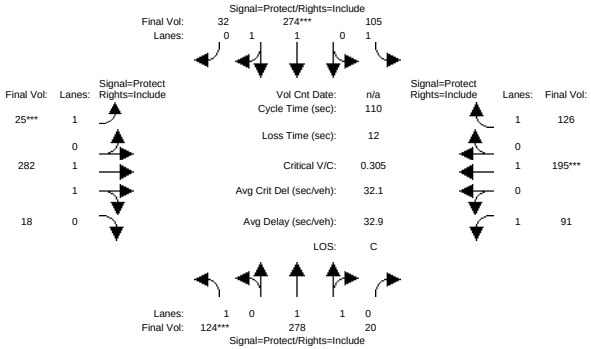
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #38: 16th St / M St



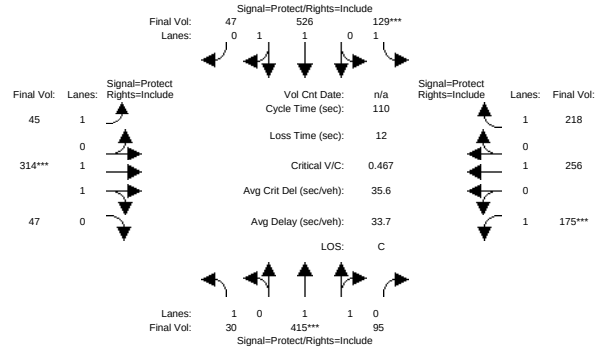
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	124	278	20	105	274	32	25	282	18	91	195	126
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	278	20	105	274	32	25	282	18	91	195	126
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	278	20	105	274	32	25	282	18	91	195	126
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	278	20	105	274	32	25	282	18	91	195	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	278	20	105	274	32	25	282	18	91	195	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	278	20	105	274	32	25	282	18	91	195	126
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.93	0.93	0.95	0.94	0.94	0.95	1.00	0.85
Lanes:	1.00	1.87	0.13	1.00	1.79	0.21	1.00	1.88	0.12	1.00	1.00	1.00
Final Sat.:	1805	3334	240	1805	3181	371	1805	3363	215	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.08	0.08	0.06	0.09	0.09	0.01	0.08	0.08	0.05	0.10	0.08
Crit Moves:	****				****		****				****	
Green/Cycle:	0.22	0.29	0.29	0.20	0.28	0.28	0.06	0.23	0.23	0.16	0.33	0.33
Volume/Cap:	0.31	0.28	0.28	0.28	0.31	0.31	0.22	0.36	0.36	0.31	0.31	0.24
Delay/Veh:	36.3	30.2	30.2	37.3	31.7	31.7	49.9	35.7	35.7	41.3	27.8	27.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.3	30.2	30.2	37.3	31.7	31.7	49.9	35.7	35.7	41.3	27.8	27.0
LOS by Move:	D	C	C	D	C	C	D	D	D	D	C	C
HCM2kAvgQ:	84	98	98	78	109	109	25	115	115	65	118	74

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #38: 16th St / M St



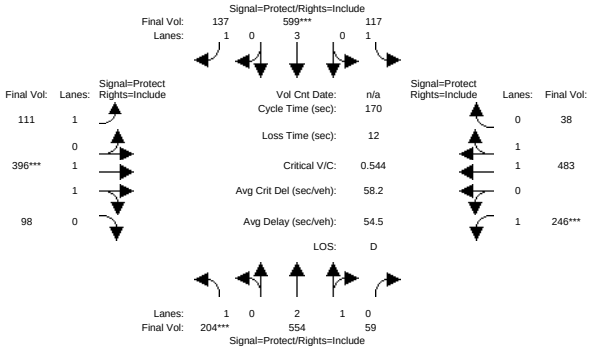
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	30	415	95	129	526	47	45	314	47	175	256	218
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	415	95	129	526	47	45	314	47	175	256	218
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	30	415	95	129	526	47	45	314	47	175	256	218
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	415	95	129	526	47	45	314	47	175	256	218
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	415	95	129	526	47	45	314	47	175	256	218
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	30	415	95	129	526	47	45	314	47	175	256	218
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.94	0.94	0.95	0.93	0.93	0.95	1.00	0.85
Lanes:	1.00	1.63	0.37	1.00	1.84	0.16	1.00	1.74	0.26	1.00	1.00	1.00
Final Sat.:	1805	2855	654	1805	3274	293	1805	3080	461	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.15	0.15	0.07	0.16	0.16	0.02	0.10	0.10	0.10	0.13	0.13
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.31	0.31	0.15	0.33	0.33	0.14	0.22	0.22	0.21	0.29	0.29
Volume/Cap:	0.13	0.47	0.47	0.47	0.48	0.48	0.18	0.47	0.47	0.47	0.47	0.47
Delay/Veh:	42.4	30.8	30.8	43.7	29.5	29.5	42.4	37.9	37.9	39.1	32.7	32.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.4	30.8	30.8	43.7	29.5	29.5	42.4	37.9	37.9	39.1	32.7	32.8
LOS by Move:	D	C	C	D	C	C	D	D	D	D	C	C
HCM2kAvgQ:	21	174	174	111	206	206	36	148	148	126	171	147

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #39: Olive Ave / M St



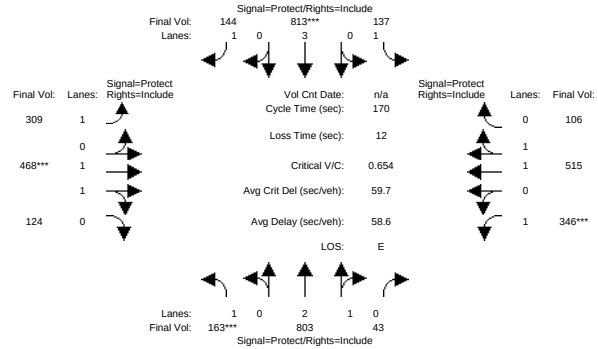
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	204		554	59	117		599	137	111		396	98	246		483	38
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	204		554	59	117		599	137	111		396	98	246		483	38
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	204		554	59	117		599	137	111		396	98	246		483	38
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	204		554	59	117		599	137	111		396	98	246		483	38
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	204		554	59	117		599	137	111		396	98	246		483	38
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	204		554	59	117		599	137	111		396	98	246		483	38
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.91	0.85	0.95		0.92	0.92	0.95		0.94	0.94
Lanes:	1.00		2.71	0.29	1.00		3.00	1.00	1.00		1.60	0.40	1.00		1.85	0.15
Final Sat.:	1805		4622	492	1805		5187	1615	1805		2807	695	1805		3310	260
Capacity Analysis Module:																
Vol/Sat:	0.11		0.12	0.12	0.06		0.12	0.08	0.06		0.14	0.14	0.14		0.15	0.15
Crit Moves:	****						****				****		****			
Green/Cycle:	0.21		0.27	0.27	0.15		0.21	0.21	0.15		0.26	0.26	0.25		0.36	0.36
Volume/Cap:	0.54		0.44	0.44	0.44		0.54	0.40	0.41		0.54	0.54	0.54		0.41	0.41
Delay/Veh:	61.8		51.3	51.3	67.2		60.2	58.4	66.3		55.0	55.0	56.7		41.2	41.2
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	61.8		51.3	51.3	67.2		60.2	58.4	66.3		55.0	55.0	56.7		41.2	41.2
LOS by Move:	E		D	D	E		E	E	E		D	D	E		D	D
HCM2kAvgQ:	228		229	229	134		246	147	135		293	293	281		260	260

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #39: Olive Ave / M St



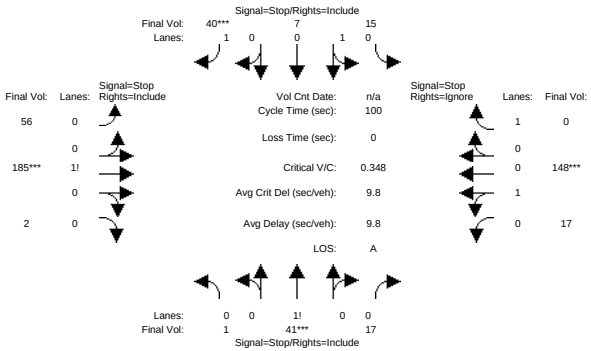
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	163		803	43	137		813	144	309		468	124	346		515	106
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	163		803	43	137		813	144	309		468	124	346		515	106
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	163		803	43	137		813	144	309		468	124	346		515	106
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	163		803	43	137		813	144	309		468	124	346		515	106
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	163		803	43	137		813	144	309		468	124	346		515	106
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	163		803	43	137		813	144	309		468	124	346		515	106
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.91	0.85	0.95		0.92	0.92	0.95		0.93	0.93
Lanes:	1.00		2.85	0.15	1.00		3.00	1.00	1.00		1.58	0.42	1.00		1.66	0.34
Final Sat.:	1805		4884	262	1805		5187	1615	1805		2765	733	1805		2916	600
Capacity Analysis Module:																
Vol/Sat:	0.09		0.16	0.16	0.08		0.16	0.09	0.17		0.17	0.17	0.19		0.18	0.18
Crit Moves:	****						****				****		****			
Green/Cycle:	0.14		0.26	0.26	0.12		0.24	0.24	0.27		0.26	0.26	0.29		0.28	0.28
Volume/Cap:	0.65		0.64	0.64	0.64		0.65	0.37	0.63		0.65	0.65	0.65		0.63	0.63
Delay/Veh:	75.6		57.0	57.0	77.5		59.5	54.6	57.1		58.0	58.0	55.5		54.8	54.8
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	75.6		57.0	57.0	77.5		59.5	54.6	57.1		58.0	58.0	55.5		54.8	54.8
LOS by Move:	E		E	E	E		E	D	E		E	E	E		D	D
HCM2kAvgQ:	197		345	345	169		342	149	360		372	372	401		377	377

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #40: 2nd St / Grogan Ave / Northwest Ave

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Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   41    17    15    7    40    56  185     2    17  148    52
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   41    17    15    7    40    56  185     2    17  148    52
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   41    17    15    7    40    56  185     2    17  148    52
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     1   41    17    15    7    40    56  185     2    17  148     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1   41    17    15    7    40    56  185     2    17  148     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    1   41    17    15    7    40    56  185     2    17  148     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.69  0.29  0.68 0.32  1.00  0.23 0.76  0.01  0.10 0.90  1.00
Final Sat.:    11  431   179   390  182   685   161  532     6    71  621   809
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.10  0.04 0.04  0.06  0.35 0.35  0.35  0.24 0.24  0.00
Crit Moves:        ****                    ****       ****              ****
Delay/Veh:    9.0  9.0   9.0   8.8  8.8   7.9  10.7 10.7  10.7   9.3  9.3   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.0  9.0   9.0   8.8  8.8   7.9  10.7 10.7  10.7   9.3  9.3   0.0
LOS by Move:    A    A     A     A    A     A     B    B     B     A    A     *
ApproachDel:       9.0              8.2             10.7              9.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        9.0              8.2             10.7              9.3
LOS by Appr:         A                A                B                A
AllWayAvgQ:   2.3  2.3   2.3   0.9  0.9   1.3  12.6 12.6  12.6   7.4  7.4   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #40 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
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Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   41    17    15    7    40    56  185     2    17  148    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             460
Minor Approach Volume:           62
Minor Approach Volume Threshold: 708
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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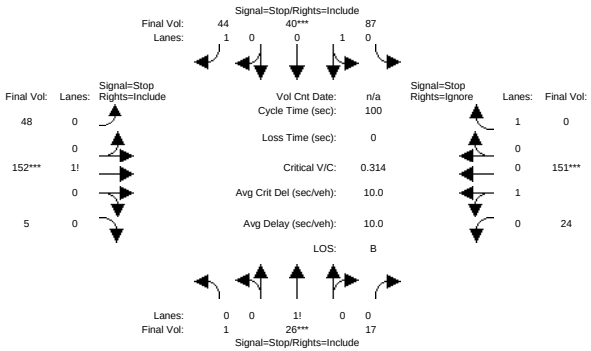
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #40: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue              Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   26    17    87   40    44    48  152     5    24  151    45
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   26    17    87   40    44    48  152     5    24  151    45
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   26    17    87   40    44    48  152     5    24  151    45
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     1   26    17    87   40    44    48  152     5    24  151     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1   26    17    87   40    44    48  152     5    24  151     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    1   26    17    87   40    44    48  152     5    24  151     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.69 0.31  1.00  0.23 0.75  0.02  0.14 0.86  1.00
Final Sat.:    14  359   234   400  184   701   153  485    16    89  560   751
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.07  0.22 0.22  0.06  0.31 0.31  0.31  0.27 0.27  0.00
Crit Moves:        ****              ****              ****              ****
Delay/Veh:    8.9  8.9   8.9  10.1 10.1   7.8  10.7 10.7  10.7   9.9  9.9   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.9  8.9   8.9  10.1 10.1   7.8  10.7 10.7  10.7   9.9  9.9   0.0
LOS by Move:    A    A     A     B    B     A     B    B     B     A    A     *
ApproachDel:       8.9               9.5              10.7               9.9
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:        8.9               9.5              10.7               9.9
LOS by Appr:         A                 A                 B                 A
AllWayAvgQ:   1.7  1.7   1.7   6.2  6.2   1.5  10.6 10.6  10.6   8.5  8.5   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #40 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   26    17    87   40    44    48  152     5    24  151    45
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             425
Minor Approach Volume:           171
Minor Approach Volume Threshold: 742
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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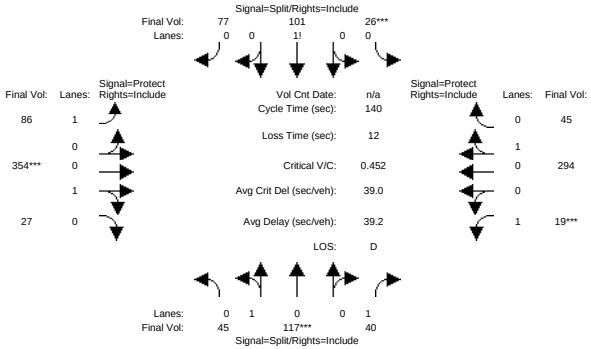
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #41: Childs Ave / Martin Luther King Wy



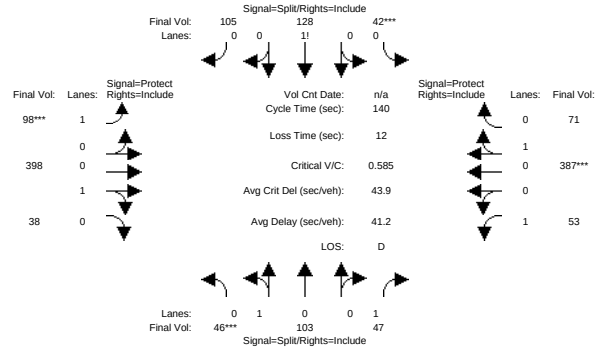
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	45	117	40	26	101	77	86	354	27	19	294	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	117	40	26	101	77	86	354	27	19	294	45
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	45	117	40	26	101	77	86	354	27	19	294	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	45	117	40	26	101	77	86	354	27	19	294	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	45	117	40	26	101	77	86	354	27	19	294	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	45	117	40	26	101	77	86	354	27	19	294	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.13	0.49	0.38	1.00	0.93	0.07	1.00	0.87	0.13
Final Sat.:	520	1353	1615	228	887	676	1805	1746	133	1805	1615	247
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.02	0.11	0.11	0.11	0.05	0.20	0.20	0.01	0.18	0.18
Crit Moves:		****		****				****		****		
Green/Cycle:	0.19	0.19	0.19	0.24	0.24	0.24	0.10	0.43	0.43	0.05	0.38	0.38
Volume/Cap:	0.47	0.47	0.13	0.47	0.47	0.47	0.46	0.47	0.47	0.21	0.48	0.48
Delay/Veh:	51.8	51.8	47.8	45.9	45.9	45.9	60.7	28.5	28.5	65.0	33.4	33.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.8	51.8	47.8	45.9	45.9	45.9	60.7	28.5	28.5	65.0	33.4	33.4
LOS by Move:	D	D	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	162	162	36	190	190	190	98	284	284	19	265	265

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #41: Childs Ave / Martin Luther King Wy



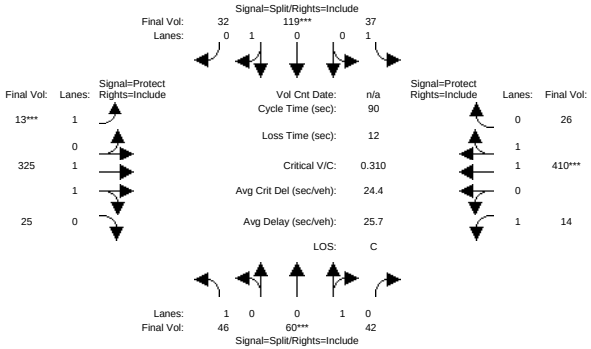
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	46	103	47	42	128	105	98	398	38	53	387	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	103	47	42	128	105	98	398	38	53	387	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	103	47	42	128	105	98	398	38	53	387	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	103	47	42	128	105	98	398	38	53	387	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	103	47	42	128	105	98	398	38	53	387	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	103	47	42	128	105	98	398	38	53	387	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.31	0.69	1.00	0.15	0.47	0.38	1.00	0.91	0.09	1.00	0.84	0.16
Final Sat.:	578	1294	1615	273	832	682	1805	1712	163	1805	1569	288
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.03	0.15	0.15	0.15	0.05	0.23	0.23	0.03	0.25	0.25
Crit Moves:	****			****			****				****	
Green/Cycle:	0.14	0.14	0.14	0.26	0.26	0.26	0.09	0.42	0.42	0.09	0.42	0.42
Volume/Cap:	0.58	0.58	0.21	0.58	0.58	0.58	0.58	0.55	0.55	0.32	0.58	0.58
Delay/Veh:	60.2	60.2	54.3	46.8	46.8	46.8	66.1	31.1	31.1	60.7	32.2	32.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.2	60.2	54.3	46.8	46.8	46.8	66.1	31.1	31.1	60.7	32.2	32.2
LOS by Move:	E	E	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	168	168	47	266	266	266	122	348	348	51	364	364

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #42: 13th St / Martin Luther King Wy



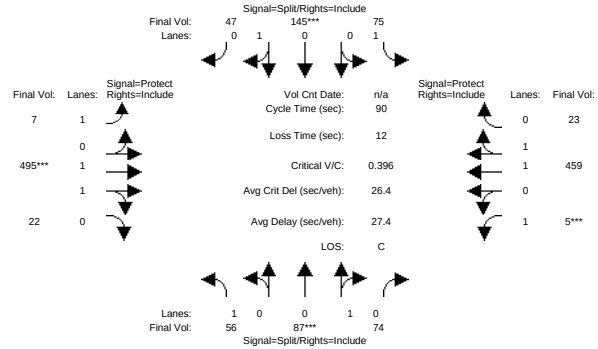
Street Name:	13th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	46	60	42	37	119	32	13	325	25	14	410	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	60	42	37	119	32	13	325	25	14	410	26
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	60	42	37	119	32	13	325	25	14	410	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	60	42	37	119	32	13	325	25	14	410	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	60	42	37	119	32	13	325	25	14	410	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	60	42	37	119	32	13	325	25	14	410	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.97	0.97	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.59	0.41	1.00	0.79	0.21	1.00	1.86	0.14	1.00	1.88	0.12
Final Sat.:	1805	1048	734	1805	1449	390	1805	3315	255	1805	3364	213
Capacity Analysis Module:												
Vol/Sat:	0.03	0.06	0.06	0.02	0.08	0.08	0.01	0.10	0.10	0.01	0.12	0.12
Crit Moves:		****			****		****				****	
Green/Cycle:	0.17	0.17	0.17	0.25	0.25	0.25	0.08	0.26	0.26	0.18	0.37	0.37
Volume/Cap:	0.15	0.33	0.33	0.08	0.33	0.33	0.09	0.37	0.37	0.04	0.33	0.33
Delay/Veh:	31.8	33.3	33.3	26.1	28.2	28.2	38.8	27.4	27.4	30.3	20.6	20.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.8	33.3	33.3	26.1	28.2	28.2	38.8	27.4	27.4	30.3	20.6	20.6
LOS by Move:	C	C	C	C	C	C	D	C	C	C	C	C
HCM2kAvgQ:	29	68	68	20	90	90	8	100	100	8	110	110

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #42: 13th St / Martin Luther King Wy



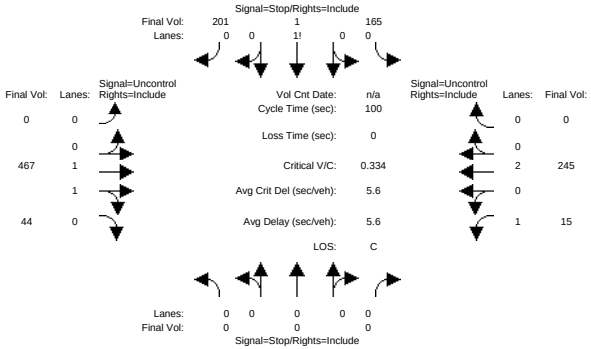
Street Name:	13th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	56	87	74	75	145	47	7	495	22	5	459	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	87	74	75	145	47	7	495	22	5	459	23
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	87	74	75	145	47	7	495	22	5	459	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	87	74	75	145	47	7	495	22	5	459	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	87	74	75	145	47	7	495	22	5	459	23
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	87	74	75	145	47	7	495	22	5	459	23
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	0.95	0.96	0.96	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.54	0.46	1.00	0.76	0.24	1.00	1.91	0.09	1.00	1.90	0.10
Final Sat.:	1805	956	813	1805	1382	448	1805	3436	153	1805	3414	171
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.09	0.04	0.10	0.10	0.00	0.14	0.14	0.00	0.13	0.13
Crit Moves:		****			****			****		****		
Green/Cycle:	0.21	0.21	0.21	0.24	0.24	0.24	0.15	0.33	0.33	0.08	0.26	0.26
Volume/Cap:	0.15	0.43	0.43	0.17	0.43	0.43	0.03	0.43	0.43	0.04	0.52	0.52
Delay/Veh:	29.1	31.6	31.6	27.1	29.4	29.4	32.6	23.6	23.6	38.5	28.9	28.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.1	31.6	31.6	27.1	29.4	29.4	32.6	23.6	23.6	38.5	28.9	28.9
LOS by Move:	C	C	C	C	C	C	C	C	C	D	C	C
HCM2kAvgQ:	33	106	106	42	120	120	4	140	140	3	147	147

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy

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Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   165    1   201     0  467    44    15  245     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   165    1   201     0  467    44    15  245     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   165    1   201     0  467    44    15  245     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   165    1   201     0  467    44    15  245     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   165    1   201     0  467    44    15  245     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   509  786   123  xxxx xxxx xxxxx   511 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   499  326   912  xxxx xxxx xxxxx  1065 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   494  322   912  xxxx xxxx xxxxx  1065 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.33 0.00  0.22  xxxx xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  658 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 17.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             17.2           xxxxxx           xxxxxx
ApproachLOS:         *              C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   165    1   201     0  467    44    15  245     0
ApproachDel:    xxxxxx              17.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=367]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1138]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

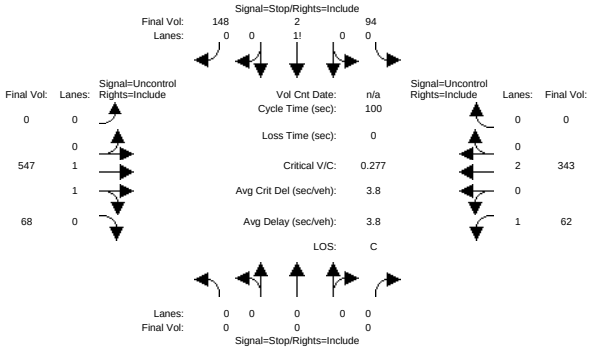
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   165    1   201     0  467    44    15  245     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             771
Minor Approach Volume:           367
Minor Approach Volume Threshold: 374
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    94    2   148     0  547    68    62  343     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    94    2   148     0  547    68    62  343     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    94    2   148     0  547    68    62  343     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    94    2   148     0  547    68    62  343     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    94    2   148     0  547    68    62  343     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   741 1082   172  xxxx xxxx xxxxx   615 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   356  219   849  xxxx xxxx xxxxx   974 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   339  205   849  xxxx xxxx xxxxx   974 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.28 0.01  0.17  xxxx xxxx  xxxx  0.06 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  529 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 17.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             17.5           xxxxxx           xxxxxx
ApproachLOS:         *              C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0    94    2   148     0  547    68    62  343     0
ApproachDel:    xxxxxx              17.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=244]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1264]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

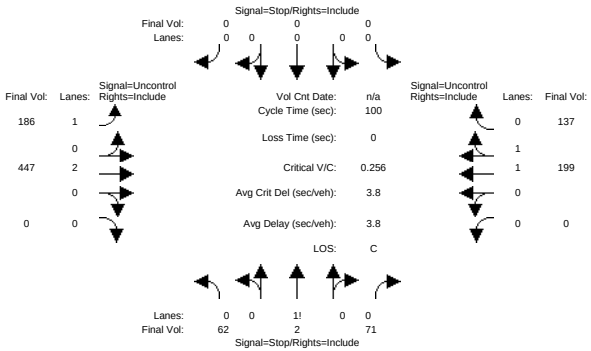
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0    94    2   148     0  547    68    62  343     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1020
Minor Approach Volume:           244
Minor Approach Volume Threshold: 278
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62    2    71     0    0     0   186  447     0     0  199   137
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62    2    71     0    0     0   186  447     0     0  199   137
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   62    2    71     0    0     0   186  447     0     0  199   137
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    62    2    71     0    0     0   186  447     0     0  199   137
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62    2    71     0    0     0   186  447     0     0  199   137
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  919 1155   224  xxxx xxxx xxxxx   336 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  274  199   786  xxxx xxxx xxxxx  1235 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    243  169   786  xxxx xxxx xxxxx  1235 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.26 0.01  0.09  xxxx xxxx  xxxx  0.15 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  13.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  377 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 19.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      19.8           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   62    2    71     0    0     0   186  447     0     0  199   137
ApproachDel:      19.8           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=135]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1104]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

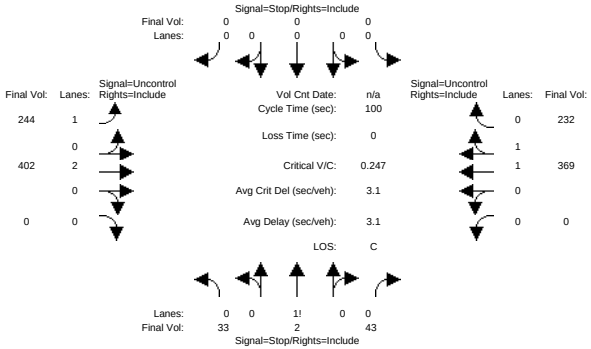
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   62    2    71     0    0     0   186  447     0     0  199   137
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             969
Minor Approach Volume:           135
Minor Approach Volume Threshold: 296
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    2    43     0    0     0   244  402     0     0  369   232
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   33    2    43     0    0     0   244  402     0     0  369   232
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   33    2    43     0    0     0   244  402     0     0  369   232
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    33    2    43     0    0     0   244  402     0     0  369   232
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   33    2    43     0    0     0   244  402     0     0  369   232
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1075 1491   201  xxxx xxxx xxxxx   601 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  218  125   813  xxxx xxxx xxxxx   986 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    176   94   813  xxxx xxxx xxxxx   986 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.19 0.02  0.05  xxxx xxxx  xxxx  0.25 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  24.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  298 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 21.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      21.3           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   244  402     0     0  369   232
ApproachDel:      21.3           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=78]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1325]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

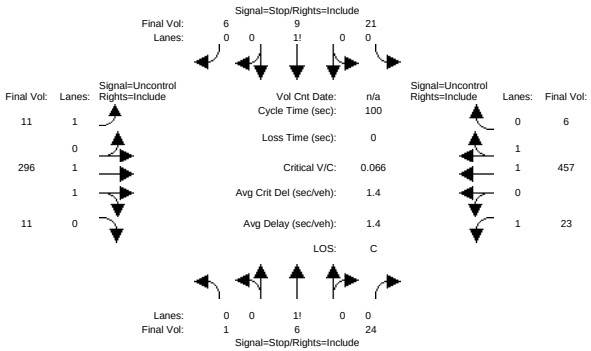
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   244  402     0     0  369   232
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1247
Minor Approach Volume:           78
Minor Approach Volume Threshold: 209
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1    6    24    21    9     6    11  296    11    23  457     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1    6    24    21    9     6    11  296    11    23  457     6
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1    6    24    21    9     6    11  296    11    23  457     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1    6    24    21    9     6    11  296    11    23  457     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1    6    24    21    9     6    11  296    11    23  457     6
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  603  833   154   679  835   232   463 xxxx xxxxx   307 xxxx xxxxx
Potent Cap.:  387  307   871   341  306   777  1109 xxxx xxxxx  1265 xxxx xxxxx
Move Cap.:    368  298   871   320  297   777  1109 xxxx xxxxx  1265 xxxx xxxxx
Volume/Cap:  0.00 0.02  0.03  0.07 0.03  0.01  0.01 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.8 xxxx xxxxx   1.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx   7.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  615 xxxxx  xxxx  347 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 11.2 xxxxx xxxxx 16.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    C     *     *    *     *     *    *     *
ApproachDel:      11.2             16.6           xxxxxx           xxxxxx
ApproachLOS:         B                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1    6    24    21    9     6    11  296    11    23  457     6
ApproachDel:      11.2             16.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=871]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=36]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=871]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

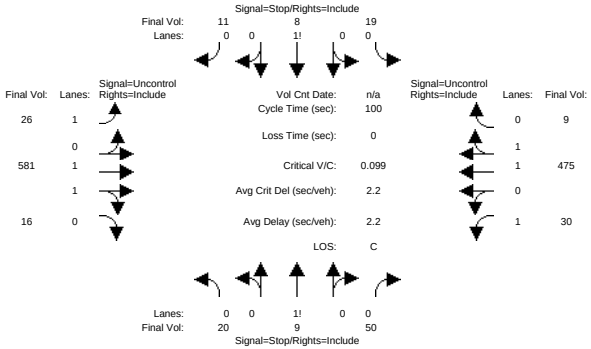
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1    6    24    21    9     6    11  296    11    23  457     6
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             804
Minor Approach Volume:           36
Minor Approach Volume Threshold: 360
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20    9    50    19    8    11    26  581    16    30  475     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   20    9    50    19    8    11    26  581    16    30  475     9
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20    9    50    19    8    11    26  581    16    30  475     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20    9    50    19    8    11    26  581    16    30  475     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20    9    50    19    8    11    26  581    16    30  475     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  943 1185   299   887 1189   242   484 xxxx xxxxx   597 xxxx xxxxx
Potent Cap.:  220  191   704   242  190   765  1089 xxxx xxxxx   989 xxxx xxxxx
Move Cap.:    201  180   704   208  180   765  1089 xxxx xxxxx   989 xxxx xxxxx
Volume/Cap:  0.10 0.05  0.07  0.09 0.04  0.01  0.02 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.8 xxxx xxxxx   2.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx   8.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  359 xxxxx  xxxx  252 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.8 xxxxx xxxxx  0.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 17.8 xxxxx xxxxx 21.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     *    *     *     *    *     *
ApproachDel:      17.8             21.8           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20    9    50    19    8    11    26  581    16    30  475     9
ApproachDel:      17.8             21.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=79]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1254]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=38]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1254]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

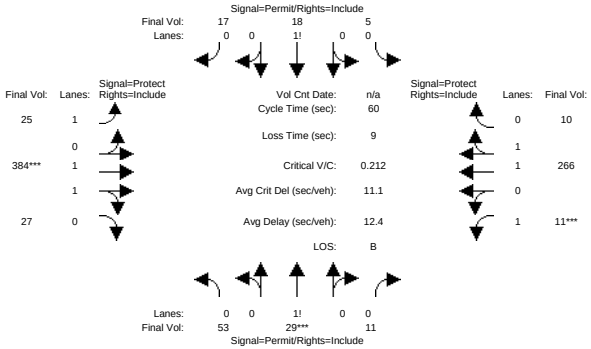
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20    9    50    19    8    11    26  581    16    30  475     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1137
Minor Approach Volume:           79
Minor Approach Volume Threshold: 241
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #46: 15th St / Martin Luther King Wy



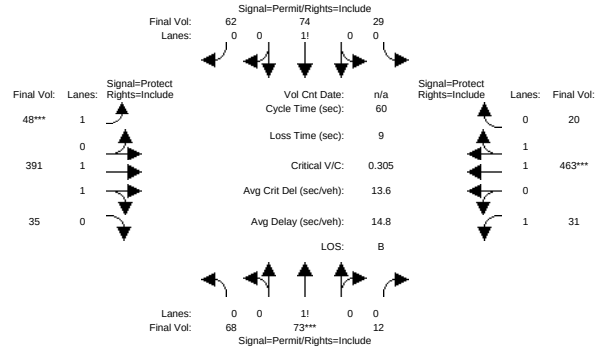
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	29	11	5	18	17	25	384	27	11	266	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	29	11	5	18	17	25	384	27	11	266	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	29	11	5	18	17	25	384	27	11	266	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	29	11	5	18	17	25	384	27	11	266	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	29	11	5	18	17	25	384	27	11	266	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	29	11	5	18	17	25	384	27	11	266	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.82	0.82	0.82	0.92	0.92	0.92	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.57	0.31	0.12	0.13	0.45	0.42	1.00	1.87	0.13	1.00	1.93	0.07
Final Sat.:	893	489	185	218	784	741	1805	3339	235	1805	3462	130
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.06	0.02	0.02	0.02	0.01	0.12	0.12	0.01	0.08	0.08
Crit Moves:		****						****		****		
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.48	0.48	0.12	0.35	0.35
Volume/Cap:	0.24	0.24	0.24	0.09	0.09	0.09	0.06	0.24	0.24	0.05	0.22	0.22
Delay/Veh:	18.3	18.3	18.3	17.4	17.4	17.4	17.3	9.1	9.1	23.7	13.7	13.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.3	18.3	18.3	17.4	17.4	17.4	17.3	9.1	9.1	23.7	13.7	13.7
LOS by Move:	B	B	B	B	B	B	B	A	A	C	B	B
HCM2kAvgQ:	39	39	39	15	15	15	8	56	56	4	45	45

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #46: 15th St / Martin Luther King Wy



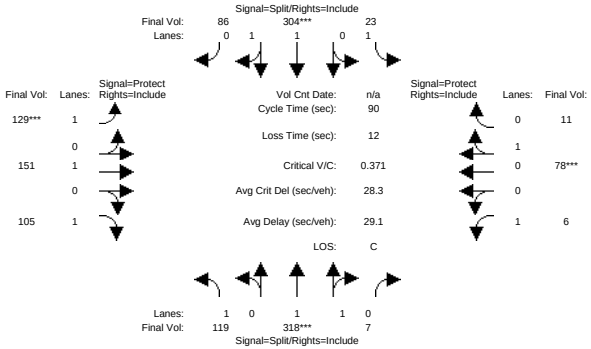
Street Name:	15th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	68	73	12	29	74	62	48	391	35	31	463	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	68	73	12	29	74	62	48	391	35	31	463	20
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68	73	12	29	74	62	48	391	35	31	463	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	73	12	29	74	62	48	391	35	31	463	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	73	12	29	74	62	48	391	35	31	463	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	73	12	29	74	62	48	391	35	31	463	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.82	0.82	0.82	0.89	0.89	0.89	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	0.44	0.48	0.08	0.18	0.45	0.37	1.00	1.84	0.16	1.00	1.92	0.08
Final Sat.:	691	741	122	298	759	636	1805	3274	293	1805	3440	149
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.10	0.10	0.10	0.10	0.03	0.12	0.12	0.02	0.13	0.13
Crit Moves:		****					****				****	
Green/Cycle:	0.31	0.31	0.31	0.31	0.31	0.31	0.12	0.32	0.32	0.22	0.42	0.42
Volume/Cap:	0.32	0.32	0.32	0.31	0.31	0.31	0.23	0.38	0.38	0.08	0.32	0.32
Delay/Veh:	16.2	16.2	16.2	16.2	16.2	16.2	24.6	16.1	16.1	18.5	11.6	11.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.2	16.2	16.2	16.2	16.2	16.2	24.6	16.1	16.1	18.5	11.6	11.6
LOS by Move:	B	B	B	B	B	B	C	B	B	B	B	B
HCM2kAvgQ:	60	60	60	64	64	64	20	78	78	11	75	75

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #47: 16th St / Martin Luther King Wy

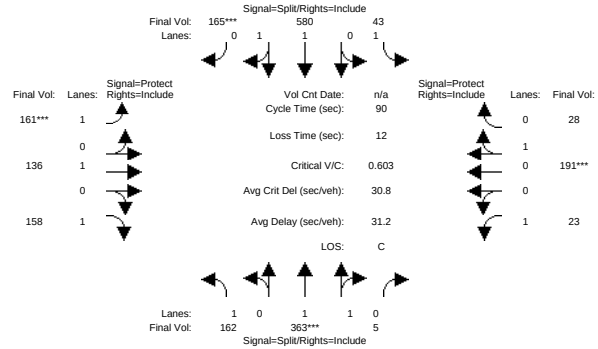



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119  318     7   23  304    86  129  151   105    6   78    11
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  119  318     7   23  304    86  129  151   105    6   78    11
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  119  318     7   23  304    86  129  151   105    6   78    11
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   119  318     7   23  304    86  129  151   105    6   78    11
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  119  318     7   23  304    86  129  151   105    6   78    11
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  119  318     7   23  304    86  129  151   105    6   78    11
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.92  0.92 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.96  0.04 1.00 1.56  0.44 1.00 1.00  1.00 1.00 0.88  0.12
Final Sat.:  1805 3522    78 1805 2721   770 1805 1900  1615 1805 1634   230
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.09  0.09 0.01 0.11  0.11 0.07 0.08  0.07 0.00 0.05  0.05
Crit Moves:        ****            ****       ****                ****
Green/Cycle: 0.24 0.24  0.24 0.30 0.30  0.30 0.19 0.19  0.19 0.13 0.13  0.13
Volume/Cap:  0.27 0.37  0.37 0.04 0.37  0.37 0.37 0.42  0.34 0.03 0.37  0.37
Delay/Veh:   27.9 28.6  28.6 22.3 24.9  24.9 32.2 32.9  32.3 34.0 36.8  36.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  27.9 28.6  28.6 22.3 24.9  24.9 32.2 32.9  32.3 34.0 36.8  36.8
LOS by Move:    C    C     C    C    C     C    C    C     C    C    D     D
HCM2kAvgQ:     69  103   103   11  108   108   75   90    61    3   55    55
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #47: 16th St / Martin Luther King Wy

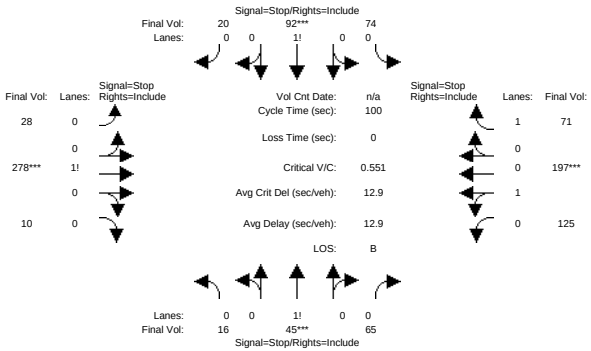



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     162  363     5   43  580   165  161  136   158   23  191    28
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  162  363     5   43  580   165  161  136   158   23  191    28
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  162  363     5   43  580   165  161  136   158   23  191    28
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   162  363     5   43  580   165  161  136   158   23  191    28
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  162  363     5   43  580   165  161  136   158   23  191    28
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  162  363     5   43  580   165  161  136   158   23  191    28
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.92  0.92 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.97  0.03 1.00 1.56  0.44 1.00 1.00  1.00 1.00 0.87  0.13
Final Sat.:  1805 3554    49 1805 2718   773 1805 1900  1615 1805 1626   238
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.10  0.10 0.02 0.21  0.21 0.09 0.07  0.10 0.01 0.12  0.12
Crit Moves:        ****                ****  ****                ****
Green/Cycle: 0.17 0.17  0.17 0.35 0.35  0.35 0.15 0.20  0.20 0.14 0.19  0.19
Volume/Cap:  0.53 0.60  0.60 0.07 0.60  0.60 0.60 0.35  0.48 0.09 0.60  0.60
Delay/Veh:   35.9 36.3  36.3 19.3 24.7  24.7 39.7 31.5  32.9 33.8 35.9  35.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  35.9 36.3  36.3 19.3 24.7  24.7 39.7 31.5  32.9 33.8 35.9  35.9
LOS by Move:    D    D     D    B    C     C    D    C     C    C    D     D
HCM2kAvgQ:    119  147   147   19  218   218  105   78    95   13  139   139
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #48: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      16    45    65    74    92    20    28   278    10   125   197    71
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   16    45    65    74    92    20    28   278    10   125   197    71
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   16    45    65    74    92    20    28   278    10   125   197    71
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    16    45    65    74    92    20    28   278    10   125   197    71
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   16    45    65    74    92    20    28   278    10   125   197    71
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   16    45    65    74    92    20    28   278    10   125   197    71
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.13  0.36  0.51  0.40  0.49  0.11  0.09  0.88  0.03  0.39  0.61  1.00
Final Sat.:    70   198   286   221   274    60    56   556    20   227   358   683
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23  0.23  0.23  0.34  0.34  0.34  0.50  0.50  0.50  0.55  0.55  0.10
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   10.3  10.3  10.3  11.6  11.6  11.6  13.4  13.4  13.4  15.3  15.3   8.3
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.3  10.3  10.3  11.6  11.6  11.6  13.4  13.4  13.4  15.3  15.3   8.3
LOS by Move:    B     B     B     B     B     B     B     B     B     C     C     A
ApproachDel:       10.3              11.6              13.4              14.1
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        10.3              11.6              13.4              14.1
LOS by Appr:          B                 B                 B                 B
AllWayAvgQ:   5.6   5.6   5.6  10.1  10.1  10.1  21.8  21.8  21.8  27.0  27.0   2.7
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #48 13th St / G St
*******************************************************************************
```



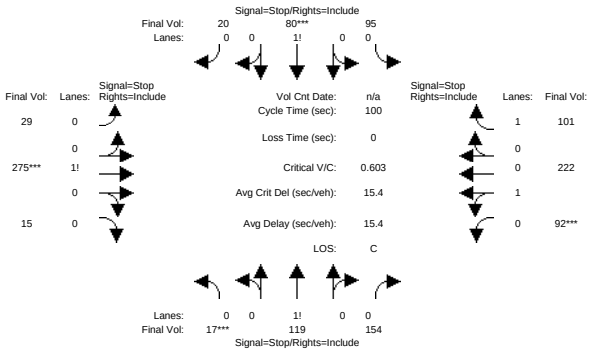
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   16   45    65    74   92    20    28  278    10   125  197    71
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             709
Minor Approach Volume:           186
Minor Approach Volume Threshold: 403
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #48: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17  119   154    95   80    20    29  275    15    92  222   101
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   17  119   154    95   80    20    29  275    15    92  222   101
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   17  119   154    95   80    20    29  275    15    92  222   101
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    17  119   154    95   80    20    29  275    15    92  222   101
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   17  119   154    95   80    20    29  275    15    92  222   101
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   17  119   154    95   80    20    29  275    15    92  222   101
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.06 0.41  0.53  0.49 0.41  0.10  0.09 0.86  0.05  0.29 0.71  1.00
Final Sat.:    32  226   293   240  202    50    50  474    26   153  368   594
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.53 0.53  0.53  0.40 0.40  0.40  0.58 0.58  0.58  0.60 0.60  0.17
Crit Moves:  ****                 ****              ****        ****
Delay/Veh:   14.7 14.7  14.7  13.2 13.2  13.2  16.5 16.5  16.5  18.1 18.1   9.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  14.7 14.7  14.7  13.2 13.2  13.2  16.5 16.5  16.5  18.1 18.1   9.6
LOS by Move:    B    B     B     B    B     B     C    C     C     C    C     A
ApproachDel:      14.7             13.2             16.5             16.0
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       14.7             13.2             16.5             16.0
LOS by Appr:         B                B                C                C
AllWayAvgQ:  21.6 21.6  21.6  12.4 12.4  12.4  27.9 27.9  27.9  31.6 31.6   4.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #48 13th St / G St
*******************************************************************************
```



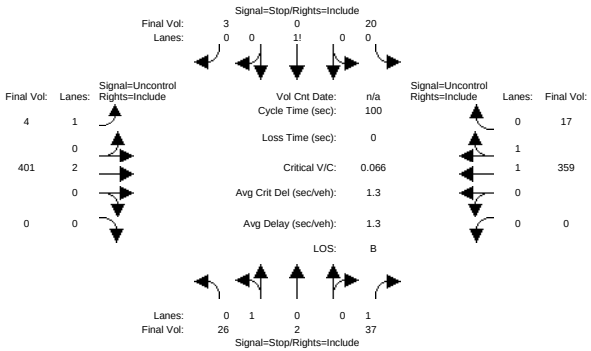
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   17  119   154    95   80    20    29  275    15    92  222   101
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             734
Minor Approach Volume:           290
Minor Approach Volume Threshold: 391
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #49: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26    2    37    20    0     3     4  401     0     0  359    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26    2    37    20    0     3     4  401     0     0  359    17
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26    2    37    20    0     3     4  401     0     0  359    17
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26    2    37    20    0     3     4  401     0     0  359    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26    2    37    20    0     3     4  401     0     0  359    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  589  785   201   577  777   188   376 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  396  327   813   404  331   828  1194 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    394  326   813   383  330   828  1194 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.07 0.01  0.05  0.05 0.00  0.00  0.00 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.6  xxxx xxxx xxxxx   0.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx   9.6 xxxxx xxxx xxxxx   8.0 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     A     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  388 xxxx xxxxx  xxxx  412 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.2 xxxx xxxxx xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 15.0 xxxx xxxxx xxxxx 14.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:      11.9             14.3            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   26    2    37    20    0     3     4  401     0     0  359    17
ApproachDel:      11.9             14.3            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=65]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=869]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=869]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

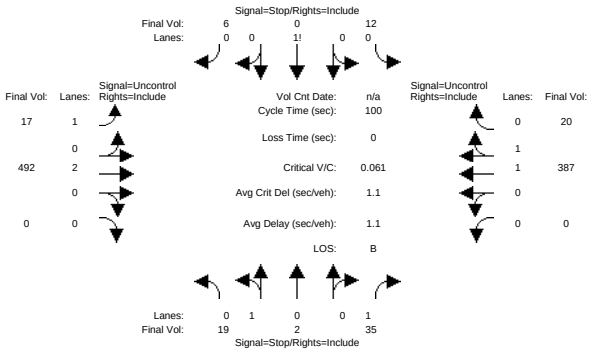
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   26    2    37    20    0     3     4  401     0     0  359    17
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             781
Minor Approach Volume:           65
Minor Approach Volume Threshold: 480
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #49: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      19    2    35    12    0     6    17  492     0     0  387    20
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   19    2    35    12    0     6    17  492     0     0  387    20
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   19    2    35    12    0     6    17  492     0     0  387    20
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    19    2    35    12    0     6    17  492     0     0  387    20
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   19    2    35    12    0     6    17  492     0     0  387    20
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  720  933   246   678  923   204   407 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  319  268   760   342  272   810  1163 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    313  264   760   321  268   810  1163 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.06 0.01  0.05  0.04 0.00  0.01  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.6  xxxx xxxx xxxxx   1.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  10.0 xxxxx xxxx xxxxx   8.1 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     A     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  308 xxxx xxxxx  xxxx  402 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.2 xxxx xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 17.5 xxxx xxxxx xxxxx 14.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:      12.8             14.4           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   19    2    35    12    0     6    17  492     0     0  387    20
ApproachDel:      12.8             14.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=990]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=990]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

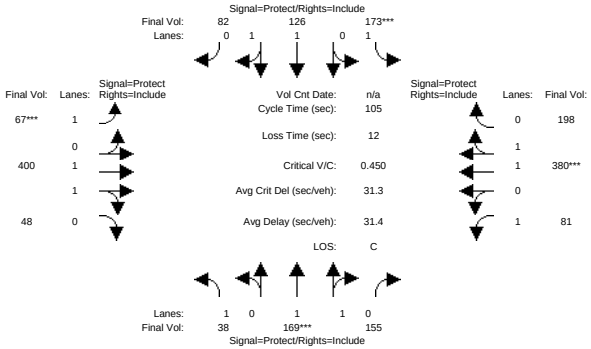
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   19    2    35    12    0     6    17  492     0     0  387    20
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             916
Minor Approach Volume:            56
Minor Approach Volume Threshold: 412
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #50: 16th St / G Street



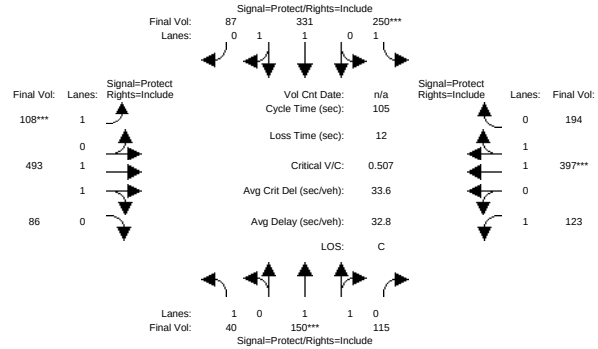
Street Name:	16th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	38	169	155	173	126	82	67	400	48	81	380	198
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	38	169	155	173	126	82	67	400	48	81	380	198
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	169	155	173	126	82	67	400	48	81	380	198
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	169	155	173	126	82	67	400	48	81	380	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	169	155	173	126	82	67	400	48	81	380	198
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	38	169	155	173	126	82	67	400	48	81	380	198
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	0.89	0.89	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.04	0.96	1.00	1.21	0.79	1.00	1.79	0.21	1.00	1.31	0.69
Final Sat.:	1805	1747	1603	1805	2058	1339	1805	3172	381	1805	2252	1174
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.10	0.06	0.06	0.04	0.13	0.13	0.04	0.17	0.17
Crit Moves:		****		****			****				****	
Green/Cycle:	0.18	0.22	0.22	0.21	0.25	0.25	0.08	0.30	0.30	0.16	0.38	0.38
Volume/Cap:	0.12	0.45	0.45	0.45	0.24	0.24	0.45	0.42	0.42	0.28	0.45	0.45
Delay/Veh:	36.6	36.3	36.3	36.8	31.5	31.5	48.1	29.8	29.8	39.5	24.9	24.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.6	36.3	36.3	36.8	31.5	31.5	48.1	29.8	29.8	39.5	24.9	24.9
LOS by Move:	D	D	D	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	27	128	128	130	72	72	66	156	156	62	187	187

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #50: 16th St / G Street



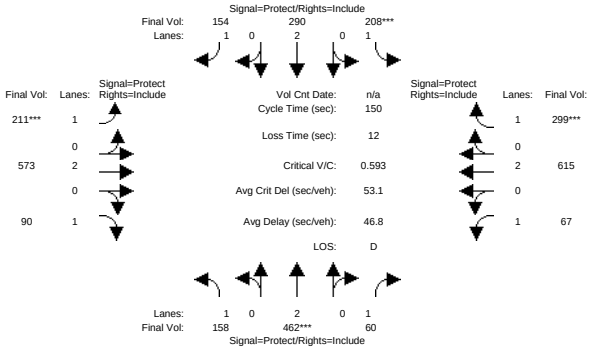
Street Name:	16th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	40	150	115	250	331	87	108	493	86	123	397	194
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	40	150	115	250	331	87	108	493	86	123	397	194
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	40	150	115	250	331	87	108	493	86	123	397	194
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	40	150	115	250	331	87	108	493	86	123	397	194
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	150	115	250	331	87	108	493	86	123	397	194
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	150	115	250	331	87	108	493	86	123	397	194
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.13	0.87	1.00	1.58	0.42	1.00	1.70	0.30	1.00	1.34	0.66
Final Sat.:	1805	1911	1465	1805	2770	728	1805	3006	524	1805	2306	1127
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.08	0.14	0.12	0.12	0.06	0.16	0.16	0.07	0.17	0.17
Crit Moves:		****		****			****				****	
Green/Cycle:	0.15	0.15	0.15	0.27	0.27	0.27	0.12	0.32	0.32	0.13	0.34	0.34
Volume/Cap:	0.14	0.51	0.51	0.51	0.43	0.43	0.51	0.51	0.51	0.51	0.51	0.51
Delay/Veh:	38.7	41.5	41.5	33.1	31.7	31.7	45.4	29.1	29.1	44.0	28.0	28.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.7	41.5	41.5	33.1	31.7	31.7	45.4	29.1	29.1	44.0	28.0	28.0
LOS by Move:	D	D	D	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	29	118	118	179	151	151	98	205	205	107	206	206

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #51: Olive Ave / G St



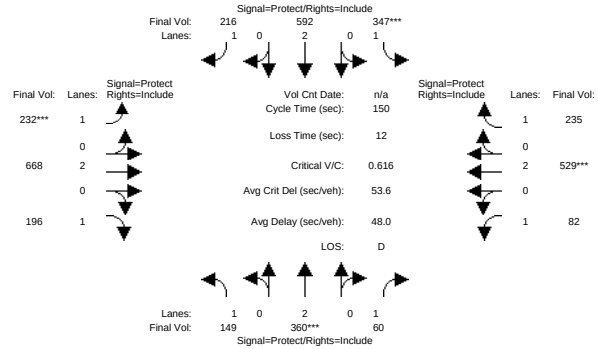
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	158	462	60	208	290	154	211	573	90	67	615	299
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	158	462	60	208	290	154	211	573	90	67	615	299
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	158	462	60	208	290	154	211	573	90	67	615	299
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	158	462	60	208	290	154	211	573	90	67	615	299
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	158	462	60	208	290	154	211	573	90	67	615	299
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	158	462	60	208	290	154	211	573	90	67	615	299
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.04	0.12	0.08	0.10	0.12	0.16	0.06	0.04	0.17	0.19
Crit Moves:		****		****			****					****
Green/Cycle:	0.20	0.22	0.22	0.19	0.21	0.21	0.20	0.39	0.39	0.12	0.31	0.31
Volume/Cap:	0.45	0.59	0.17	0.59	0.38	0.45	0.59	0.40	0.14	0.32	0.55	0.59
Delay/Veh:	54.0	54.1	48.1	57.7	50.7	52.1	57.4	32.9	29.3	61.8	43.3	45.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.0	54.1	48.1	57.7	50.7	52.1	57.4	32.9	29.3	61.8	43.3	45.4
LOS by Move:	D	D	D	E	D	D	E	C	C	E	D	D
HCM2kAvgQ:	164	262	56	212	143	147	234	243	64	76	308	297

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #51: Olive Ave / G St



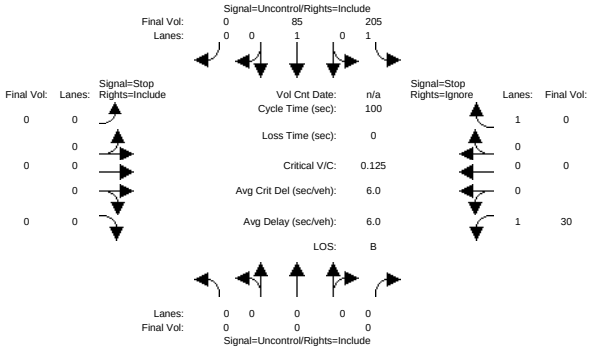
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	149	360	60	347	592	216	232	668	196	82	529	235
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	360	60	347	592	216	232	668	196	82	529	235
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	149	360	60	347	592	216	232	668	196	82	529	235
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	149	360	60	347	592	216	232	668	196	82	529	235
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	149	360	60	347	592	216	232	668	196	82	529	235
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	149	360	60	347	592	216	232	668	196	82	529	235
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.10	0.04	0.19	0.16	0.13	0.13	0.19	0.12	0.05	0.15	0.15
Crit Moves:		****		****			****					****
Green/Cycle:	0.16	0.16	0.16	0.31	0.32	0.32	0.21	0.36	0.36	0.09	0.24	0.24
Volume/Cap:	0.52	0.62	0.23	0.62	0.52	0.42	0.62	0.52	0.34	0.51	0.62	0.61
Delay/Veh:	59.6	60.5	55.2	46.0	42.5	41.2	57.0	38.5	35.7	67.6	52.4	53.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.6	60.5	55.2	46.0	42.5	41.2	57.0	38.5	35.7	67.6	52.4	53.9
LOS by Move:	E	E	E	D	D	D	E	D	D	E	D	D
HCM2kAvgQ:	168	220	62	326	279	186	257	316	162	105	297	255

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #52: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   205   85     0     0    0     0    30    0   490
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   205   85     0     0    0     0    30    0   490
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   205   85     0     0    0     0    30    0   490
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   205   85     0     0    0     0    30    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   205   85     0     0    0     0    30    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   495 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   537 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   486 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.13 xxxx  xxxx  xxxx xxxx  xxxx  0.06 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  10.7 xxxx xxxxx  xxxx xxxx xxxxx   4.9 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  12.9 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             12.9
ApproachLOS:         *                *                *                B
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   205   85     0     0    0     0    30    0   490
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             12.9
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=520]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=810]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

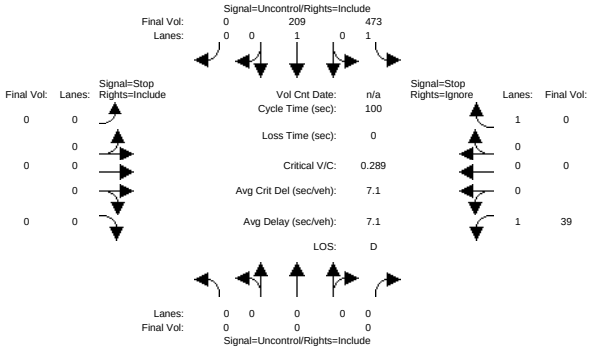
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   205   85     0     0    0     0    30    0   490
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             290
Minor Approach Volume:           520
Minor Approach Volume Threshold: 906
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #52: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   473  209     0     0    0     0    39    0   282
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   473  209     0     0    0     0    39    0   282
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   473  209     0     0    0     0    39    0   282
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   473  209     0     0    0     0    39    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   473  209     0     0    0     0    39    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx  1155 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   220 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   171 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.29 xxxx  xxxx  xxxx xxxx  xxxx  0.23 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  30.2 xxxx xxxxx  xxxx xxxx xxxxx  21.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   8.1 xxxx xxxxx xxxxx xxxx xxxxx  32.3 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     D    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             32.3
ApproachLOS:         *                *                *                D
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   473  209     0     0    0     0    39    0   282
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             32.3
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.9]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=321]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=1003]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

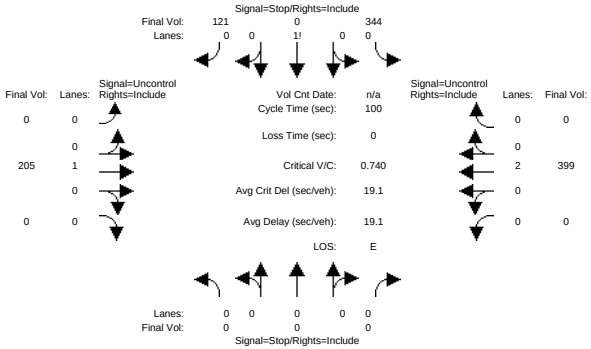
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   473  209     0     0    0     0    39    0   282
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             682
Minor Approach Volume:           321
Minor Approach Volume Threshold: 539
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #53: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   344    0   121     0  205     0     0  399     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   344    0   121     0  205     0     0  399     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   344    0   121     0  205     0     0  399     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   344    0   121     0  205     0     0  399     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   344    0   121     0  205     0     0  399     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   604  604   200  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   465  415   847  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   465  415   847  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.74 0.00  0.14  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  527 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  9.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 43.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    E     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             43.9           xxxxxx           xxxxxx
ApproachLOS:         *               E                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0   121     0  205     0     0  399     0
ApproachDel:    xxxxxx             43.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.7]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=465]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1069]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0   121     0  205     0     0  399     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             604
Minor Approach Volume:           465
Minor Approach Volume Threshold: 459
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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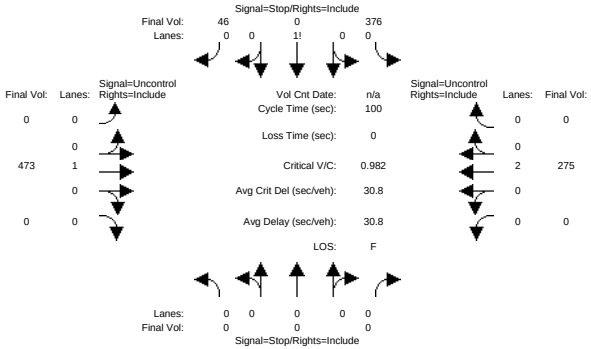
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #53: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   376    0    46     0  473     0     0  275     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   376    0    46     0  473     0     0  275     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   376    0    46     0  473     0     0  275     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   376    0    46     0  473     0     0  275     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   376    0    46     0  473     0     0  275     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   748  748   138  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   383  343   916  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   383  343   916  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.98 0.00  0.05  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  409 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 13.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 85.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             85.4           xxxxxx           xxxxxx
ApproachLOS:         *               F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    46     0  473     0     0  275     0
ApproachDel:    xxxxxx             85.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=10.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=422]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1170]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

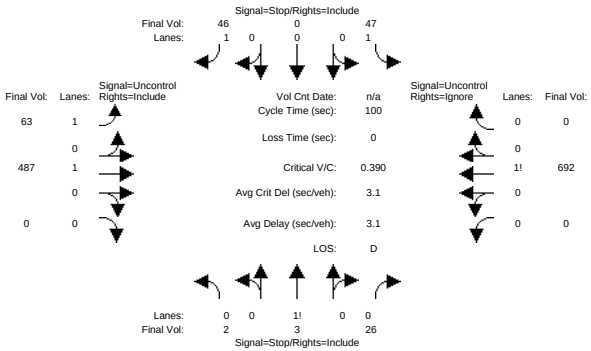
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    46     0  473     0     0  275     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             748
Minor Approach Volume:           422
Minor Approach Volume Threshold: 385
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    3    26    47    0    46    63  487     0     0  692   170
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    3    26    47    0    46    63  487     0     0  692   170
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    3    26    47    0    46    63  487     0     0  692   170
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2    3    26    47    0    46    63  487     0     0  692     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    3    26    47    0    46    63  487     0     0  692     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1328 1305   487  1320 xxxx   692   692 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  133  162   585   135 xxxx   447   912 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    113  150   585   121 xxxx   447   912 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.02 0.02  0.04  0.39 xxxx  0.10  0.07 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  40.7 xxxx   8.5   5.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  52.7 xxxx  14.0   9.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     B     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  378 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 15.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      15.4             33.6           xxxxxx           xxxxxx
ApproachLOS:         C                D                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    2    3    26    47    0    46    63  487     0     0  692   170
ApproachDel:      15.4             33.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1536]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=93]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1536]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

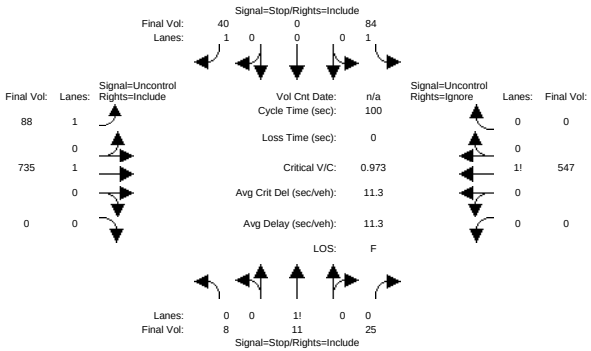
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    2    3    26    47    0    46    63  487     0     0  692   170
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1412
Minor Approach Volume:           93
Minor Approach Volume Threshold: 226
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8   11    25    84    0    40    88  735     0     0  547   151
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    8   11    25    84    0    40    88  735     0     0  547   151
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    8   11    25    84    0    40    88  735     0     0  547   151
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     8   11    25    84    0    40    88  735     0     0  547     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    8   11    25    84    0    40    88  735     0     0  547     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1478 1458   735  1476 xxxx   547   547 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  105  131   423   105 xxxx   541  1033 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     91  120   423    86 xxxx   541  1033 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.09 0.09  0.06  0.97 xxxx  0.07  0.09 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   137 xxxx   6.0   7.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 176.1 xxxx  12.2   8.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     B     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  184 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 30.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    *     *     *    *     *     *    *     *
ApproachDel:      30.6            123.2           xxxxxx           xxxxxx
ApproachLOS:         D                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    8   11    25    84    0    40    88  735     0     0  547   151
ApproachDel:      30.6            123.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=44]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1689]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=124]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1689]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

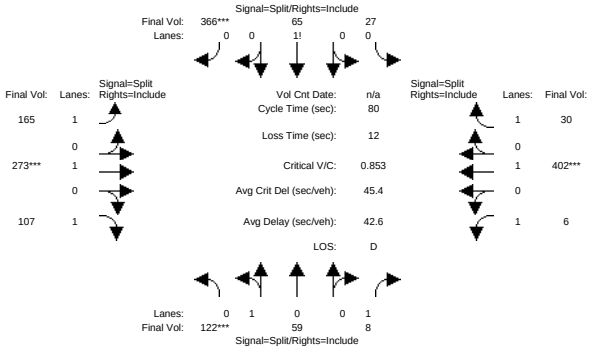
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    8   11    25    84    0    40    88  735     0     0  547   151
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1521
Minor Approach Volume:           124
Minor Approach Volume Threshold: 194
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

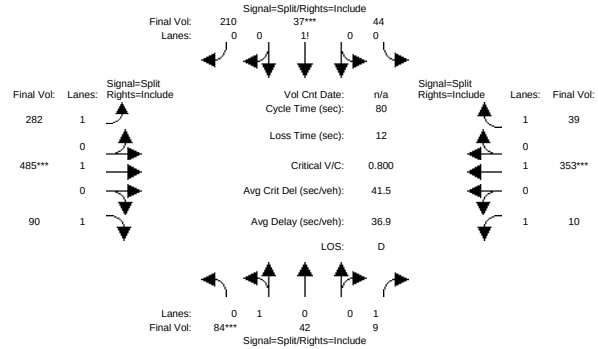



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     122   59     8   27   65   366  165  273   107    6  402    30
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  122   59     8   27   65   366  165  273   107    6  402    30
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  122   59     8   27   65   366  165  273   107    6  402    30
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   122   59     8   27   65   366  165  273   107    6  402    30
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  122   59     8   27   65   366  165  273   107    6  402    30
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  122   59     8   27   65   366  165  273   107    6  402    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.89 0.89  0.89 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.06 0.14  0.80 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1238  599  1615  100  240  1350 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.00 0.27 0.27  0.27 0.09 0.14  0.07 0.00 0.21  0.02
Crit Moves:  ****                      ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.31 0.31  0.31 0.17 0.17  0.17 0.24 0.24  0.24
Volume/Cap:  0.79 0.79  0.04 0.86 0.86  0.86 0.55 0.86  0.40 0.01 0.86  0.08
Delay/Veh:   50.5 50.5  30.9 39.6 39.6  39.6 32.8 53.5  30.7 22.9 44.3  23.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  50.5 50.5  30.9 39.6 39.6  39.6 32.8 53.5  30.7 22.9 44.3  23.3
LOS by Move:    D    D     C    D    D     D    C    D     C    C    D     C
HCM2kAvgQ:    163  163     5  347  347   347  113  241    69    3  318    15
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

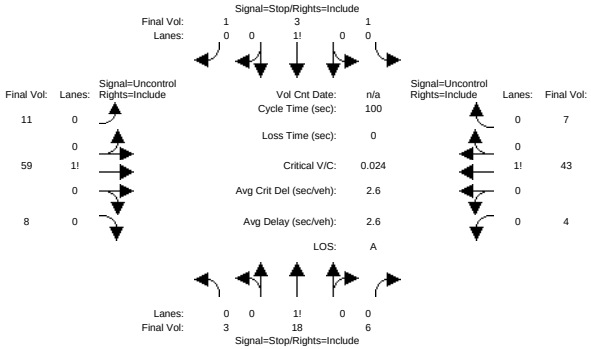



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      84   42     9   44   37   210  282  485    90   10  353    39
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   84   42     9   44   37   210  282  485    90   10  353    39
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   84   42     9   44   37   210  282  485    90   10  353    39
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    84   42     9   44   37   210  282  485    90   10  353    39
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   84   42     9   44   37   210  282  485    90   10  353    39
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   84   42     9   44   37   210  282  485    90   10  353    39
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.90 0.90  0.90 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.15 0.13  0.72 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1226  613  1615  258  217  1229 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.01 0.17 0.17  0.17 0.16 0.26  0.06 0.01 0.19  0.02
Crit Moves:  ****                      ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.20 0.20  0.20 0.30 0.30  0.30 0.22 0.22  0.22
Volume/Cap:  0.55 0.55  0.04 0.84 0.84  0.84 0.52 0.84  0.18 0.03 0.84  0.11
Delay/Veh:   35.7 35.7  30.9 47.7 47.7  47.7 23.9 37.1  20.8 24.5 44.4  25.1
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  35.7 35.7  30.9 47.7 47.7  47.7 23.9 37.1  20.8 24.5 44.4  25.1
LOS by Move:    D    D     C    D    D     D    C    D     C    C    D     C
HCM2kAvgQ:     94   94     6  244  244   244  155  352    43    5  281    20
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3   18     6     1    3     1    11   59     8     4   43     7
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3   18     6     1    3     1    11   59     8     4   43     7
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    3   18     6     1    3     1    11   59     8     4   43     7
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3   18     6     1    3     1    11   59     8     4   43     7
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    3   18     6     1    3     1    11   59     8     4   43     7
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  142  143    63   152  144    47    50 xxxx xxxxx    67 xxxx xxxxx
Potent Cap.:  833  752  1007   820  751  1029  1570 xxxx xxxxx  1547 xxxx xxxxx
Move Cap.:    823  745  1007   795  744  1029  1570 xxxx xxxxx  1547 xxxx xxxxx
Volume/Cap:  0.00 0.02  0.01  0.00 0.00  0.00  0.01 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  799 xxxxx  xxxx  798 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.1 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  9.7 xxxxx xxxxx  9.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    A     *     *    A     *     *    *     *     *    *     *
ApproachDel:       9.7              9.5           xxxxxx           xxxxxx
ApproachLOS:         A                A                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
******************************************************************************
Intersection #56 14th St / O St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3   18     6     1    3     1    11   59     8     4   43     7
ApproachDel:       9.7              9.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=164]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=164]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
******************************************************************************
Intersection #56 14th St / O St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3   18     6     1    3     1    11   59     8     4   43     7
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             132
Minor Approach Volume:           27
Minor Approach Volume Threshold: 759
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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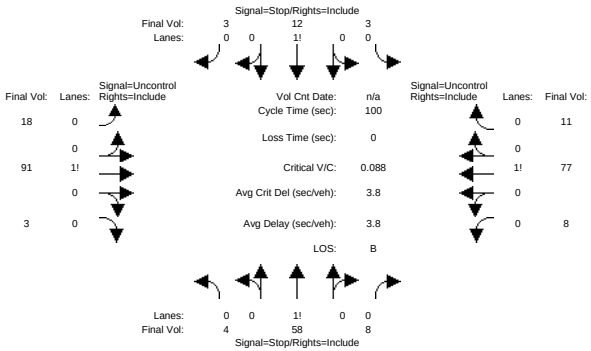
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   58     8     3   12     3    18   91     3     8   77    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   58     8     3   12     3    18   91     3     8   77    11
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4   58     8     3   12     3    18   91     3     8   77    11
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4   58     8     3   12     3    18   91     3     8   77    11
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4   58     8     3   12     3    18   91     3     8   77    11
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  235  233    93   260  229    83    88 xxxx xxxxx    94 xxxx xxxxx
Potent Cap.:  724  671   970   697  675   983  1520 xxxx xxxxx  1513 xxxx xxxxx
Move Cap.:    703  660   970   636  663   983  1520 xxxx xxxxx  1513 xxxx xxxxx
Volume/Cap:  0.01 0.09  0.01  0.00 0.02  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.9 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  687 xxxxx  xxxx  696 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.3 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.8 xxxxx xxxxx 10.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      10.8             10.3            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4   58     8     3   12     3    18   91     3     8   77    11
ApproachDel:      10.8             10.3            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=70]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=296]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=296]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4   58     8     3   12     3    18   91     3     8   77    11
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             208
Minor Approach Volume:           70
Minor Approach Volume Threshold: 638
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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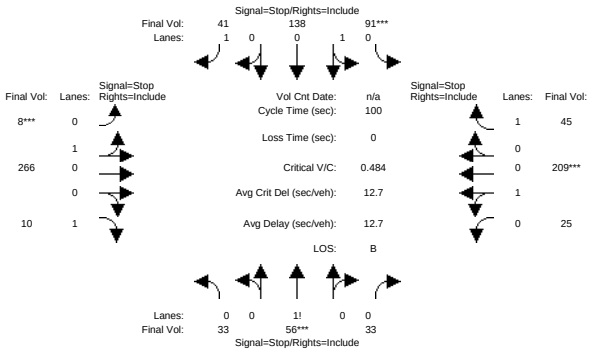
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #57: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    56    33    91   138    41     8   266    10    25   209    45
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   33    56    33    91   138    41     8   266    10    25   209    45
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   33    56    33    91   138    41     8   266    10    25   209    45
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    33    56    33    91   138    41     8   266    10    25   209    45
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   33    56    33    91   138    41     8   266    10    25   209    45
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   33    56    33    91   138    41     8   266    10    25   209    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.27  0.46  0.27  0.40  0.60  1.00  0.03  0.97  1.00  0.11  0.89  1.00
Final Sat.:   138   235   138   210   318   604    17   550   632    60   500   630
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24  0.24  0.24  0.43  0.43  0.07  0.48  0.48  0.02  0.42  0.42  0.07
Crit Moves:        ****        ****              ****                    ****
Delay/Veh:   11.3  11.3  11.3  13.6  13.6   8.7  14.0  14.0   8.2  12.9  12.9   8.5
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  11.3  11.3  11.3  13.6  13.6   8.7  14.0  14.0   8.2  12.9  12.9   8.5
LOS by Move:    B     B     B     B     B     A     B     B     A     B     B     A
ApproachDel:       11.3              12.9              13.8              12.2
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        11.3              12.9              13.8              12.2
LOS by Appr:          B                 B                 B                 B
AllWayAvgQ:    6.5   6.5   6.5  16.3  16.3   1.6  20.4  20.4   0.4  15.7  15.7   1.7
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #57 13th St / M St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   33   56   33    91  138   41     8  266   10    25  209   45
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             563
Minor Approach Volume:           270
Minor Approach Volume Threshold: 621
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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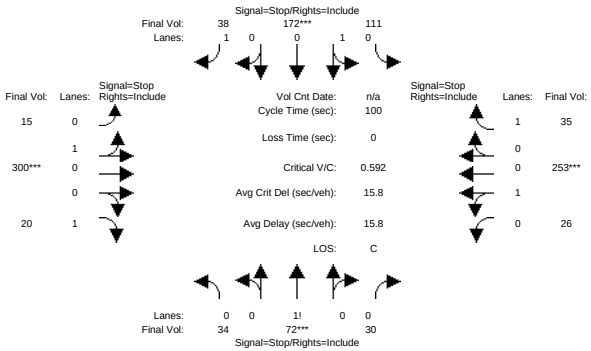
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #57: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      34    72    30   111   172    38    15   300    20    26   253    35
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   34    72    30   111   172    38    15   300    20    26   253    35
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   34    72    30   111   172    38    15   300    20    26   253    35
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    34    72    30   111   172    38    15   300    20    26   253    35
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   34    72    30   111   172    38    15   300    20    26   253    35
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   34    72    30   111   172    38    15   300    20    26   253    35
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.25  0.53  0.22  0.39  0.61  1.00  0.05  0.95  1.00  0.09  0.91  1.00
Final Sat.:   116   246   102   196   304   567    25   507   589    49   475   582
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.29  0.29  0.29  0.57  0.57  0.07  0.59  0.59  0.03  0.53  0.53  0.06
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   12.6  12.6  12.6  17.3  17.3   9.1  17.6  17.6   8.7  16.0  16.0   8.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  12.6  12.6  12.6  17.3  17.3   9.1  17.6  17.6   8.7  16.0  16.0   8.9
LOS by Move:    B     B     B     C     C     A     C     C     A     C     C     A
ApproachDel:       12.6              16.4              17.0              15.2
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        12.6              16.4              17.0              15.2
LOS by Appr:          B                 C                 C                 C
AllWayAvgQ:   8.2   8.2   8.2  27.0  27.0   1.6  30.8  30.8   0.8  24.3  24.3   1.4
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #57 13th St / M St
*******************************************************************************
```



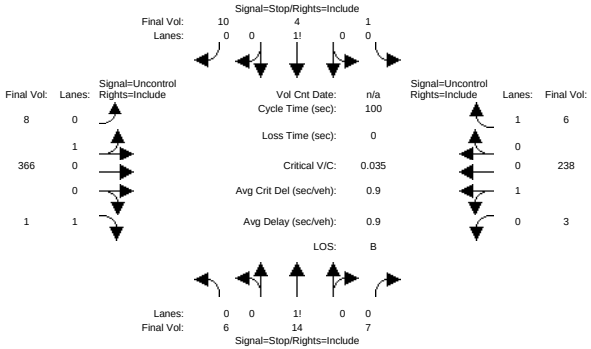
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   34   72    30   111  172    38    15  300    20    26  253    35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             649
Minor Approach Volume:           321
Minor Approach Volume Threshold: 560
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #58: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   14     7     1    4    10     8  366     1     3  238     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   14     7     1    4    10     8  366     1     3  238     6
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6   14     7     1    4    10     8  366     1     3  238     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6   14     7     1    4    10     8  366     1     3  238     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6   14     7     1    4    10     8  366     1     3  238     6
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  636  632   366   637  627   238   244 xxxx xxxxx   367 xxxx xxxxx
Potent Cap.:  393  400   684   393  403   806  1334 xxxx xxxxx  1203 xxxx xxxxx
Move Cap.:    383  397   684   376  399   806  1334 xxxx xxxxx  1203 xxxx xxxxx
Volume/Cap:  0.02 0.04  0.01  0.00 0.01  0.01  0.01 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx   8.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  441 xxxxx  xxxx  598 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx  0.1 xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 13.7 xxxxx xxxxx 11.2 xxxxx   7.7 xxxx xxxxx   8.0 xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     A    *     *     A    *     *
ApproachDel:      13.7             11.2           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14     7     1    4    10     8  366     1     3  238     6
ApproachDel:      13.7             11.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=664]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=664]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

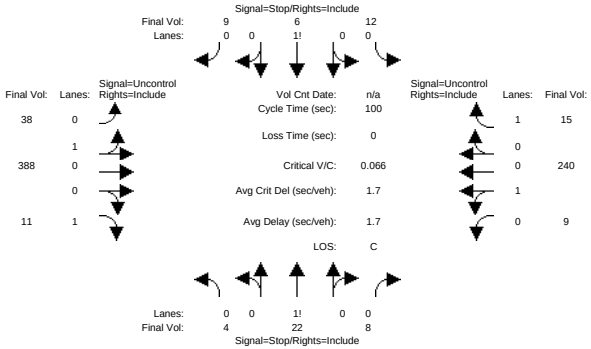
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14     7     1    4    10     8  366     1     3  238     6
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             622
Minor Approach Volume:           27
Minor Approach Volume Threshold: 448
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #58: 14th St / M St




```
Street Name:            14th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   22     8    12    6     9    38  388    11     9  240    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   22     8    12    6     9    38  388    11     9  240    15
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4   22     8    12    6     9    38  388    11     9  240    15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4   22     8    12    6     9    38  388    11     9  240    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4   22     8    12    6     9    38  388    11     9  240    15
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  737  737   388   743  733   240   255 xxxx xxxxx   399 xxxx xxxxx
Potent Cap.:  337  348   665   334  350   804  1322 xxxx xxxxx  1171 xxxx xxxxx
Move Cap.:    319  336   665   305  337   804  1322 xxxx xxxxx  1171 xxxx xxxxx
Volume/Cap:  0.01 0.07  0.01  0.04 0.02  0.01  0.03 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.2 xxxx xxxxx   0.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx   8.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  377 xxxxx  xxxx  395 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.3 xxxxx xxxxx  0.2 xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 15.5 xxxxx xxxxx 14.8 xxxxx   7.8 xxxx xxxxx   8.1 xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     A    *     *     A    *     *
ApproachDel:      15.5             14.8           xxxxxx           xxxxxx
ApproachLOS:         C                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22     8    12    6     9    38  388    11     9  240    15
ApproachDel:      15.5             14.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=34]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=762]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=762]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

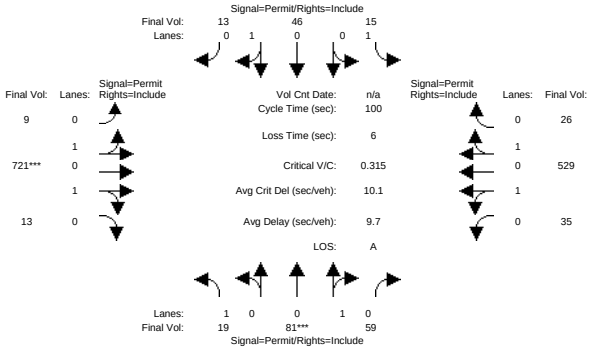
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22     8    12    6     9    38  388    11     9  240    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             701
Minor Approach Volume:            34
Minor Approach Volume Threshold: 407
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #59: Main St / M St



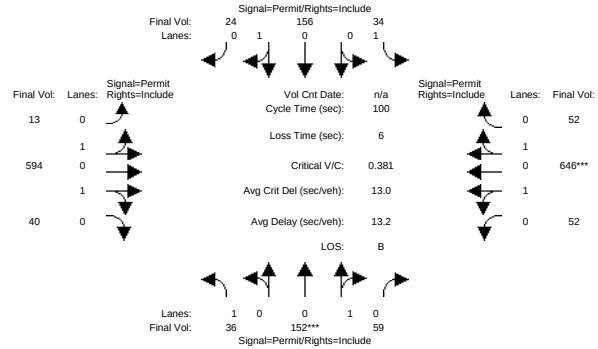
Street Name:	Main Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	19		81	59	15		46	13	9		721	13	35		529	26
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	19		81	59	15		46	13	9		721	13	35		529	26
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	19		81	59	15		46	13	9		721	13	35		529	26
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	19		81	59	15		46	13	9		721	13	35		529	26
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	19		81	59	15		46	13	9		721	13	35		529	26
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	19		81	59	15		46	13	9		721	13	35		529	26
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.72		0.94	0.94	0.57		0.97	0.97	0.90		0.90	0.90	0.83		0.83	0.83
Lanes:	1.00		0.58	0.42	1.00		0.78	0.22	0.02		1.95	0.03	0.12		1.79	0.09
Final Sat.:	1368		1030	750	1091		1432	405	41		3311	60	187		2832	139
Capacity Analysis Module:																
Vol/Sat:	0.01		0.08	0.08	0.01		0.03	0.03	0.22		0.22	0.22	0.19		0.19	0.19
Crit Moves:			****								****					
Green/Cycle:	0.25		0.25	0.25	0.25		0.25	0.25	0.69		0.69	0.69	0.69		0.69	0.69
Volume/Cap:	0.06		0.32	0.32	0.06		0.13	0.13	0.32		0.32	0.32	0.27		0.27	0.27
Delay/Veh:	28.6		31.0	31.0	28.6		29.2	29.2	6.2		6.2	6.2	6.0		6.0	6.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	28.6		31.0	31.0	28.6		29.2	29.2	6.2		6.2	6.2	6.0		6.0	6.0
LOS by Move:	C		C	C	C		C	C	A		A	A	A		A	A
HCM2kAvgQ:	12		91	91	9		35	35	116		116	116	89		89	89

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #59: Main St / M St



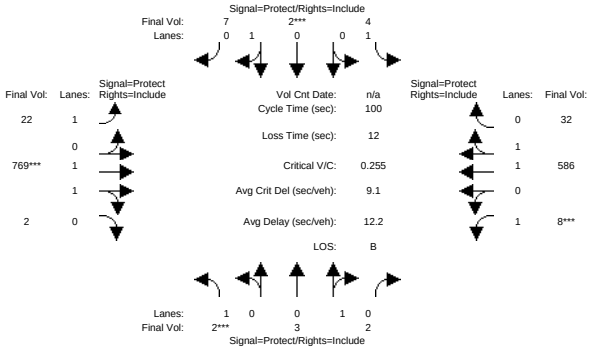
Street Name:	Main Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	36		152	59	34		156	24	13		594	40	52		646	52
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	36		152	59	34		156	24	13		594	40	52		646	52
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	36		152	59	34		156	24	13		594	40	52		646	52
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	36		152	59	34		156	24	13		594	40	52		646	52
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	36		152	59	34		156	24	13		594	40	52		646	52
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	36		152	59	34		156	24	13		594	40	52		646	52
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.54		0.96	0.96	0.49		0.98	0.98	0.88		0.88	0.88	0.82		0.82	0.82
Lanes:	1.00		0.72	0.28	1.00		0.87	0.13	0.04		1.84	0.12	0.14		1.72	0.14
Final Sat.:	1022		1311	509	935		1614	248	67		3074	207	215		2669	215
Capacity Analysis Module:																
Vol/Sat:	0.04		0.12	0.12	0.04		0.10	0.10	0.19		0.19	0.19	0.24		0.24	0.24
Crit Moves:			****												****	
Green/Cycle:	0.30		0.30	0.30	0.30		0.30	0.30	0.64		0.64	0.64	0.64		0.64	0.64
Volume/Cap:	0.12		0.38	0.38	0.12		0.32	0.32	0.30		0.30	0.30	0.38		0.38	0.38
Delay/Veh:	25.2		27.8	27.8	25.3		27.1	27.1	8.3		8.3	8.3	8.9		8.9	8.9
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	25.2		27.8	27.8	25.3		27.1	27.1	8.3		8.3	8.3	8.9		8.9	8.9
LOS by Move:	C		C	C	C		C	C	A		A	A	A		A	A
HCM2kAvgQ:	21		130	130	20		108	108	114		114	114	143		143	143

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #60: 18th St / M St

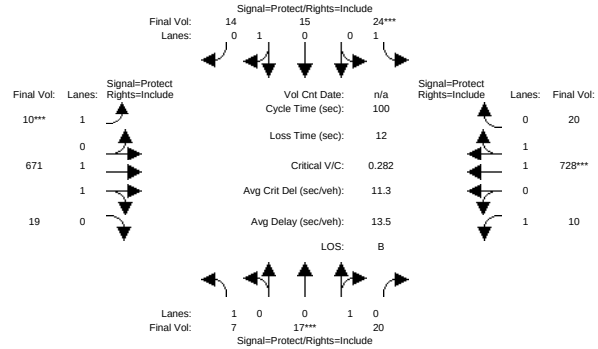



```
Street Name:            18th Street                     M Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   3   2     4   2   7    22 769   2     8 586  32
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    2   3   2     4   2   7    22 769   2     8 586  32
Added Vol:      0   0   0     0   0   0     0   0   0     0   0   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:    2   3   2     4   2   7    22 769   2     8 586  32
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     2   3   2     4   2   7    22 769   2     8 586  32
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:    2   3   2     4   2   7    22 769   2     8 586  32
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    2   3   2     4   2   7    22 769   2     8 586  32
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900 1900 1900 1900  1900 1900 1900
Adjustment:  0.95 0.94 0.94  0.95 0.88 0.88 0.95 0.95 0.95  0.95 0.94 0.94
Lanes:       1.00 0.60 0.40  1.00 0.22 0.78 1.00 1.99 0.01  1.00 1.90 0.10
Final Sat.:  1805 1072  714  1805  373 1305 1805 3601    9  1805 3396  185
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00 0.00  0.00 0.01 0.01 0.01 0.21 0.21  0.00 0.17 0.17
Crit Moves:  ****            ****            ****            ****
Green/Cycle: 0.07 0.10 0.10  0.07 0.10 0.10 0.20 0.64 0.64  0.07 0.51 0.51
Volume/Cap:  0.02 0.03 0.03  0.03 0.05 0.05 0.06 0.33 0.33  0.06 0.34 0.34
Delay/Veh:   43.3 40.7 40.7  43.4 40.9 40.9 32.1  8.3  8.3  43.6 14.9 14.9
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  43.3 40.7 40.7  43.4 40.9 40.9 32.1  8.3  8.3  43.6 14.9 14.9
LOS by Move:    D    D    D     D    D    D    C    A    A     D    B    B
HCM2kAvgQ:      2    4    4     3    6    6   13  139  139     7  148  148
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #60: 18th St / M St

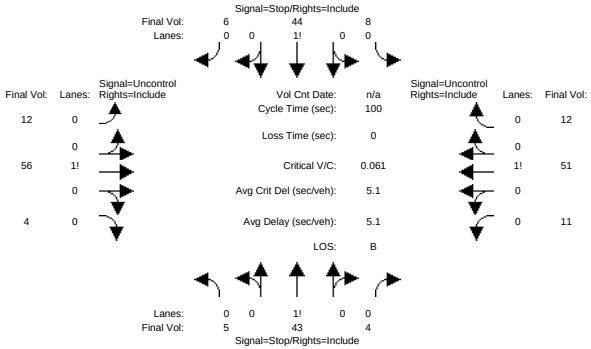



```
Street Name:            18th Street                     M Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  17  20    24  15  14    10 671  19    10 728  20
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    7  17  20    24  15  14    10 671  19    10 728  20
Added Vol:      0   0   0     0   0   0     0   0   0     0   0   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:    7  17  20    24  15  14    10 671  19    10 728  20
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     7  17  20    24  15  14    10 671  19    10 728  20
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:    7  17  20    24  15  14    10 671  19    10 728  20
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    7  17  20    24  15  14    10 671  19    10 728  20
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900 1900 1900 1900  1900 1900 1900
Adjustment:  0.95 0.92 0.92  0.95 0.93 0.93 0.95 0.95 0.95  0.95 0.95 0.95
Lanes:       1.00 0.46 0.54  1.00 0.52 0.48 1.00 1.94 0.06  1.00 1.95 0.05
Final Sat.:  1805  802  944  1805  912  851 1805 3497   99  1805 3499   96
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.02 0.02  0.01 0.02 0.02 0.01 0.19 0.19  0.01 0.21 0.21
Crit Moves:       ****            ****            ****            ****
Green/Cycle: 0.07 0.10 0.10  0.07 0.10 0.10 0.07 0.52 0.52  0.19 0.64 0.64
Volume/Cap:  0.06 0.21 0.21  0.19 0.16 0.16 0.08 0.37 0.37  0.03 0.33 0.33
Delay/Veh:   43.6 42.0 42.0  44.6 41.6 41.6 43.8 14.4 14.4  33.0  8.3  8.3
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  43.6 42.0 42.0  44.6 41.6 41.6 43.8 14.4 14.4  33.0  8.3  8.3
LOS by Move:    D    D    D     D    D    D    D    B    B     C    A    A
HCM2kAvgQ:      6   30   30    17   20   20    7  160  160     6  136  136
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #61: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5   43     4     8   44     6    12   56     4    11   51    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    5   43     4     8   44     6    12   56     4    11   51    12
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    5   43     4     8   44     6    12   56     4    11   51    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     5   43     4     8   44     6    12   56     4    11   51    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    5   43     4     8   44     6    12   56     4    11   51    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  186  167    58   185  163    57    63 xxxx xxxxx    60 xxxx xxxxx
Potent Cap.:  779  729  1014   781  733  1015  1553 xxxx xxxxx  1556 xxxx xxxxx
Move Cap.:    730  719  1014   734  722  1015  1553 xxxx xxxxx  1556 xxxx xxxxx
Volume/Cap:  0.01 0.06  0.00  0.01 0.06  0.01  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx   0.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  736 xxxxx  xxxx  746 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.3 xxxxx xxxxx 10.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      10.3             10.2            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5   43     4     8   44     6    12   56     4    11   51    12
ApproachDel:      10.3             10.2            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=52]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=256]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=58]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=256]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

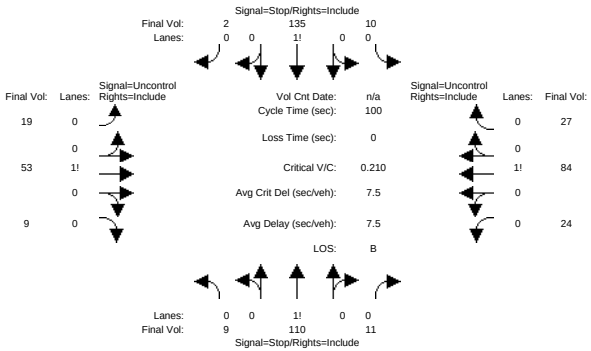
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5   43     4     8   44     6    12   56     4    11   51    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             146
Minor Approach Volume:           58
Minor Approach Volume Threshold: 733
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #61: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9  110    11    10  135     2    19   53     9    24   84    27
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9  110    11    10  135     2    19   53     9    24   84    27
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    9  110    11    10  135     2    19   53     9    24   84    27
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9  110    11    10  135     2    19   53     9    24   84    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    9  110    11    10  135     2    19   53     9    24   84    27
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  310  255    58   302  246    98   111 xxxx xxxxx    62 xxxx xxxxx
Potent Cap.:  647  653  1014   655  660   964  1492 xxxx xxxxx  1554 xxxx xxxxx
Move Cap.:    530  634  1014   550  641   964  1492 xxxx xxxxx  1554 xxxx xxxxx
Volume/Cap:  0.02 0.17  0.01  0.02 0.21  0.00  0.01 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   1.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  646 xxxxx  xxxx  637 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.7 xxxxx xxxxx  0.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.0 xxxxx xxxxx 12.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      12.0             12.3            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  110    11    10  135     2    19   53     9    24   84    27
ApproachDel:      12.0             12.3            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=130]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=493]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=147]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=493]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9  110    11    10  135     2    19   53     9    24   84    27
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             216
Minor Approach Volume:           147
Minor Approach Volume Threshold: 628
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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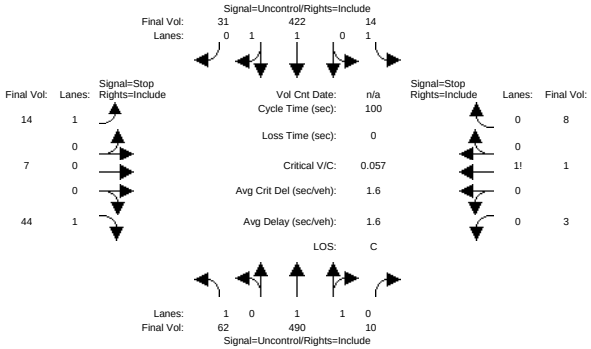
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62  490    10    14  422    31    14    7    44     3    1     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62  490    10    14  422    31    14    7    44     3    1     8
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   62  490    10    14  422    31    14    7    44     3    1     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    62  490    10    14  422    31    14    7    44     3    1     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62  490    10    14  422    31    14    7    44     3    1     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  453 xxxx xxxxx   500 xxxx xxxxx   835 1090   227   862 1100   250
Potent Cap.: 1118 xxxx xxxxx  1075 xxxx xxxxx   264  217   783   252  214   756
Move Cap.:   1118 xxxx xxxxx  1075 xxxx xxxxx   246  202   783   220  199   756
Volume/Cap:  0.06 xxxx  xxxx  0.01 xxxx  xxxx  0.06 0.03  0.06  0.01 0.01  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    4.4 xxxx xxxxx   1.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.4 xxxx xxxxx   8.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   230 xxxx   562  xxxx  410 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.3 xxxx   0.3 xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  22.2 xxxx  12.0 xxxxx 14.0 xxxxx
Shared LOS:     *    *     *     *    *     *     C    *     B     *    B     *
ApproachDel:    xxxxxx           xxxxxx             15.0            14.0
ApproachLOS:         *                *                C               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   62  490    10    14  422    31    14    7    44     3    1     8
ApproachDel:    xxxxxx           xxxxxx             15.0            14.0
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=65]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1106]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1106]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   62  490    10    14  422    31    14    7    44     3    1     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1029
Minor Approach Volume:           65
Minor Approach Volume Threshold: 362
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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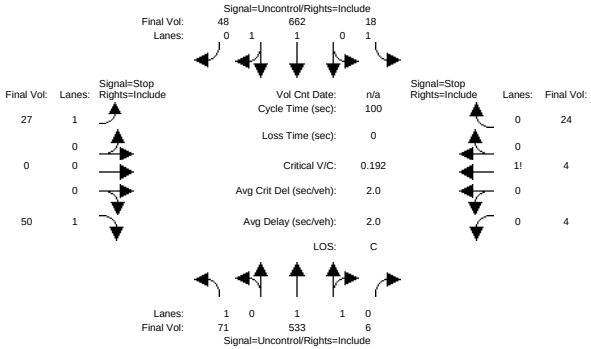
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  533     6    18  662    48    27    0    50     4    4    24
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   71  533     6    18  662    48    27    0    50     4    4    24
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   71  533     6    18  662    48    27    0    50     4    4    24
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    71  533     6    18  662    48    27    0    50     4    4    24
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   71  533     6    18  662    48    27    0    50     4    4    24
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  710 xxxx xxxxx   539 xxxx xxxxx  1133 xxxx   355  1045 1424   270
Potent Cap.:  899 xxxx xxxxx  1040 xxxx xxxxx   160 xxxx   647   186  137   735
Move Cap.:    899 xxxx xxxxx  1040 xxxx xxxxx   140 xxxx   647   159  124   735
Volume/Cap:  0.08 xxxx  xxxx  0.02 xxxx  xxxx  0.19 xxxx  0.08  0.03 0.03  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    6.4 xxxx xxxxx   1.3 xxxx xxxxx  17.1 xxxx   6.3  xxxx xxxx xxxxx
Control Del:  9.4 xxxx xxxxx   8.5 xxxx xxxxx  36.7 xxxx  11.0 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     E    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  355 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.3 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 16.1 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             20.0            16.1
ApproachLOS:         *                *                C               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   71  533     6    18  662    48    27    0    50     4    4    24
ApproachDel:    xxxxxx           xxxxxx             20.0            16.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=77]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1447]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1447]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   71  533     6    18  662    48    27    0    50     4    4    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1338
Minor Approach Volume:           77
Minor Approach Volume Threshold: 249
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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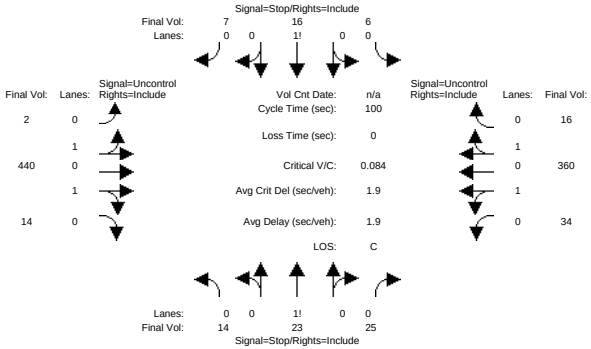
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #63: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      14   23    25     6   16     7     2  440    14    34  360    16
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   14   23    25     6   16     7     2  440    14    34  360    16
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   14   23    25     6   16     7     2  440    14    34  360    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    14   23    25     6   16     7     2  440    14    34  360    16
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   14   23    25     6   16     7     2  440    14    34  360    16
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  707  895   227   672  894   188   376 xxxx xxxxx   454 xxxx xxxxx
Potent Cap.:  326  282   782   346  283   828  1194 xxxx xxxxx  1117 xxxx xxxxx
Move Cap.:    301  273   782   305  273   828  1194 xxxx xxxxx  1117 xxxx xxxxx
Volume/Cap:  0.05 0.08  0.03  0.02 0.06  0.01  0.00 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   2.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.0 xxxx xxxxx   8.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  381 xxxxx  xxxx  335 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  0.3 xxxxx   0.0 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 16.3 xxxxx xxxxx 16.8 xxxxx   8.0 xxxx xxxxx   8.3 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      16.3             16.8           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   23    25     6   16     7     2  440    14    34  360    16
ApproachDel:      16.3             16.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=957]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=29]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=957]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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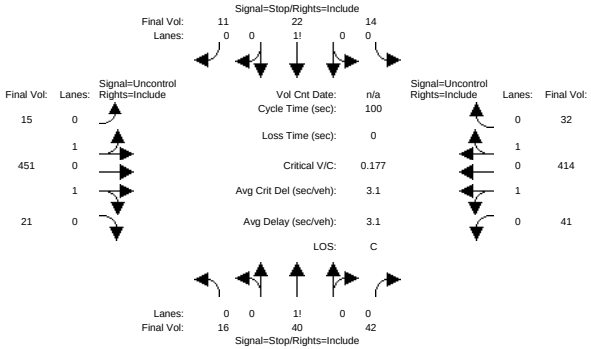
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   23    25     6   16     7     2  440    14    34  360    16
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             866
Minor Approach Volume:           62
Minor Approach Volume Threshold: 334
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #63: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      16   40    42    14   22    11    15  451    21    41  414    32
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   16   40    42    14   22    11    15  451    21    41  414    32
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   16   40    42    14   22    11    15  451    21    41  414    32
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    16   40    42    14   22    11    15  451    21    41  414    32
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   16   40    42    14   22    11    15  451    21    41  414    32
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  792 1020   236   788 1014   223   446 xxxx xxxxx   472 xxxx xxxxx
Potent Cap.:  283  239   772   285  240   787  1125 xxxx xxxxx  1100 xxxx xxxxx
Move Cap.:    249  226   772   224  228   787  1125 xxxx xxxxx  1100 xxxx xxxxx
Volume/Cap:  0.06 0.18  0.05  0.06 0.10  0.01  0.01 xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   2.9 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.2 xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  332 xxxxx  xxxx  272 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.2 xxxxx xxxxx  0.6 xxxxx   0.0 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 20.3 xxxxx xxxxx 21.0 xxxxx   8.2 xxxx xxxxx   8.4 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      20.3             21.0           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   40    42    14   22    11    15  451    21    41  414    32
ApproachDel:      20.3             21.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=98]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1119]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=47]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1119]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   40    42    14   22    11    15  451    21    41  414    32
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             974
Minor Approach Volume:           98
Minor Approach Volume Threshold: 294
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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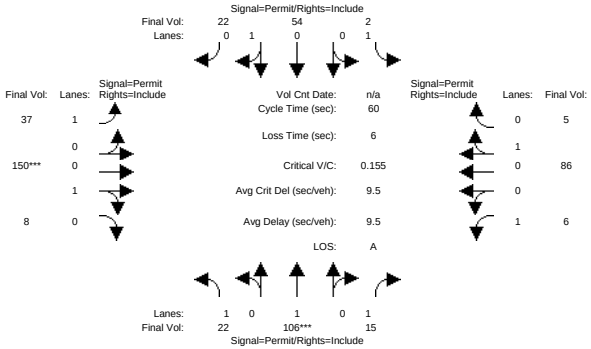
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #64: Main St / Martin Luther King Wy



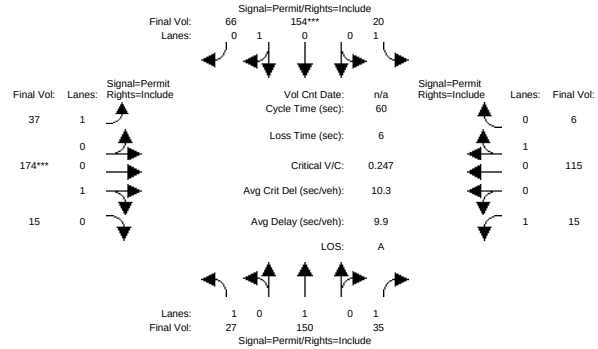
Street Name:	Main Street									Martin Luther King Way							
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	22		106		15	2		54		22	37		150		8	6		86		5
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	22		106		15	2		54		22	37		150		8	6		86		5
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	22		106		15	2		54		22	37		150		8	6		86		5
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	22		106		15	2		54		22	37		150		8	6		86		5
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	22		106		15	2		54		22	37		150		8	6		86		5
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	22		106		15	2		54		22	37		150		8	6		86		5
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.71		1.00		0.85	0.69		0.96		0.96	0.70		0.99		0.99	0.65		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.71		0.29	1.00		0.95		0.05	1.00		0.95		0.05
Final Sat.:	1343		1900		1615	1302		1292		526	1322		1789		95	1237		1781		104
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.06		0.01	0.00		0.04		0.04	0.03		0.08		0.08	0.00		0.05		0.05
Crit Moves:			****										****							
Green/Cycle:	0.36		0.36		0.36	0.36		0.36		0.36	0.54		0.54		0.54	0.54		0.54		0.54
Volume/Cap:	0.05		0.16		0.03	0.00		0.12		0.12	0.05		0.16		0.16	0.01		0.09		0.09
Delay/Veh:	12.5		13.1		12.4	12.3		12.9		12.9	6.6		7.0		7.0	6.4		6.7		6.7
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	12.5		13.1		12.4	12.3		12.9		12.9	6.6		7.0		7.0	6.4		6.7		6.7
LOS by Move:	B		B		B	B		B		B	A		A		A	A		A		A
HCM2kAvgQ:	7		35		5	1		24		24	8		35		35	1		21		21

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #64: Main St / Martin Luther King Wy



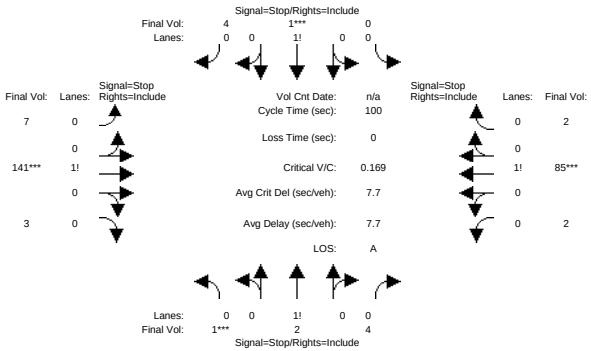
Street Name:	Main Street									Martin Luther King Way							
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	27		150		35	20		154		66	37		174		15	15		115		6
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	27		150		35	20		154		66	37		174		15	15		115		6
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	27		150		35	20		154		66	37		174		15	15		115		6
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	27		150		35	20		154		66	37		174		15	15		115		6
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	27		150		35	20		154		66	37		174		15	15		115		6
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	27		150		35	20		154		66	37		174		15	15		115		6
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.59		1.00		0.85	0.66		0.96		0.96	0.68		0.99		0.99	0.60		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.70		0.30	1.00		0.92		0.08	1.00		0.95		0.05
Final Sat.:	1117		1900		1615	1246		1270		544	1283		1728		149	1142		1793		94
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.08		0.02	0.02		0.12		0.12	0.03		0.10		0.10	0.01		0.06		0.06
Crit Moves:								****					****							
Green/Cycle:	0.49		0.49		0.49	0.49		0.49		0.49	0.41		0.41		0.41	0.41		0.41		0.41
Volume/Cap:	0.05		0.16		0.04	0.03		0.25		0.25	0.07		0.25		0.25	0.03		0.16		0.16
Delay/Veh:	8.0		8.5		7.9	7.9		9.0		9.0	10.9		11.8		11.8	10.7		11.3		11.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	8.0		8.5		7.9	7.9		9.0		9.0	10.9		11.8		11.8	10.7		11.3		11.3
LOS by Move:	A		A		A	A		A		A	B		B		B	B		B		B
HCM2kAvgQ:	7		39		9	5		61		61	10		55		55	5		37		37

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #65: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1     2     4     0     1     4     7   141     3     2    85     2
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    1     2     4     0     1     4     7   141     3     2    85     2
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    1     2     4     0     1     4     7   141     3     2    85     2
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     1     2     4     0     1     4     7   141     3     2    85     2
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    1     2     4     0     1     4     7   141     3     2    85     2
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    1     2     4     0     1     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.14  0.29  0.57  0.00  0.20  0.80  0.05  0.93  0.02  0.02  0.96  0.02
Final Sat.:   120   239   479     0   174   696    41   835    18    20   842    20
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01  0.01  0.01  xxxx  0.01  0.01  0.17  0.17  0.17  0.10  0.10  0.10
Crit Moves:  ****                    ****              ****              ****
Delay/Veh:    7.1   7.1   7.1   0.0   6.9   6.9   7.8   7.8   7.8   7.5   7.5   7.5
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.1   7.1   7.1   0.0   6.9   6.9   7.8   7.8   7.8   7.5   7.5   7.5
LOS by Move:    A     A     A     *     A     A     A     A     A     A     A     A
ApproachDel:        7.1               6.9               7.8               7.5
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.1               6.9               7.8               7.5
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   0.2   0.2   0.2   0.1   0.1   0.1   5.0   5.0   5.0   2.8   2.8   2.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #65 18th St / Martin Luther King Wy
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    1     2     4     0     1     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             240
Minor Approach Volume:           7
Minor Approach Volume Threshold: 600
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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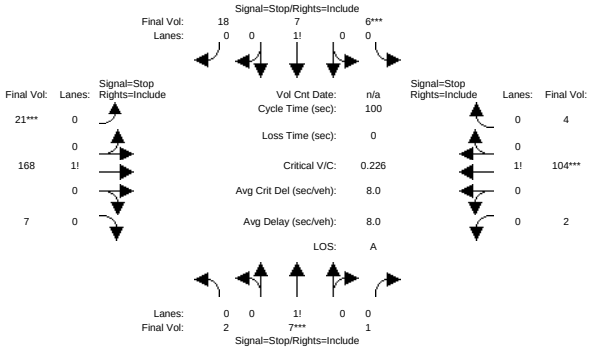
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #65: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    7     1     6    7    18    21  168     7     2  104     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    7     1     6    7    18    21  168     7     2  104     4
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    7     1     6    7    18    21  168     7     2  104     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    7     1     6    7    18    21  168     7     2  104     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2    7     1     6    7    18    21  168     7     2  104     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    2    7     1     6    7    18    21  168     7     2  104     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.20 0.70  0.10  0.19 0.23  0.58  0.11 0.86  0.03  0.02 0.94  0.04
Final Sat.:   149  521    74   155  180   464    93  745    31    16  807    31
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.01  0.01  0.04 0.04  0.04  0.23 0.23  0.23  0.13 0.13  0.13
Crit Moves:        ****        ****              ****                    ****
Delay/Veh:    7.6  7.6   7.6   7.4  7.4   7.4   8.3  8.3   8.3   7.8  7.8   7.8
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.6  7.6   7.6   7.4  7.4   7.4   8.3  8.3   8.3   7.8  7.8   7.8
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       7.6              7.4              8.3              7.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.6              7.4              8.3              7.8
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.3  0.3   0.3   0.9  0.9   0.9   7.1  7.1   7.1   3.6  3.6   3.6
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #65 18th St / Martin Luther King Wy
*******************************************************************************
```



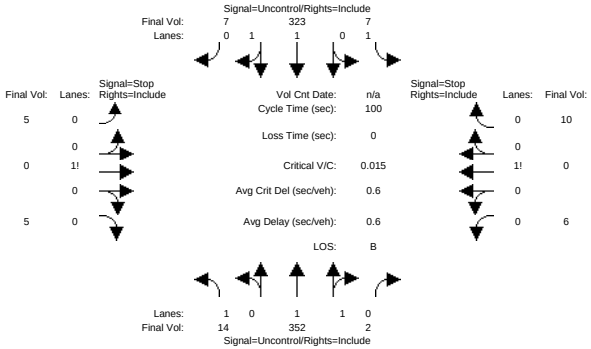
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2    7     1     6    7    18    21  168     7     2  104     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             306
Minor Approach Volume:           31
Minor Approach Volume Threshold: 535
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #66: 16th St / H St




```
Street Name:            16th Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      14  352     2     7  323     7     5    0     5     6    0    10
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   14  352     2     7  323     7     5    0     5     6    0    10
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   14  352     2     7  323     7     5    0     5     6    0    10
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    14  352     2     7  323     7     5    0     5     6    0    10
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   14  352     2     7  323     7     5    0     5     6    0    10
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  330 xxxx xxxxx   354 xxxx xxxxx   545  723   165   557  725   177
Potent Cap.: 1241 xxxx xxxxx  1216 xxxx xxxxx   426  355   857   418  354   842
Move Cap.:   1241 xxxx xxxxx  1216 xxxx xxxxx   416  349   857   410  348   842
Volume/Cap:  0.01 xxxx  xxxx  0.01 xxxx  xxxx  0.01 0.00  0.01  0.01 0.00  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.9 xxxx xxxxx   0.4 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.9 xxxx xxxxx   8.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  560 xxxxx  xxxx  603 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.1 xxxxx xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 11.5 xxxxx xxxxx 11.1 xxxxx
Shared LOS:     *    *     *     *    *     *     *    B     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             11.5            11.1
ApproachLOS:         *                *               B               B
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #66 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   14  352     2     7  323     7     5    0     5     6    0    10
ApproachDel:    xxxxxx           xxxxxx             11.5            11.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=10]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=731]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=16]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=731]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

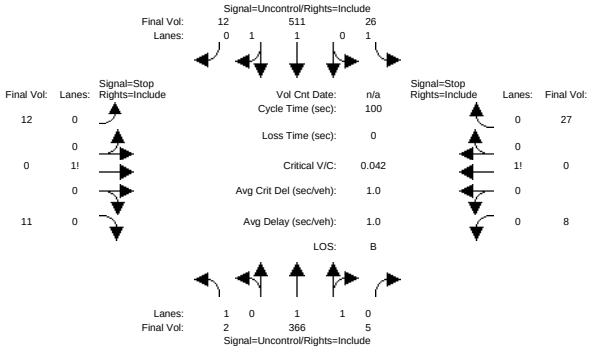
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #66 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   14  352     2     7  323     7     5    0     5     6    0    10
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             705
Minor Approach Volume:            16
Minor Approach Volume Threshold: 405
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #66: 16th St / H St




```
Street Name:            16th Street                     H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2  366     5    26  511    12    12    0    11     8    0    27
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2  366     5    26  511    12    12    0    11     8    0    27
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2  366     5    26  511    12    12    0    11     8    0    27
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2  366     5    26  511    12    12    0    11     8    0    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2  366     5    26  511    12    12    0    11     8    0    27
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  523 xxxx xxxxx   371 xxxx xxxxx   756  944   262   680  948   186
Potent Cap.: 1054 xxxx xxxxx  1199 xxxx xxxxx   301  264   743   341  263   831
Move Cap.:   1054 xxxx xxxxx  1199 xxxx xxxxx   286  258   743   330  257   831
Volume/Cap:  0.00 xxxx  xxxx  0.02 xxxx  xxxx  0.04 0.00  0.01  0.02 0.00  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx   1.7 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.4 xxxx xxxxx   8.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  405 xxxxx  xxxx  617 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.2 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 14.4 xxxxx xxxxx 11.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    B     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             14.4             11.2
ApproachLOS:         *                *               B                B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #66 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2  366     5    26  511    12    12    0    11     8    0    27
ApproachDel:    xxxxxx           xxxxxx              14.4             11.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=980]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=980]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

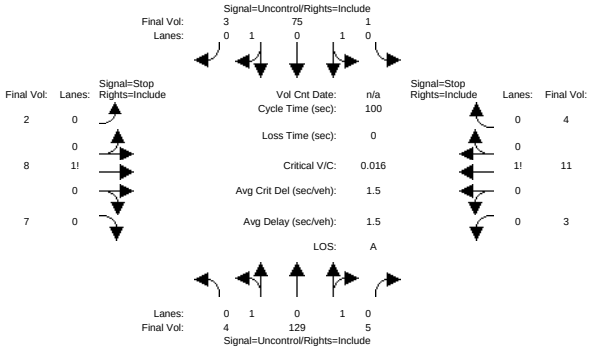
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #66 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2  366     5    26  511    12    12    0    11     8    0    27
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             922
Minor Approach Volume:           35
Minor Approach Volume Threshold: 313
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4  129     5     1   75     3     2    8     7     3   11     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4  129     5     1   75     3     2    8     7     3   11     4
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4  129     5     1   75     3     2    8     7     3   11     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4  129     5     1   75     3     2    8     7     3   11     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4  129     5     1   75     3     2    8     7     3   11     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   78 xxxx xxxxx   134 xxxx xxxxx   157  221    39   183  220    67
Potent Cap.: 1533 xxxx xxxxx  1463 xxxx xxxxx   800  681  1031   767  682   989
Move Cap.:   1533 xxxx xxxxx  1463 xxxx xxxxx   785  679  1031   753  680   989
Volume/Cap:  0.00 xxxx  xxxx  0.00 xxxx  xxxx  0.00 0.01  0.01  0.00 0.02  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.2 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.4 xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  805 xxxxx  xxxx  744 xxxxx
SharedQueue:  0.0 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  0.1 xxxxx xxxxx  0.1 xxxxx
Shrd ConDel:  7.4 xxxx xxxxx   7.5 xxxx xxxxx xxxxx  9.6 xxxxx xxxxx 10.0 xxxxx
Shared LOS:     A    *     *     A    *     *     *    A     *     *    A     *
ApproachDel:    xxxxxx           xxxxxx              9.6            10.0
ApproachLOS:         *                *                A               A
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  129     5     1   75     3     2    8     7     3   11     4
ApproachDel:    xxxxxx           xxxxxx              9.6            10.0
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=17]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=252]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=252]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  129     5     1   75     3     2    8     7     3   11     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             217
Minor Approach Volume:           18
Minor Approach Volume Threshold: 811
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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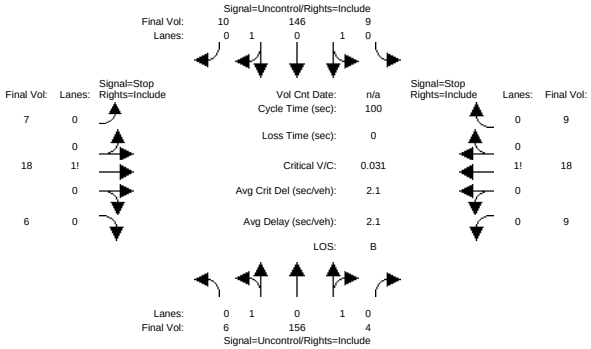
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6  156     4     9  146    10     7   18     6     9   18     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6  156     4     9  146    10     7   18     6     9   18     9
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6  156     4     9  146    10     7   18     6     9   18     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6  156     4     9  146    10     7   18     6     9   18     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6  156     4     9  146    10     7   18     6     9   18     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  156 xxxx xxxxx   160 xxxx xxxxx   268  341    78   270  344    80
Potent Cap.: 1436 xxxx xxxxx  1432 xxxx xxxxx   669  584   973   666  582   971
Move Cap.:   1436 xxxx xxxxx  1432 xxxx xxxxx   641  578   973   641  576   971
Volume/Cap:  0.00 xxxx  xxxx  0.01 xxxx  xxxx  0.01 0.03  0.01  0.01 0.03  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.3 xxxx xxxxx   0.5 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.5 xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  643 xxxxx  xxxx  660 xxxxx
SharedQueue:  0.0 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  0.2 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:  7.5 xxxx xxxxx   7.5 xxxx xxxxx xxxxx 10.9 xxxxx xxxxx 10.8 xxxxx
Shared LOS:     A    *     *     A    *     *     *    B     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             10.9            10.8
ApproachLOS:         *                *                B               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  156     4     9  146    10     7   18     6     9   18     9
ApproachDel:    xxxxxx           xxxxxx             10.9            10.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=398]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=36]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=398]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  156     4     9  146    10     7   18     6     9   18     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             331
Minor Approach Volume:           36
Minor Approach Volume Threshold: 666
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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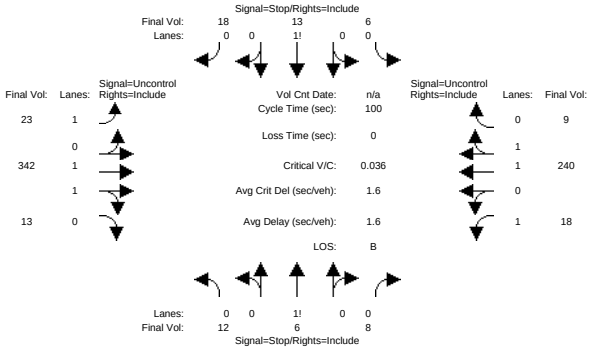
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #68: 15th St / G St




```
Street Name:            15th Street                     G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      12    6     8     6   13    18    23  342    13    18  240     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   12    6     8     6   13    18    23  342    13    18  240     9
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   12    6     8     6   13    18    23  342    13    18  240     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    12    6     8     6   13    18    23  342    13    18  240     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   12    6     8     6   13    18    23  342    13    18  240     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  557  680   178   501  682   125   249 xxxx xxxxx   355 xxxx xxxxx
Potent Cap.:  417  376   841   458  375   909  1328 xxxx xxxxx  1215 xxxx xxxxx
Move Cap.:    388  364   841   437  363   909  1328 xxxx xxxxx  1215 xxxx xxxxx
Volume/Cap:  0.03 0.02  0.01  0.01 0.04  0.02  0.02 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.3 xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx   8.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  457 xxxxx  xxxx  534 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 13.4 xxxxx xxxxx 12.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      13.4             12.2            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #68 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   12    6     8     6   13    18    23  342    13    18  240     9
ApproachDel:      13.4             12.2            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=26]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=708]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=37]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=708]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #68 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   12    6     8     6   13    18    23  342    13    18  240     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             645
Minor Approach Volume:           37
Minor Approach Volume Threshold: 436
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
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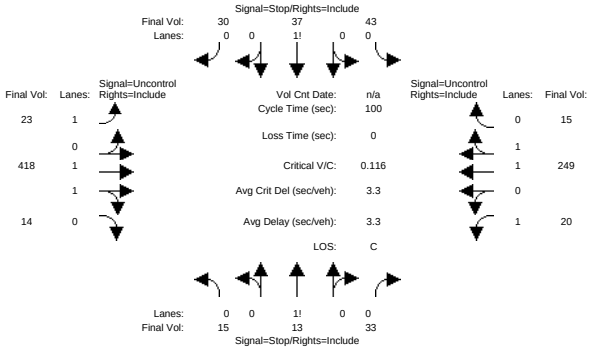
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #68: 15th St / G St




```
Street Name:            15th Street                     G Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   13    33    43   37    30    23  418    14    20  249    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15   13    33    43   37    30    23  418    14    20  249    15
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   15   13    33    43   37    30    23  418    14    20  249    15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    15   13    33    43   37    30    23  418    14    20  249    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   15   13    33    43   37    30    23  418    14    20  249    15
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  654  775   216   558  775   132   264 xxxx xxxxx   432 xxxx xxxxx
Potent Cap.:  356  331   795   417  331   899  1312 xxxx xxxxx  1138 xxxx xxxxx
Move Cap.:    305  320   795   377  320   899  1312 xxxx xxxxx  1138 xxxx xxxxx
Volume/Cap:  0.05 0.04  0.04  0.11 0.12  0.03  0.02 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.3 xxxx xxxxx   1.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx   8.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  465 xxxxx  xxxx  418 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.4 xxxxx xxxxx  1.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 13.9 xxxxx xxxxx 16.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    C     *     *    *     *     *    *     *
ApproachDel:      13.9             16.7            xxxxxx           xxxxxx
ApproachLOS:         B                C                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
******************************************************************************
Intersection #68 15th St / G St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   15   13    33    43   37    30    23  418    14    20  249    15
ApproachDel:      13.9             16.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=61]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=910]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=110]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=910]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
******************************************************************************
Intersection #68 15th St / G St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   15   13    33    43   37    30    23  418    14    20  249    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             739
Minor Approach Volume:           110
Minor Approach Volume Threshold: 389
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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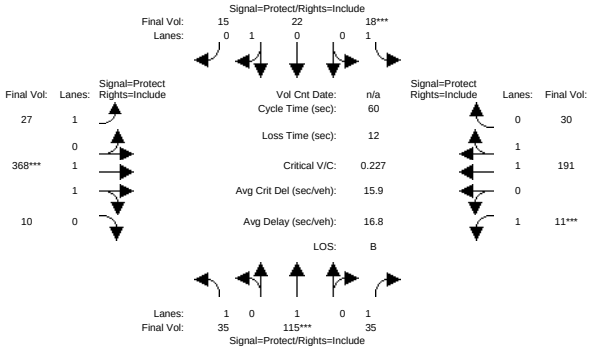
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #69: Main St / G St



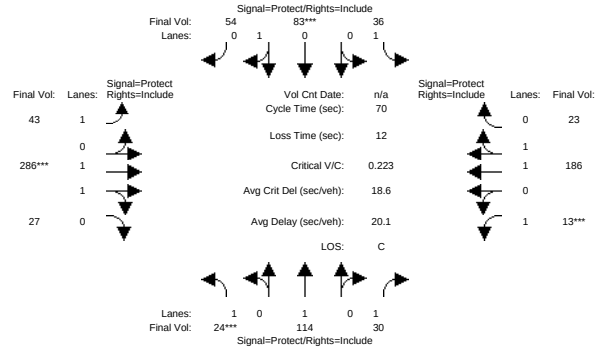
Street Name:	Main Street									G Street								
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	35	115	35		18	22	15		27	368	10		11	191	30	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	35	115	35		18	22	15		27	368	10		11	191	30	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	35	115	35		18	22	15		27	368	10		11	191	30	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	35	115	35		18	22	15		27	368	10		11	191	30	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	35	115	35		18	22	15		27	368	10		11	191	30	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	35	115	35		18	22	15		27	368	10		11	191	30	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	0.85		0.95	0.94	0.94		0.95	0.95	0.95		0.95	0.93	0.93	
Lanes:	1.00	1.00	1.00		1.00	0.59	0.41		1.00	1.95	0.05		1.00	1.73	0.27	
Final Sat.:	1805	1900	1615		1805	1061	723		1805	3500	95		1805	3058	480	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.06	0.02		0.01	0.02	0.02		0.01	0.11	0.11		0.01	0.06	0.06	
Crit Moves:		****			****					****			****			
Green/Cycle:	0.13	0.21	0.21		0.12	0.19	0.19		0.20	0.36	0.36		0.12	0.28	0.28	
Volume/Cap:	0.15	0.29	0.10		0.09	0.11	0.11		0.08	0.29	0.29		0.05	0.22	0.22	
Delay/Veh:	23.3	20.5	19.4		23.8	20.2	20.2		19.8	13.9	13.9		23.7	16.7	16.7	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	23.3	20.5	19.4		23.8	20.2	20.2		19.8	13.9	13.9		23.7	16.7	16.7	
LOS by Move:	C	C	B		C	C	C		B	B	B		C	B	B	
HCM2kAvgQ:	17	51	15		9	16	16		11	70	70		4	40	40	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #69: Main St / G St



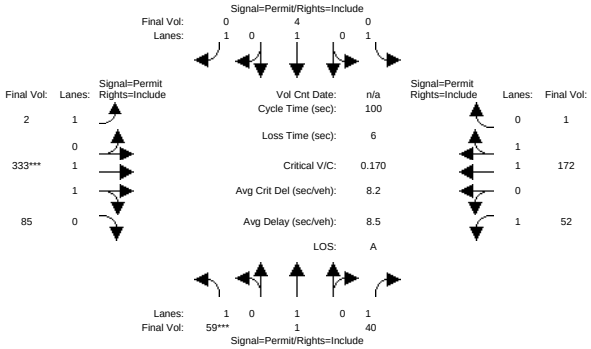
Street Name:	Main Street									G Street								
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	24	114	30		36	83	54		43	286	27		13	186	23	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	24	114	30		36	83	54		43	286	27		13	186	23	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	24	114	30		36	83	54		43	286	27		13	186	23	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	24	114	30		36	83	54		43	286	27		13	186	23	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	24	114	30		36	83	54		43	286	27		13	186	23	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	24	114	30		36	83	54		43	286	27		13	186	23	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	0.85		0.95	0.94	0.94		0.95	0.94	0.94		0.95	0.93	0.93	
Lanes:	1.00	1.00	1.00		1.00	0.61	0.39		1.00	1.83	0.17		1.00	1.78	0.22	
Final Sat.:	1805	1900	1615		1805	1083	705		1805	3256	307		1805	3161	391	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.06	0.02		0.02	0.08	0.08		0.02	0.09	0.09		0.01	0.06	0.06	
Crit Moves:	****					****				****			****			
Green/Cycle:	0.10	0.23	0.23		0.16	0.29	0.29		0.18	0.34	0.34		0.10	0.26	0.26	
Volume/Cap:	0.13	0.26	0.08		0.12	0.26	0.26		0.13	0.26	0.26		0.07	0.23	0.23	
Delay/Veh:	29.1	22.3	21.2		25.3	19.2	19.2		24.3	17.0	17.0		28.7	20.7	20.7	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	29.1	22.3	21.2		25.3	19.2	19.2		24.3	17.0	17.0		28.7	20.7	20.7	
LOS by Move:	C	C	C		C	B	B		C	B	B		C	C	C	
HCM2kAvgQ:	14	54	14		18	60	60		21	67	67		6	45	45	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #70: 18th St / G St



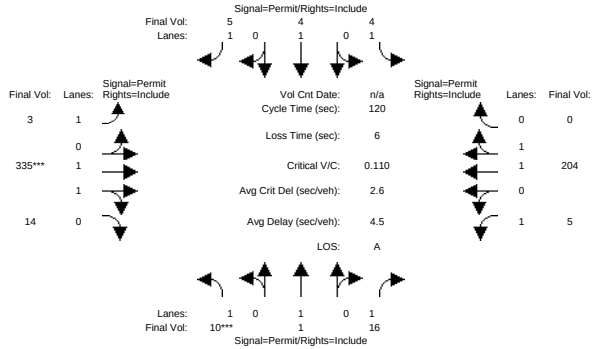
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	59	1	40	0	4	0	2	333	85	52	172	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	1	40	0	4	0	2	333	85	52	172	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	59	1	40	0	4	0	2	333	85	52	172	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	1	40	0	4	0	2	333	85	52	172	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	1	40	0	4	0	2	333	85	52	172	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	59	1	40	0	4	0	2	333	85	52	172	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	1.00	1.00	1.00	0.64	0.92	0.92	0.50	0.95	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.59	0.41	1.00	1.99	0.01
Final Sat.:	1455	1900	1615	1900	1900	1900	1208	2790	712	944	3586	21
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.02	0.00	0.00	0.00	0.00	0.12	0.12	0.06	0.05	0.05
Crit Moves:	****							****				
Green/Cycle:	0.24	0.24	0.24	0.00	0.24	0.00	0.70	0.70	0.70	0.70	0.70	0.70
Volume/Cap:	0.17	0.00	0.10	0.00	0.01	0.00	0.00	0.17	0.17	0.08	0.07	0.07
Delay/Veh:	30.5	29.0	29.9	0.0	29.1	0.0	4.5	5.1	5.1	4.8	4.7	4.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.5	29.0	29.9	0.0	29.1	0.0	4.5	5.1	5.1	4.8	4.7	4.7
LOS by Move:	C	C	C	A	C	A	A	A	A	A	A	A
HCM2kAvgQ:	38	1	25	0	2	0	0	56	56	14	22	22

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #70: 18th St / G St



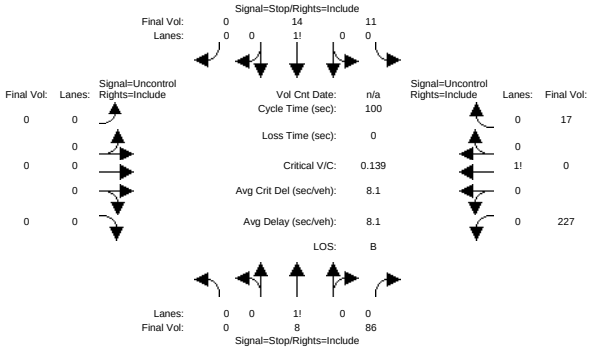
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	1	16	4	4	5	3	335	14	5	204	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1	16	4	4	5	3	335	14	5	204	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	1	16	4	4	5	3	335	14	5	204	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	1	16	4	4	5	3	335	14	5	204	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1	16	4	4	5	3	335	14	5	204	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1	16	4	4	5	3	335	14	5	204	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.62	0.94	0.94	0.54	0.95	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.92	0.08	1.00	2.00	0.00
Final Sat.:	1455	1900	1615	1459	1900	1615	1170	3444	144	1026	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.10	0.00	0.06	0.00
Crit Moves:	****							****				
Green/Cycle:	0.08	0.08	0.08	0.08	0.08	0.08	0.87	0.87	0.87	0.87	0.87	0.00
Volume/Cap:	0.08	0.01	0.12	0.03	0.03	0.04	0.00	0.11	0.11	0.01	0.07	0.00
Delay/Veh:	51.1	50.5	51.3	50.7	50.6	50.7	1.1	1.2	1.2	1.1	1.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.1	50.5	51.3	50.7	50.6	50.7	1.1	1.2	1.2	1.1	1.1	0.0
LOS by Move:	D	D	D	D	D	D	A	A	A	A	A	A
HCM2kAvgQ:	10	1	16	4	4	5	0	26	26	1	14	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #71: 15th St / D St




```
Street Name:            15th Street                     D Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    8    86    11   14     0     0    0     0   227    0    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    8    86    11   14     0     0    0     0   227    0    17
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    8    86    11   14     0     0    0     0   227    0    17
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    8    86    11   14     0     0    0     0   227    0    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    8    86    11   14     0     0    0     0   227    0    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  6.5   6.2   7.1  6.5 xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx  4.0   3.3   3.5  4.0 xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx  471     0   467  463 xxxxx  xxxx xxxx xxxxx     0 xxxx xxxxx
Potent Cap.: xxxx  494  1091   510  499 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Move Cap.:   xxxx  415  1091   407  420 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Volume/Cap:  xxxx 0.02  0.08  0.03 0.03  xxxx  xxxx xxxx  xxxx  0.14 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  12.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx   958   414 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx   0.3   0.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx   9.2  14.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     A     B    *     *     *    *     *     *    *     *
ApproachDel:       9.2             14.3           xxxxxx           xxxxxx
ApproachLOS:         A                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #71 15th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0    8    86    11   14     0     0    0     0   227    0    17
ApproachDel:       9.2             14.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=94]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=363]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=25]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=363]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

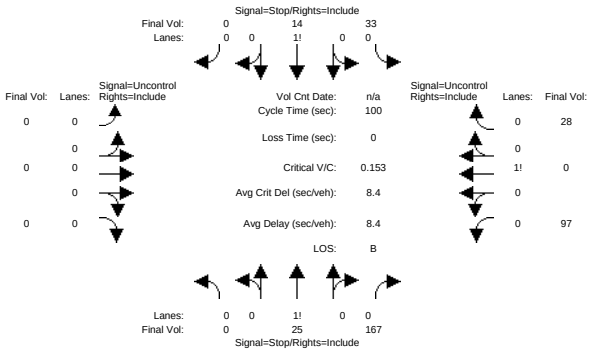
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #71 15th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0    8    86    11   14     0     0    0     0   227    0    17
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             244
Minor Approach Volume:            94
Minor Approach Volume Threshold: 596
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #71: 15th St / D St




```
Street Name:            15th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   25   167    33   14     0     0    0     0    97    0    28
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   25   167    33   14     0     0    0     0    97    0    28
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   25   167    33   14     0     0    0     0    97    0    28
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   25   167    33   14     0     0    0     0    97    0    28
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   25   167    33   14     0     0    0     0    97    0    28
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  6.5   6.2   7.1  6.5 xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx  4.0   3.3   3.5  4.0 xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx  222     0   221  208 xxxxx  xxxx xxxx xxxxx     0 xxxx xxxxx
Potent Cap.: xxxx  680  1091   740  692 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Move Cap.:   xxxx  638  1091   579  649 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Volume/Cap:  xxxx 0.04  0.15  0.06 0.02  xxxx  xxxx xxxx  xxxx  0.06 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   4.7 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx   998   598 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx   0.7   0.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx   9.5  11.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     A     B    *     *     *    *     *     *    *     *
ApproachDel:       9.5             11.5           xxxxxx           xxxxxx
ApproachLOS:         A                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #71 15th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   25   167    33   14     0     0    0     0    97    0    28
ApproachDel:       9.5             11.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=192]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=364]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=47]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=364]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

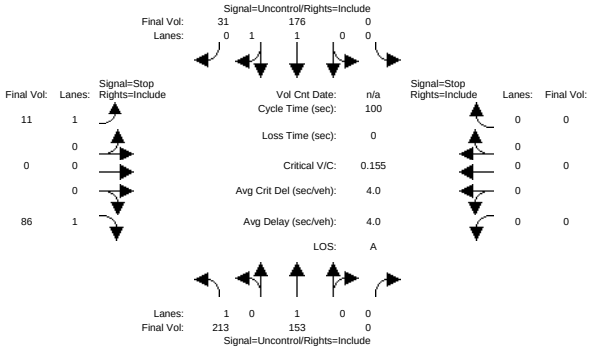
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #71 15th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   25   167    33   14     0     0    0     0    97    0    28
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             125
Minor Approach Volume:           192
Minor Approach Volume Threshold: 774
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #72: 16th St / D St




```
Street Name:            16th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     213  153     0     0  176    31    11    0    86     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  213  153     0     0  176    31    11    0    86     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  213  153     0     0  176    31    11    0    86     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   213  153     0     0  176    31    11    0    86     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  213  153     0     0  176    31    11    0    86     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  207 xxxx xxxxx  xxxx xxxx xxxxx   771 xxxx   104  xxxx xxxx xxxxx
Potent Cap.: 1376 xxxx xxxxx  xxxx xxxx xxxxx   371 xxxx   957  xxxx xxxx xxxxx
Move Cap.:   1376 xxxx xxxxx  xxxx xxxx xxxxx   327 xxxx   957  xxxx xxxx xxxxx
Volume/Cap:  0.15 xxxx  xxxx  xxxx xxxx  xxxx  0.03 xxxx  0.09  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   13.7 xxxx xxxxx  xxxx xxxx xxxxx   2.6 xxxx   7.4  xxxx xxxx xxxxx
Control Del:  8.1 xxxx xxxxx xxxxx xxxx xxxxx  16.4 xxxx   9.1 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     C    *     A     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             10.0           xxxxxx
ApproachLOS:         *                *                A                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #72 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:  213  153     0     0  176    31    11    0    86     0    0     0
ApproachDel:    xxxxxx           xxxxxx              10.0           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=97]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=670]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

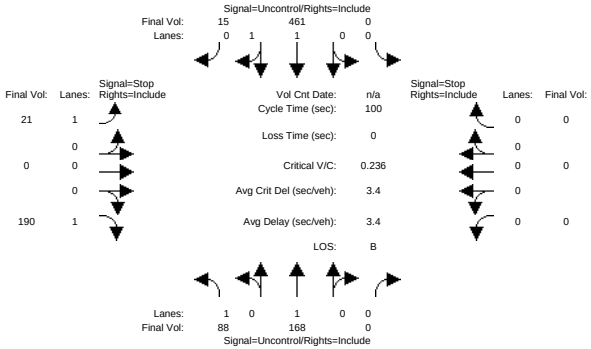
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #72 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:  213  153     0     0  176    31    11    0    86     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             573
Minor Approach Volume:           97
Minor Approach Volume Threshold: 614
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #72: 16th St / D St




```
Street Name:            16th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      88  168     0     0  461    15    21    0   190     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   88  168     0     0  461    15    21    0   190     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   88  168     0     0  461    15    21    0   190     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    88  168     0     0  461    15    21    0   190     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   88  168     0     0  461    15    21    0   190     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  476 xxxx xxxxx  xxxx xxxx xxxxx   813 xxxx   238  xxxx xxxx xxxxx
Potent Cap.: 1097 xxxx xxxxx  xxxx xxxx xxxxx   351 xxxx   806  xxxx xxxx xxxxx
Move Cap.:   1097 xxxx xxxxx  xxxx xxxx xxxxx   329 xxxx   806  xxxx xxxx xxxxx
Volume/Cap:  0.08 xxxx  xxxx  xxxx xxxx  xxxx  0.06 xxxx  0.24  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    6.5 xxxx xxxxx  xxxx xxxx xxxxx   5.1 xxxx  22.9  xxxx xxxx xxxxx
Control Del:  8.6 xxxx xxxxx xxxxx xxxx xxxxx  16.7 xxxx  10.8 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     C    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             11.4           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #72 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:   88  168     0     0  461    15    21    0   190     0    0     0
ApproachDel:    xxxxxx           xxxxxx              11.4           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=211]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=943]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #72 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:   88  168     0     0  461    15    21    0   190     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             732
Minor Approach Volume:           211
Minor Approach Volume Threshold: 508
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

HEAVY MANTENANCE FACILITY ANALYSIS - CASTLE COMMERCE

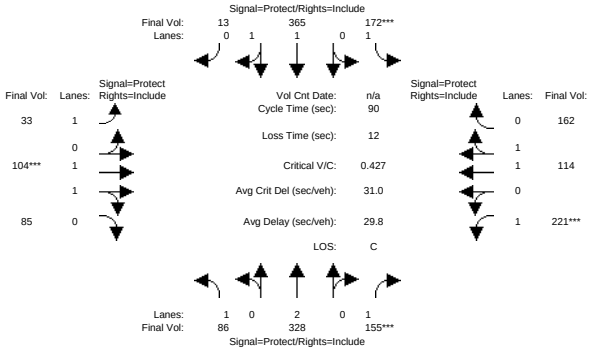
EXISTING WITH PROJECT_OPTION-A CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #1: Winton Wy/Bellevue Rd



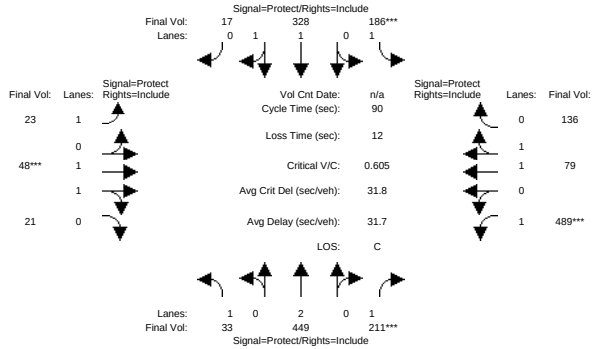
Street Name:	N. Winton Way						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	328	80	172	365	13	33	104	85	73	114	162
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	328	80	172	365	13	33	104	85	73	114	162
Added Vol:	0	0	75	0	0	0	0	0	0	148	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	86	328	155	172	365	13	33	104	85	221	114	162
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	328	155	172	365	13	33	104	85	221	114	162
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	328	155	172	365	13	33	104	85	221	114	162
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	328	155	172	365	13	33	104	85	221	114	162
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.95	0.95	0.89	0.89	0.95	0.87	0.87
Lanes:	1.00	2.00	1.00	1.00	1.93	0.07	1.00	1.10	0.90	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3468	124	1805	1853	1515	1805	1646	1646
Capacity Analysis Module:												
Vol/Sat:	0.05	0.09	0.10	0.10	0.11	0.11	0.02	0.06	0.06	0.12	0.07	0.10
Crit Moves:			****	****				****		****		
Green/Cycle:	0.18	0.22	0.22	0.22	0.26	0.26	0.17	0.13	0.13	0.29	0.25	0.25
Volume/Cap:	0.26	0.40	0.43	0.43	0.40	0.40	0.11	0.43	0.43	0.43	0.28	0.40
Delay/Veh:	31.8	30.1	30.7	30.7	27.5	27.5	31.6	36.6	36.6	26.6	27.6	28.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.8	30.1	30.7	30.7	27.5	27.5	31.6	36.6	36.6	26.6	27.6	28.7
LOS by Move:	C	C	C	C	C	C	C	D	D	C	C	C
HCM2kAvgQ:	2	4	4	4	5	5	1	3	3	5	3	4

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #1: Winton Wy/Bellevue Rd



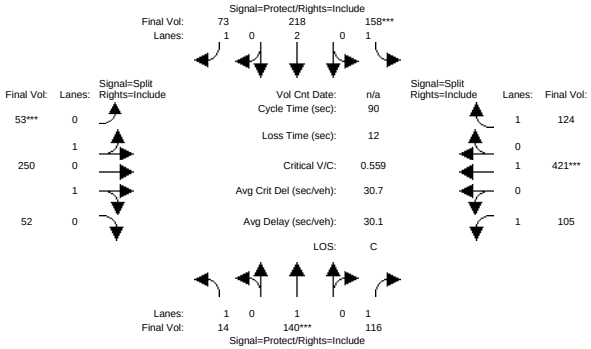
Street Name:	N. Winton Way						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	33	449	169	186	328	17	23	48	21	227	79	136
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	449	169	186	328	17	23	48	21	227	79	136
Added Vol:	0	0	42	0	0	0	0	0	0	262	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	449	211	186	328	17	23	48	21	489	79	136
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	33	449	211	186	328	17	23	48	21	489	79	136
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	449	211	186	328	17	23	48	21	489	79	136
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	33	449	211	186	328	17	23	48	21	489	79	136
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.94	0.94	0.95	0.91	0.91	0.95	0.86	0.86
Lanes:	1.00	2.00	1.00	1.00	1.90	0.10	1.00	1.39	0.61	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3408	177	1805	2396	1048	1805	1634	1634
Capacity Analysis Module:												
Vol/Sat:	0.02	0.12	0.13	0.10	0.10	0.10	0.01	0.02	0.02	0.27	0.05	0.08
Crit Moves:			****	****				****		****		
Green/Cycle:	0.14	0.20	0.20	0.15	0.21	0.21	0.21	0.11	0.11	0.41	0.30	0.30
Volume/Cap:	0.13	0.64	0.67	0.67	0.47	0.47	0.06	0.18	0.18	0.67	0.16	0.27
Delay/Veh:	33.8	35.2	38.9	42.0	31.9	31.9	28.3	36.5	36.5	24.2	23.0	24.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.8	35.2	38.9	42.0	31.9	31.9	28.3	36.5	36.5	24.2	23.0	24.0
LOS by Move:	C	D	D	D	C	C	C	D	D	C	C	C
HCM2kAvgQ:	1	7	7	6	5	5	1	1	1	12	2	3

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #2: Atwater Blvd / Applegate Rd



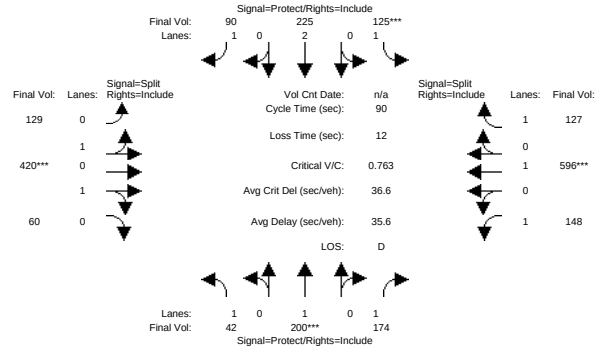
Street Name:	Atwater Boulevard									Applegate Road-Winton Way								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	14		140		116	158		218		73	53		175		52	105		273		124
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	14		140		116	158		218		73	53		175		52	105		273		124
Added Vol:	0		0		0	0		0		0	0		75		0	0		148		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	14		140		116	158		218		73	53		250		52	105		421		124
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	14		140		116	158		218		73	53		250		52	105		421		124
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	14		140		116	158		218		73	53		250		52	105		421		124
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	14		140		116	158		218		73	53		250		52	105		421		124
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.95		0.85	0.92		0.92		0.92	0.95		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		2.00		1.00	0.30		1.41		0.29	1.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		3610		1615	523		2469		514	1805		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.01		0.07		0.07	0.09		0.06		0.05	0.10		0.10		0.10	0.06		0.22		0.08
Crit Moves:			****			****					****							****		
Green/Cycle:	0.12		0.13		0.13	0.16		0.17		0.17	0.18		0.18		0.18	0.40		0.40		0.40
Volume/Cap:	0.07		0.56		0.54	0.56		0.36		0.27	0.56		0.56		0.56	0.15		0.56		0.19
Delay/Veh:	35.3		39.4		39.4	37.6		33.4		33.0	34.7		34.7		34.7	17.5		22.0		17.9
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	35.3		39.4		39.4	37.6		33.4		33.0	34.7		34.7		34.7	17.5		22.0		17.9
LOS by Move:	D		D		D	D		C		C	C		C		C	B		C		B
HCM2kAvgQ:	0		4		4	5		3		2	5		5		5	2		9		2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #2: Atwater Blvd / Applegate Rd



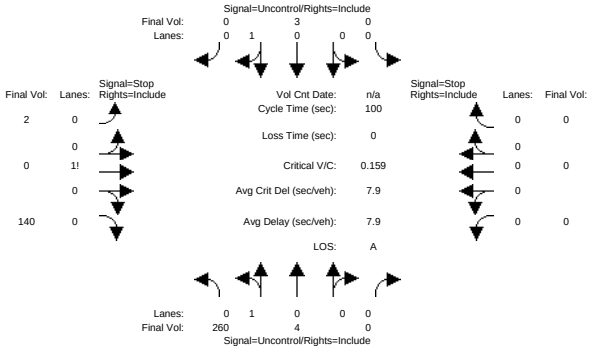
Street Name:	Atwater Boulevard									Applegate Road-Winton Way								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	42		200		174	125		225		90	129		378		60	148		334		127
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	42		200		174	125		225		90	129		378		60	148		334		127
Added Vol:	0		0		0	0		0		0	0		42		0	0		262		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	42		200		174	125		225		90	129		420		60	148		596		127
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	42		200		174	125		225		90	129		420		60	148		596		127
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	42		200		174	125		225		90	129		420		60	148		596		127
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	42		200		174	125		225		90	129		420		60	148		596		127
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.95		0.85	0.93		0.93		0.93	0.95		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		2.00		1.00	0.42		1.38		0.20	1.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		3610		1615	746		2428		347	1805		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.11		0.11	0.07		0.06		0.06	0.17		0.17		0.17	0.08		0.31		0.08
Crit Moves:			****			****							****					****		
Green/Cycle:	0.09		0.14		0.14	0.09		0.13		0.13	0.23		0.23		0.23	0.41		0.41		0.41
Volume/Cap:	0.25		0.76		0.78	0.76		0.46		0.41	0.76		0.76		0.76	0.20		0.76		0.19
Delay/Veh:	38.6		49.8		53.6	58.8		36.6		37.0	36.9		36.9		36.9	17.1		27.2		17.1
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	38.6		49.8		53.6	58.8		36.6		37.0	36.9		36.9		36.9	17.1		27.2		17.1
LOS by Move:	D		D		D	E		D		D	D		D		D	B		C		B
HCM2kAvgQ:	1		7		7	5		4		3	8		8		8	3		16		2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #3: Sycamore Ave / SR-99 NB Ramps

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Street Name:         Sycamore Avenue                    SR-99 NB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     228    4     0     0    3     0     2    0   140     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  228    4     0     0    3     0     2    0   140     0    0     0
Added Vol:     32    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  260    4     0     0    3     0     2    0   140     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   260    4     0     0    3     0     2    0   140     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  260    4     0     0    3     0     2    0   140     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:    3 xxxx xxxxx  xxxx xxxx xxxxx   527  527     3  xxxx xxxx xxxxx
Potent Cap.: 1632 xxxx xxxxx  xxxx xxxx xxxxx   515  459  1087  xxxx xxxx xxxxx
Move Cap.:   1632 xxxx xxxxx  xxxx xxxx xxxxx   441  374  1087  xxxx xxxx xxxxx
Volume/Cap:  0.16 xxxx  xxxx  xxxx xxxx  xxxx  0.00 0.00  0.13  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.6 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 1065 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.5 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  8.9 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx               8.9           xxxxxx
ApproachLOS:         *                *                 A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



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------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  260    4     0     0    3     0     2    0   140     0    0     0
ApproachDel:    xxxxxx           xxxxxx               8.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=142]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=409]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  260    4     0     0    3     0     2    0   140     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             267
Minor Approach Volume:           142
Minor Approach Volume Threshold: 572
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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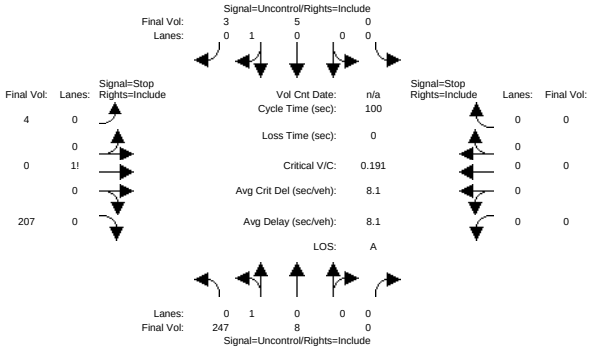
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #3: Sycamore Ave / SR-99 NB Ramps

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Street Name:         Sycamore Avenue                    SR-99 NB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     191    8     0     0    5     3     4    0   207     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  191    8     0     0    5     3     4    0   207     0    0     0
Added Vol:     56    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  247    8     0     0    5     3     4    0   207     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   247    8     0     0    5     3     4    0   207     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  247    8     0     0    5     3     4    0   207     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:    8 xxxx xxxxx  xxxx xxxx xxxxx   509  509     7  xxxx xxxx xxxxx
Potent Cap.: 1625 xxxx xxxxx  xxxx xxxx xxxxx   528  470  1082  xxxx xxxx xxxxx
Move Cap.:   1625 xxxx xxxxx  xxxx xxxx xxxxx   456  388  1082  xxxx xxxx xxxxx
Volume/Cap:  0.15 xxxx  xxxx  xxxx xxxx  xxxx  0.01 0.00  0.19  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.5 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 1055 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.7 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.3 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              9.3           xxxxxx
ApproachLOS:         *                *               A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  247    8     0     0    5     3     4    0   207     0    0     0
ApproachDel:    xxxxxx           xxxxxx              9.3           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=211]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=474]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  247    8     0     0    5     3     4    0   207     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             263
Minor Approach Volume:           211
Minor Approach Volume Threshold: 576
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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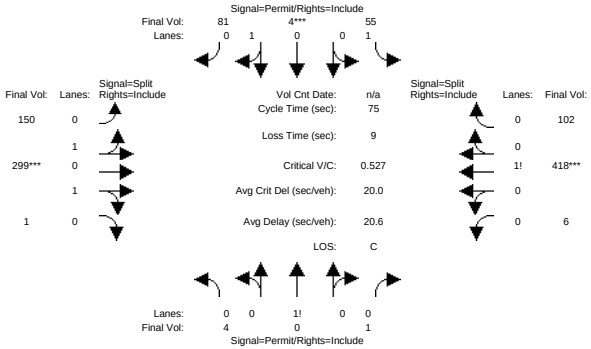
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #4: Sycamore Ave / Applegate Rd



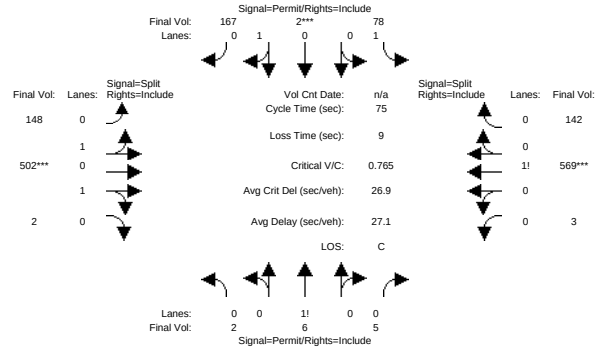
Street Name:	Sycamore Avenue												Applegate Road											
Approach:	North Bound				South Bound				East Bound				West Bound											
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																									
Base Vol:	4		0		1	55		4		81	150		224		1	6		302		70					
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
Initial Bse:	4		0		1	55		4		81	150		224		1	6		302		70					
Added Vol:	0		0		0	0		0		0	0		75		0	0		116		32					
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0					
Initial Fut:	4		0		1	55		4		81	150		299		1	6		418		102					
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Volume:	4		0		1	55		4		81	150		299		1	6		418		102					
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0					
Reduced Vol:	4		0		1	55		4		81	150		299		1	6		418		102					
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
FinalVolume:	4		0		1	55		4		81	150		299		1	6		418		102					
Saturation Flow Module:																									
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900					
Adjustment:	0.81		1.00		0.81	0.77		0.86		0.86	0.93		0.93		0.93	0.97		0.97		0.97					
Lanes:	0.80		0.00		0.20	1.00		0.05		0.95	0.66		1.33		0.01	0.01		0.80		0.19					
Final Sat.:	1238		0		309	1471		77		1552	1184		2360		8	21		1469		359					
Capacity Analysis Module:																									
Vol/Sat:	0.00		0.00		0.00	0.04		0.05		0.05	0.13		0.13		0.13	0.28		0.28		0.28					
Crit Moves:								****					****					****							
Green/Cycle:	0.13		0.00		0.13	0.13		0.13		0.13	0.23		0.23		0.23	0.52		0.52		0.52					
Volume/Cap:	0.02		0.00		0.02	0.28		0.39		0.39	0.55		0.55		0.55	0.55		0.55		0.55					
Delay/Veh:	28.3		0.0		28.3	30.0		30.9		30.9	26.3		26.3		26.3	12.9		12.9		12.9					
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
AdjDel/Veh:	28.3		0.0		28.3	30.0		30.9		30.9	26.3		26.3		26.3	12.9		12.9		12.9					
LOS by Move:	C		A		C	C		C		C	C		C		C	B		B		B					
HCM2kAvgQ:	0		0		0	1		2		2	5		5		5	8		8		8					

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #4: Sycamore Ave / Applegate Rd



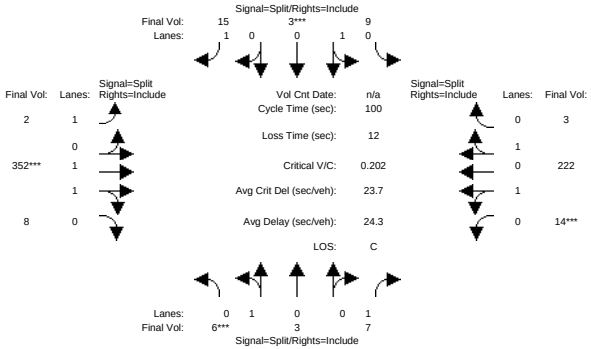
Street Name:	Sycamore Avenue												Applegate Road											
Approach:	North Bound				South Bound				East Bound				West Bound											
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																									
Base Vol:	2		6		5	78		2		167	148		460		2	3		363		86					
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
Initial Bse:	2		6		5	78		2		167	148		460		2	3		363		86					
Added Vol:	0		0		0	0		0		0	0		42		0	0		206		56					
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0					
Initial Fut:	2		6		5	78		2		167	148		502		2	3		569		142					
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Volume:	2		6		5	78		2		167	148		502		2	3		569		142					
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0					
Reduced Vol:	2		6		5	78		2		167	148		502		2	3		569		142					
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
FinalVolume:	2		6		5	78		2		167	148		502		2	3		569		142					
Saturation Flow Module:																									
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900					
Adjustment:	0.91		0.91		0.91	0.76		0.85		0.85	0.94		0.94		0.94	0.97		0.97		0.97					
Lanes:	0.15		0.47		0.38	1.00		0.01		0.99	0.45		1.54		0.01	0.01		0.79		0.20					
Final Sat.:	265		795		662	1440		19		1600	810		2749		11	8		1473		368					
Capacity Analysis Module:																									
Vol/Sat:	0.01		0.01		0.01	0.05		0.10		0.10	0.18		0.18		0.18	0.39		0.39		0.39					
Crit Moves:								****					****					****							
Green/Cycle:	0.14		0.14		0.14	0.14		0.14		0.14	0.24		0.24		0.24	0.50		0.50		0.50					
Volume/Cap:	0.06		0.06		0.06	0.40		0.77		0.77	0.77		0.77		0.77	0.77		0.77		0.77					
Delay/Veh:	28.3		28.3		28.3	30.9		45.9		45.9	30.8		30.8		30.8	18.8		18.8		18.8					
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
AdjDel/Veh:	28.3		28.3		28.3	30.9		45.9		45.9	30.8		30.8		30.8	18.8		18.8		18.8					
LOS by Move:	C		C		C	C		D		D	C		C		C	B		B		B					
HCM2kAvgQ:	0		0		0	2		6		6	8		8		8	13		13		13					

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #5: Bell Ln-Mall Access / SR-99 SB Ramps



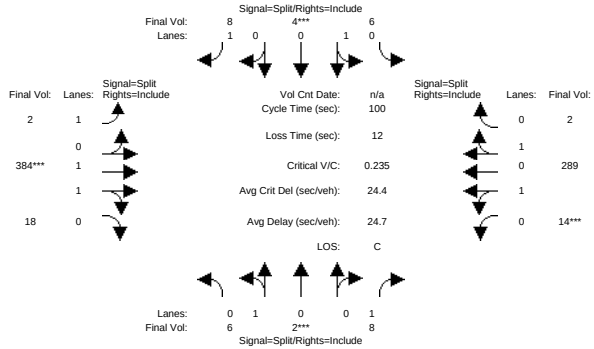
Street Name:	Bell Ln-Mall Access												SR-99 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	6	3	7	9	3	15	2	246	8	14	166	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	3	7	9	3	15	2	246	8	14	166	3
Added Vol:	0	0	0	0	0	0	0	106	0	0	56	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	3	7	9	3	15	2	352	8	14	222	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	3	7	9	3	15	2	352	8	14	222	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	3	7	9	3	15	2	352	8	14	222	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	3	7	9	3	15	2	352	8	14	222	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.96	0.96	0.85	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.67	0.33	1.00	0.75	0.25	1.00	1.00	1.96	0.04	0.12	1.86	0.02
Final Sat.:	1226	613	1615	1374	458	1615	1805	3519	80	210	3336	45
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.10	0.10	0.07	0.07	0.07
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.10	0.10	0.10	0.10	0.10	0.41	0.41	0.41	0.27	0.27	0.27
Volume/Cap:	0.05	0.05	0.04	0.07	0.07	0.09	0.00	0.24	0.24	0.24	0.24	0.24
Delay/Veh:	40.8	40.8	40.8	40.9	40.9	41.1	17.5	19.5	19.5	28.5	28.5	28.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.8	40.8	40.8	40.9	40.9	41.1	17.5	19.5	19.5	28.5	28.5	28.5
LOS by Move:	D	D	D	D	D	D	B	B	B	C	C	C
HCM2kAvgQ:	0	0	0	0	0	0	0	4	4	3	3	3

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #5: Bell Ln-Mall Access / SR-99 SB Ramps



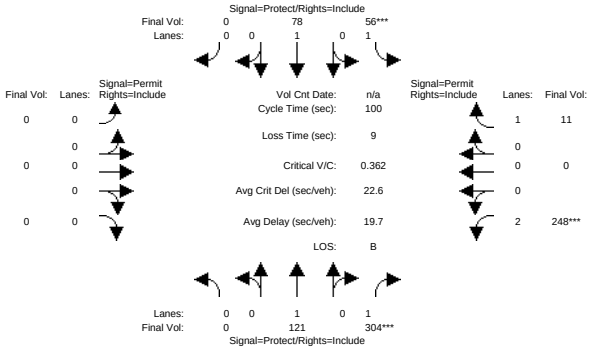
Street Name:	Bell Ln-Mall Access												SR-99 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	6	2	8	6	4	8	2	197	18	14	257	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	2	8	6	4	8	2	197	18	14	257	2
Added Vol:	0	0	0	0	0	0	0	187	0	0	32	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	2	8	6	4	8	2	384	18	14	289	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	2	8	6	4	8	2	384	18	14	289	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	2	8	6	4	8	2	384	18	14	289	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	2	8	6	4	8	2	384	18	14	289	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.96	0.96	0.85	0.97	0.97	0.85	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.75	0.25	1.00	0.60	0.40	1.00	1.00	1.91	0.09	0.09	1.90	0.01
Final Sat.:	1374	458	1615	1107	738	1615	1805	3424	161	165	3410	24
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.11	0.11	0.08	0.08	0.08
Crit Moves:		****			****			****		****		
Green/Cycle:	0.10	0.10	0.10	0.10	0.10	0.10	0.39	0.39	0.39	0.29	0.29	0.29
Volume/Cap:	0.04	0.04	0.05	0.05	0.05	0.05	0.00	0.29	0.29	0.29	0.29	0.29
Delay/Veh:	40.8	40.8	40.8	40.8	40.8	40.8	18.8	21.3	21.3	27.5	27.5	27.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.8	40.8	40.8	40.8	40.8	40.8	18.8	21.3	21.3	27.5	27.5	27.5
LOS by Move:	D	D	D	D	D	D	B	C	C	C	C	C
HCM2kAvgQ:	0	0	0	0	0	0	0	4	4	4	4	4

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #6: Bell Dr/Bell Ln

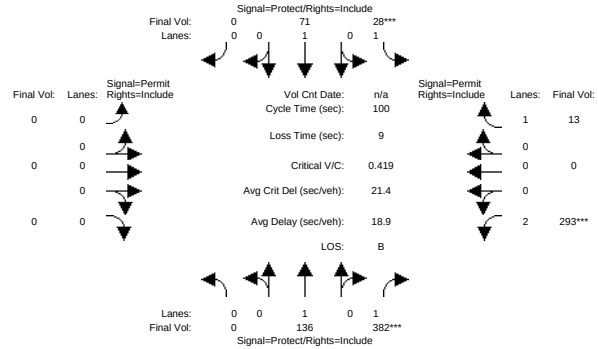



```
Street Name:             Bell Dr                    Bell Ln-SR99 SB Ramp Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  121   198    56   78     0     0    0     0   192    0    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  121   198    56   78     0     0    0     0   192    0    11
Added Vol:      0    0   106     0    0     0     0    0     0    56    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  121   304    56   78     0     0    0     0   248    0    11
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  121   304    56   78     0     0    0     0   248    0    11
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  121   304    56   78     0     0    0     0   248    0    11
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  121   304    56   78     0     0    0     0   248    0    11
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  0.85  0.95 1.00  1.00  1.00 1.00  1.00  0.59 1.00  0.85
Lanes:       0.00 1.00  1.00  1.00 1.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 1900  1615  1805 1900     0     0    0     0  2260    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.06  0.19  0.03 0.04  0.00  0.00 0.00  0.00  0.11 0.00  0.01
Crit Moves:               ****  ****                            ****
Green/Cycle: 0.00 0.52  0.52  0.09 0.61  0.00  0.00 0.00  0.00  0.30 0.00  0.30
Volume/Cap:  0.00 0.12  0.36  0.36 0.07  0.00  0.00 0.00  0.00  0.36 0.00  0.02
Delay/Veh:    0.0 12.3  14.4  44.6  8.1   0.0   0.0  0.0   0.0  27.6  0.0  24.4
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 12.3  14.4  44.6  8.1   0.0   0.0  0.0   0.0  27.6  0.0  24.4
LOS by Move:    A    B     B     D    A     A     A    A     A     C    A     C
HCM2kAvgQ:      0    2     5     2    1     0     0    0     0     3    0     0
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #6: Bell Dr/Bell Ln

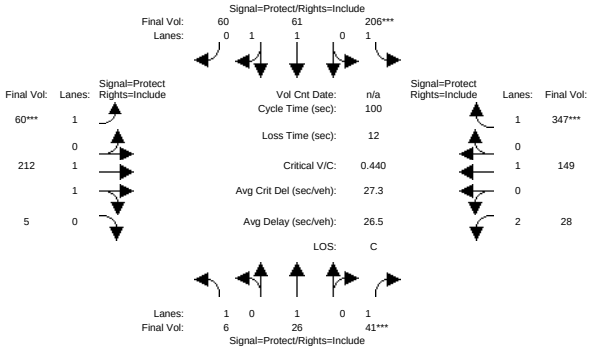



```
Street Name:             Bell Dr                    Bell Ln-SR99 SB Ramp Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  136   195    28   71     0     0    0     0   261    0    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  136   195    28   71     0     0    0     0   261    0    13
Added Vol:      0    0   187     0    0     0     0    0     0    32    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  136   382    28   71     0     0    0     0   293    0    13
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  136   382    28   71     0     0    0     0   293    0    13
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  136   382    28   71     0     0    0     0   293    0    13
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  136   382    28   71     0     0    0     0   293    0    13
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  0.85  0.95 1.00  1.00  1.00 1.00  1.00  0.59 1.00  0.85
Lanes:       0.00 1.00  1.00  1.00 1.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 1900  1615  1805 1900     0     0    0     0  2260    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.07  0.24  0.02 0.04  0.00  0.00 0.00  0.00  0.13 0.00  0.01
Crit Moves:               ****  ****                            ****
Green/Cycle: 0.00 0.54  0.54  0.07 0.61  0.00  0.00 0.00  0.00  0.30 0.00  0.30
Volume/Cap:  0.00 0.13  0.44  0.22 0.06  0.00  0.00 0.00  0.00  0.44 0.00  0.03
Delay/Veh:    0.0 11.3  14.1  44.8  7.8   0.0   0.0  0.0   0.0  28.8  0.0  24.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 11.3  14.1  44.8  7.8   0.0   0.0  0.0   0.0  28.8  0.0  24.9
LOS by Move:    A    B     B     D    A     A     A    A     A     C    A     C
HCM2kAvgQ:      0    2     7     1    1     0     0    0     0     4    0     0
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #7: Bel Dr-Commerce / Applegate Rd



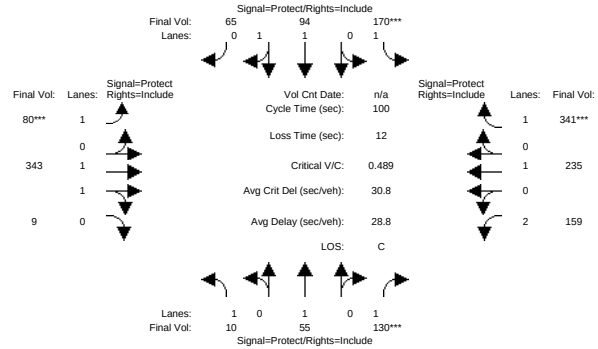
Street Name:	Bell Dr-Commerce						Applegate Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	6	26	41	150	61	60	60	193	5	28	138	241
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	26	41	150	61	60	60	193	5	28	138	241
Added Vol:	0	0	0	56	0	0	0	19	0	0	11	106
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	26	41	206	61	60	60	212	5	28	149	347
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	26	41	206	61	60	60	212	5	28	149	347
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	26	41	206	61	60	60	212	5	28	149	347
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	26	41	206	61	60	60	212	5	28	149	347
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.88	0.88	0.95	0.95	0.95	0.92	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.01	0.99	1.00	1.95	0.05	2.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	1685	1658	1805	3516	83	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.03	0.11	0.04	0.04	0.03	0.06	0.06	0.01	0.08	0.21
Crit Moves:			****	****			****					****
Green/Cycle:	0.14	0.10	0.10	0.25	0.20	0.20	0.07	0.31	0.31	0.22	0.46	0.46
Volume/Cap:	0.02	0.14	0.25	0.46	0.18	0.18	0.46	0.19	0.19	0.04	0.17	0.46
Delay/Veh:	36.9	41.4	42.4	32.9	33.0	33.0	47.2	25.1	25.1	30.7	15.8	18.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.9	41.4	42.4	32.9	33.0	33.0	47.2	25.1	25.1	30.7	15.8	18.8
LOS by Move:	D	D	D	C	C	C	D	C	C	C	B	B
HCM2kAvgQ:	0	1	1	5	2	2	2	3	3	0	3	7

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #7: Bel Dr-Commerce / Applegate Rd



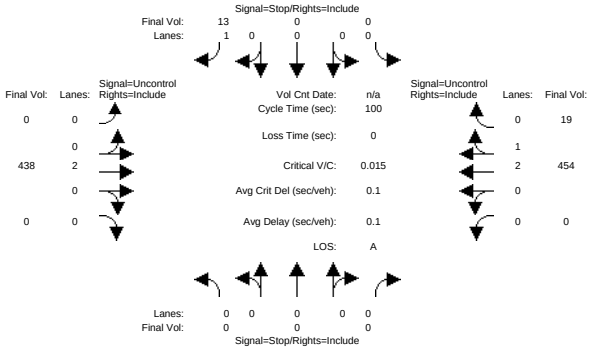
Street Name:	Bell Dr-Commerce						Applegate Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	55	130	138	94	65	80	332	9	159	216	154
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	55	130	138	94	65	80	332	9	159	216	154
Added Vol:	0	0	0	32	0	0	0	11	0	0	19	187
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	55	130	170	94	65	80	343	9	159	235	341
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	55	130	170	94	65	80	343	9	159	235	341
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	55	130	170	94	65	80	343	9	159	235	341
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	55	130	170	94	65	80	343	9	159	235	341
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.89	0.89	0.95	0.95	0.95	0.92	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.18	0.82	1.00	1.95	0.05	2.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	2004	1386	1805	3504	92	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.08	0.09	0.05	0.05	0.04	0.10	0.10	0.05	0.12	0.21
Crit Moves:			****	****			****					****
Green/Cycle:	0.15	0.16	0.16	0.19	0.21	0.21	0.09	0.31	0.31	0.22	0.43	0.43
Volume/Cap:	0.04	0.18	0.49	0.49	0.22	0.22	0.49	0.32	0.32	0.21	0.29	0.49
Delay/Veh:	36.6	36.2	39.4	37.1	32.9	32.9	45.6	26.8	26.8	32.4	18.6	21.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.6	36.2	39.4	37.1	32.9	32.9	45.6	26.8	26.8	32.4	18.6	21.0
LOS by Move:	D	D	D	D	C	C	D	C	C	C	B	C
HCM2kAvgQ:	0	2	4	5	2	2	3	4	4	2	4	7

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #8: Mall Access / Applegate Rd




```
Street Name:            Mall Access                     Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0    13     0  363     0     0  338    19
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0    13     0  363     0     0  338    19
Added Vol:      0    0     0     0    0     0     0   75     0     0  116     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0    13     0  438     0     0  454    19
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0    13     0  438     0     0  454    19
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0    13     0  438     0     0  454    19
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   161  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   862  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   862  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx   9.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     A     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx              9.2           xxxxxx           xxxxxx
ApproachLOS:         *                A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    13     0  438     0     0  454    19
ApproachDel:    xxxxxx              9.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=13]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=924]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

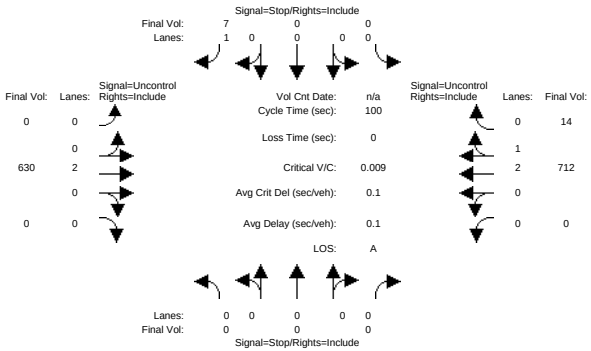
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    13     0  438     0     0  454    19
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             911
Minor Approach Volume:           13
Minor Approach Volume Threshold: 317
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #8: Mall Access / Applegate Rd




```
Street Name:            Mall Access                     Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0     7     0  588     0     0  506    14
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0     7     0  588     0     0  506    14
Added Vol:      0    0     0     0    0     0     0   42     0     0  206     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0     7     0  630     0     0  712    14
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0     7     0  630     0     0  712    14
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0     7     0  630     0     0  712    14
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   244  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   762  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   762  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.01  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx   9.8 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     A     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx              9.8           xxxxxx           xxxxxx
ApproachLOS:         *                A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0     7     0  630     0     0  712    14
ApproachDel:    xxxxxx              9.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=7]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1363]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

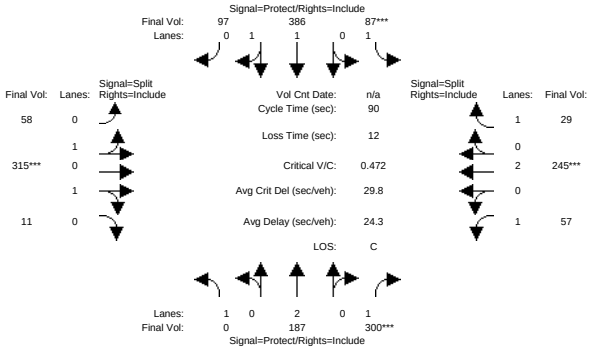
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0     7     0  630     0     0  712    14
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1356
Minor Approach Volume:           7
Minor Approach Volume Threshold: 180
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #9: Santa Fe Dr / Buhach Rd-AirdromeEntry



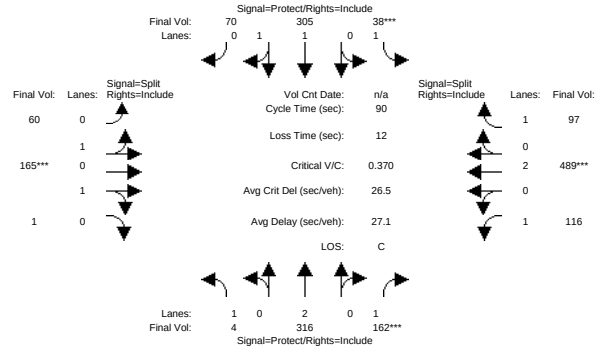
Street Name:	Santa Fe Drive						Buhach Road - Airdrome Entry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	187	43	64	386	97	58	130	11	18	35	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	187	43	64	386	97	58	130	11	18	35	16
Added Vol:	0	0	257	23	0	0	0	185	0	39	210	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	187	300	87	386	97	58	315	11	57	245	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	187	300	87	386	97	58	315	11	57	245	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	187	300	87	386	97	58	315	11	57	245	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	187	300	87	386	97	58	315	11	57	245	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	0.95	0.92	0.92	0.94	0.94	0.94	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	1.60	0.40	0.30	1.64	0.06	1.00	2.00	1.00
Final Sat.:	1900	3610	1615	1805	2798	703	539	2929	102	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.05	0.19	0.05	0.14	0.14	0.11	0.11	0.11	0.03	0.07	0.02
Crit Moves:			****	****				****			****	
Green/Cycle:	0.00	0.39	0.39	0.10	0.50	0.50	0.23	0.23	0.23	0.14	0.14	0.14
Volume/Cap:	0.00	0.13	0.47	0.47	0.28	0.28	0.47	0.47	0.47	0.22	0.47	0.12
Delay/Veh:	0.0	17.5	20.9	40.0	13.4	13.4	30.5	30.5	30.5	34.5	36.1	33.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	17.5	20.9	40.0	13.4	13.4	30.5	30.5	30.5	34.5	36.1	33.8
LOS by Move:	A	B	C	D	B	B	C	C	C	C	D	C
HCM2kAvgQ:	0	2	6	3	4	4	5	5	5	2	4	1

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #9: Santa Fe Dr / Buhach Rd-AirdromeEntry



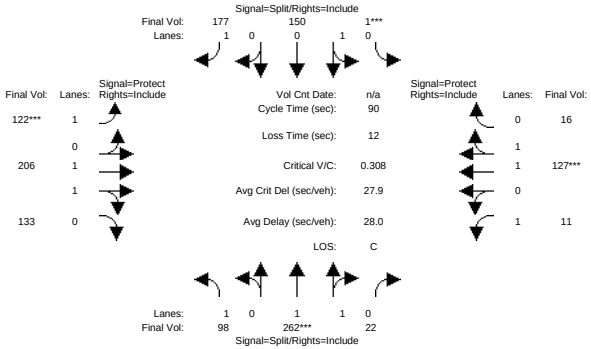
Street Name:	Santa Fe Drive						Buhach Road - Airdrome Entry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	4	316	17	25	305	70	60	60	1	46	116	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	316	17	25	305	70	60	60	1	46	116	74
Added Vol:	0	0	145	13	0	0	0	105	0	70	373	23
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	316	162	38	305	70	60	165	1	116	489	97
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	316	162	38	305	70	60	165	1	116	489	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	316	162	38	305	70	60	165	1	116	489	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	316	162	38	305	70	60	165	1	116	489	97
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.92	0.92	0.94	0.94	0.94	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	1.63	0.37	0.53	1.46	0.01	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	2854	655	945	2599	16	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.10	0.02	0.11	0.11	0.06	0.06	0.06	0.06	0.14	0.06
Crit Moves:			****	****				****			****	
Green/Cycle:	0.14	0.26	0.26	0.08	0.20	0.20	0.17	0.17	0.17	0.36	0.36	0.36
Volume/Cap:	0.02	0.33	0.38	0.27	0.53	0.53	0.38	0.38	0.38	0.18	0.38	0.17
Delay/Veh:	33.3	26.9	27.6	40.1	32.9	32.9	33.7	33.7	33.7	20.0	21.7	19.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.3	26.9	27.6	40.1	32.9	32.9	33.7	33.7	33.7	20.0	21.7	19.9
LOS by Move:	C	C	C	D	C	C	C	C	C	C	C	B
HCM2kAvgQ:	0	4	4	1	5	5	3	3	3	2	5	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #10: Buhach Rd/Bellevue Rd



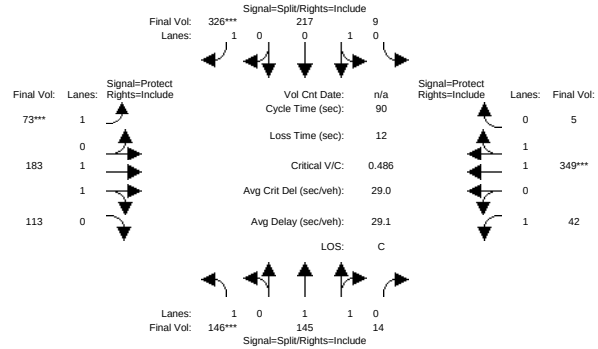
Street Name:	N. Buhach Road						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	98	151	22	1	87	29	47	206	133	11	127	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	151	22	1	87	29	47	206	133	11	127	16
Added Vol:	0	111	0	0	63	148	75	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	262	22	1	150	177	122	206	133	11	127	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	262	22	1	150	177	122	206	133	11	127	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	262	22	1	150	177	122	206	133	11	127	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	262	22	1	150	177	122	206	133	11	127	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	1.00	1.00	0.85	0.95	0.89	0.89	0.95	0.93	0.93
Lanes:	1.00	1.85	0.15	0.01	0.99	1.00	1.00	1.22	0.78	1.00	1.78	0.22
Final Sat.:	1805	3290	276	13	1887	1615	1805	2064	1333	1805	3152	397
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.08	0.08	0.08	0.11	0.07	0.10	0.10	0.01	0.04	0.04
Crit Moves:		****		****			****				****	
Green/Cycle:	0.26	0.26	0.26	0.36	0.36	0.36	0.22	0.21	0.21	0.14	0.13	0.13
Volume/Cap:	0.21	0.31	0.31	0.22	0.22	0.31	0.31	0.48	0.48	0.04	0.31	0.31
Delay/Veh:	26.4	27.1	27.1	20.5	20.5	21.3	29.9	32.0	32.0	33.2	35.8	35.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.4	27.1	27.1	20.5	20.5	21.3	29.9	32.0	32.0	33.2	35.8	35.8
LOS by Move:	C	C	C	C	C	C	C	C	C	C	D	D
HCM2kAvgQ:	2	3	3	3	3	3	3	5	5	0	2	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #10: Buhach Rd/Bellevue Rd



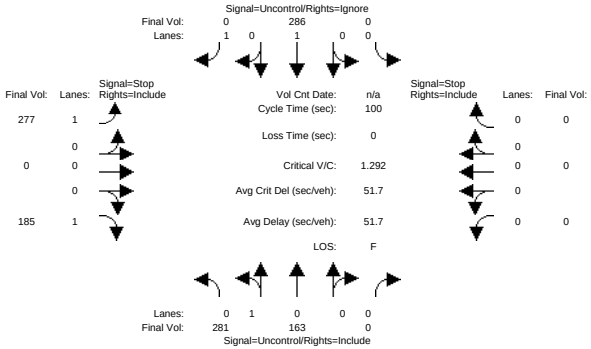
Street Name:	N. Buhach Road						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	146	82	14	9	106	64	31	183	113	42	349	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	146	82	14	9	106	64	31	183	113	42	349	5
Added Vol:	0	63	0	0	111	262	42	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	146	145	14	9	217	326	73	183	113	42	349	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	146	145	14	9	217	326	73	183	113	42	349	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	145	14	9	217	326	73	183	113	42	349	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	145	14	9	217	326	73	183	113	42	349	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	1.00	1.00	0.85	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.82	0.18	0.04	0.96	1.00	1.00	1.24	0.76	1.00	1.97	0.03
Final Sat.:	1805	3249	314	76	1821	1615	1805	2105	1300	1805	3552	51
Capacity Analysis Module:												
Vol/Sat:	0.08	0.04	0.04	0.12	0.12	0.20	0.04	0.09	0.09	0.02	0.10	0.10
Crit Moves:	****					****	****				****	
Green/Cycle:	0.17	0.17	0.17	0.42	0.42	0.42	0.08	0.17	0.17	0.12	0.20	0.20
Volume/Cap:	0.49	0.27	0.27	0.29	0.29	0.49	0.49	0.52	0.52	0.20	0.49	0.49
Delay/Veh:	35.3	33.0	33.0	17.7	17.7	19.8	41.9	35.0	35.0	36.3	32.3	32.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.3	33.0	33.0	17.7	17.7	19.8	41.9	35.0	35.0	36.3	32.3	32.3
LOS by Move:	D	C	C	B	B	B	D	C	C	D	C	C
HCM2kAvgQ:	4	2	2	4	4	6	3	5	5	1	4	4

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #11: Ashby Rd/ Buhach Rd




```
Street Name:      Ashby Road- Buhach Rd                    Buhach Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     281  144     0     0  231   188   185    0   185     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  281  144     0     0  231   188   185    0   185     0    0     0
Added Vol:      0   19     0     0   55     8    92    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  281  163     0     0  286   196   277    0   185     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   281  163     0     0  286     0   277    0   185     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  281  163     0     0  286     0   277    0   185     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  286 xxxx xxxxx  xxxx xxxx xxxxx  1011 xxxx   286  xxxx xxxx xxxxx
Potent Cap.: 1288 xxxx xxxxx  xxxx xxxx xxxxx   268 xxxx   758  xxxx xxxx xxxxx
Move Cap.:   1288 xxxx xxxxx  xxxx xxxx xxxxx   214 xxxx   758  xxxx xxxx xxxxx
Volume/Cap:  0.22 xxxx  xxxx  xxxx xxxx  xxxx  1.29 xxxx  0.24  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.8 xxxx xxxxx  xxxx xxxx xxxxx  14.8 xxxx   1.0  xxxx xxxx xxxxx
Control Del:  8.6 xxxx xxxxx xxxxx xxxx xxxxx 206.3 xxxx  11.3 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            128.2           xxxxxx
ApproachLOS:         *                *                F                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #11 Ashby Rd/ Buhach Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:  281  163     0     0  286   196   277    0   185     0    0     0
ApproachDel:    xxxxxx           xxxxxx            128.2           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=16.5]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=462]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1388]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

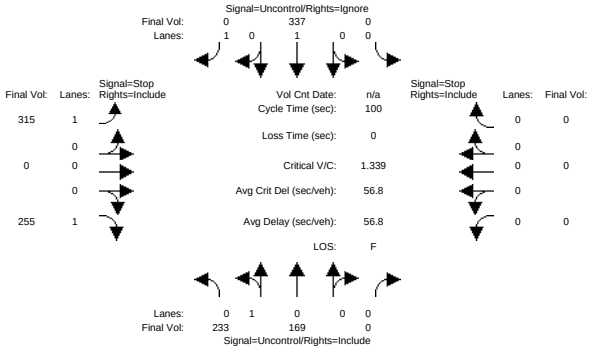
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #11 Ashby Rd/ Buhach Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:  281  163     0     0  286   196   277    0   185     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             926
Minor Approach Volume:           462
Minor Approach Volume Threshold: 407
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #11: Ashby Rd/ Buhach Rd




```
Street Name:      Ashby Road- Buhach Rd                    Buhach Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     233  158     0     0  240   215   263    0   255     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  233  158     0     0  240   215   263    0   255     0    0     0
Added Vol:      0   11     0     0   97    14    52    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  233  169     0     0  337   229   315    0   255     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   233  169     0     0  337     0   315    0   255     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  233  169     0     0  337     0   315    0   255     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  337 xxxx xxxxx  xxxx xxxx xxxxx   972 xxxx   337  xxxx xxxx xxxxx
Potent Cap.: 1234 xxxx xxxxx  xxxx xxxx xxxxx   282 xxxx   710  xxxx xxxx xxxxx
Move Cap.:   1234 xxxx xxxxx  xxxx xxxx xxxxx   235 xxxx   710  xxxx xxxx xxxxx
Volume/Cap:  0.19 xxxx  xxxx  xxxx xxxx  xxxx  1.34 xxxx  0.36  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.7 xxxx xxxxx  xxxx xxxx xxxxx  16.9 xxxx   1.6  xxxx xxxx xxxxx
Control Del:  8.6 xxxx xxxxx xxxxx xxxx xxxxx 219.2 xxxx  12.9 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            126.9           xxxxxx
ApproachLOS:         *                *                F                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #11 Ashby Rd/ Buhach Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:  233  169     0     0  337   229   315    0   255     0    0     0
ApproachDel:    xxxxxx           xxxxxx            126.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=20.1]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=570]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1538]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

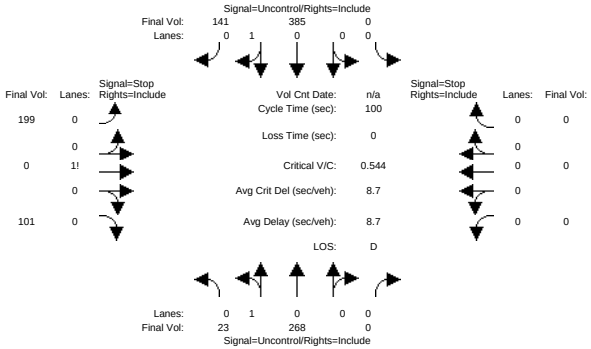
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #11 Ashby Rd/ Buhach Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:  233  169     0     0  337   229   315    0   255     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             968
Minor Approach Volume:           570
Minor Approach Volume Threshold: 388
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #12: Ashby Rd / N 193




```
Street Name:             Ashby Road                          N 193
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      23  254     0     0  333   138   194    0   101     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   23  254     0     0  333   138   194    0   101     0    0     0
Added Vol:      0   14     0     0   52     3     5    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   23  268     0     0  385   141   199    0   101     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    23  268     0     0  385   141   199    0   101     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   23  268     0     0  385   141   199    0   101     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  526 xxxx xxxxx  xxxx xxxx xxxxx   770  770   456  xxxx xxxx xxxxx
Potent Cap.: 1051 xxxx xxxxx  xxxx xxxx xxxxx   372  334   609  xxxx xxxx xxxxx
Move Cap.:   1051 xxxx xxxxx  xxxx xxxx xxxxx   366  326   609  xxxx xxxx xxxxx
Volume/Cap:  0.02 xxxx  xxxx  xxxx xxxx  xxxx  0.54 0.00  0.17  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  422 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  5.4 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 31.8 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    D     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             31.8           xxxxxx
ApproachLOS:         *                *               D                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #12 Ashby Rd / N 193
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   23  268     0     0  385   141   199    0   101     0    0     0
ApproachDel:    xxxxxx           xxxxxx              31.8           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=300]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1117]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #12 Ashby Rd / N 193
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   23  268     0     0  385   141   199    0   101     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             817
Minor Approach Volume:           300
Minor Approach Volume Threshold: 273
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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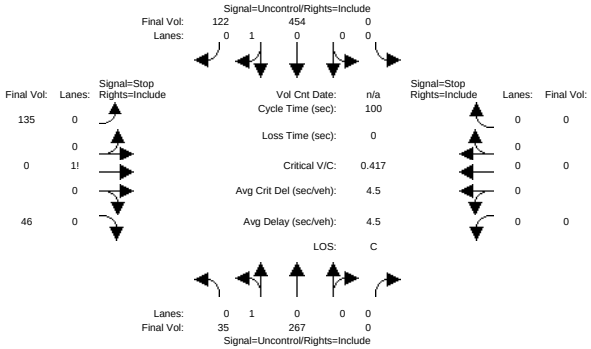
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #12: Ashby Rd / N 193




```
Street Name:             Ashby Road                          N 193
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      35  259     0     0  362   117   132    0    46     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   35  259     0     0  362   117   132    0    46     0    0     0
Added Vol:      0    8     0     0   92     5     3    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   35  267     0     0  454   122   135    0    46     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    35  267     0     0  454   122   135    0    46     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   35  267     0     0  454   122   135    0    46     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  576 xxxx xxxxx  xxxx xxxx xxxxx   852  852   515  xxxx xxxx xxxxx
Potent Cap.: 1007 xxxx xxxxx  xxxx xxxx xxxxx   333  299   564  xxxx xxxx xxxxx
Move Cap.:   1007 xxxx xxxxx  xxxx xxxx xxxxx   324  288   564  xxxx xxxx xxxxx
Volume/Cap:  0.03 xxxx  xxxx  xxxx xxxx  xxxx  0.42 0.00  0.08  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  363 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  2.7 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 24.4 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    C     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             24.4           xxxxxx
ApproachLOS:         *                *               C                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #12 Ashby Rd / N 193
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   35  267     0     0  454   122   135    0    46     0    0     0
ApproachDel:    xxxxxx           xxxxxx              24.4           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=181]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1059]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

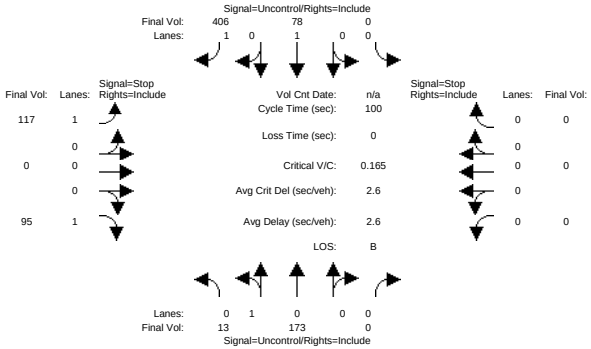
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #12 Ashby Rd / N 193
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   35  267     0     0  454   122   135    0    46     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             878
Minor Approach Volume:           181
Minor Approach Volume Threshold: 254
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #13: Ashby Rd / SR-99 SB Ramps




```
Street Name:             Ashby Road                    SR-99 SB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      13  173     0     0   78   354   103    0    95     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   13  173     0     0   78   354   103    0    95     0    0     0
Added Vol:      0    0     0     0    0    52    14    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   13  173     0     0   78   406   117    0    95     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    13  173     0     0   78   406   117    0    95     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   13  173     0     0   78   406   117    0    95     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  484 xxxx xxxxx  xxxx xxxx xxxxx   277 xxxx    78  xxxx xxxx xxxxx
Potent Cap.: 1089 xxxx xxxxx  xxxx xxxx xxxxx   717 xxxx   988  xxxx xxxx xxxxx
Move Cap.:   1089 xxxx xxxxx  xxxx xxxx xxxxx   710 xxxx   988  xxxx xxxx xxxxx
Volume/Cap:  0.01 xxxx  xxxx  xxxx xxxx  xxxx  0.16 xxxx  0.10  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx   0.3  xxxx xxxx xxxxx
Control Del:  8.3 xxxx xxxxx xxxxx xxxx xxxxx  11.1 xxxx   9.0 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     B    *     A     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             10.2           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #13 Ashby Rd / SR-99 SB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:   13  173     0     0   78   406   117    0    95     0    0     0
ApproachDel:    xxxxxx           xxxxxx             10.2           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=212]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=882]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #13 Ashby Rd / SR-99 SB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:   13  173     0     0   78   406   117    0    95     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             670
Minor Approach Volume:           212
Minor Approach Volume Threshold: 546
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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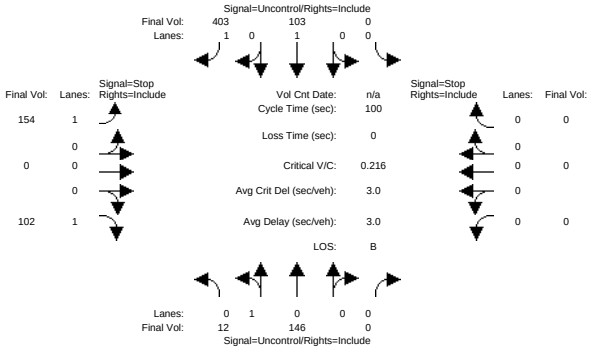
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #13: Ashby Rd / SR-99 SB Ramps




```
Street Name:             Ashby Road                    SR-99 SB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      12  146     0     0  103   311   146    0   102     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   12  146     0     0  103   311   146    0   102     0    0     0
Added Vol:      0    0     0     0    0    92     8    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   12  146     0     0  103   403   154    0   102     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    12  146     0     0  103   403   154    0   102     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   12  146     0     0  103   403   154    0   102     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  506 xxxx xxxxx  xxxx xxxx xxxxx   273 xxxx   103  xxxx xxxx xxxxx
Potent Cap.: 1069 xxxx xxxxx  xxxx xxxx xxxxx   721 xxxx   957  xxxx xxxx xxxxx
Move Cap.:   1069 xxxx xxxxx  xxxx xxxx xxxxx   715 xxxx   957  xxxx xxxx xxxxx
Volume/Cap:  0.01 xxxx  xxxx  xxxx xxxx  xxxx  0.22 xxxx  0.11  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx   0.8 xxxx   0.4  xxxx xxxx xxxxx
Control Del:  8.4 xxxx xxxxx xxxxx xxxx xxxxx  11.4 xxxx   9.2 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     B    *     A     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             10.5           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #13 Ashby Rd / SR-99 SB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:   12  146     0     0  103   403   154    0   102     0    0     0
ApproachDel:    xxxxxx           xxxxxx             10.5           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=256]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=920]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

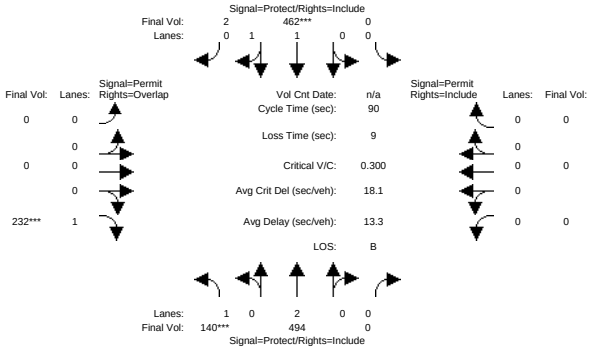
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #13 Ashby Rd / SR-99 SB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:   12  146     0     0  103   403   154    0   102     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             664
Minor Approach Volume:           256
Minor Approach Volume Threshold: 550
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #14: Santa Fe Dr / Bellevue Rd



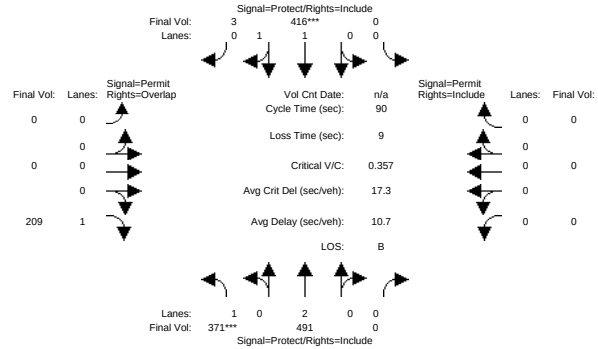
Street Name:	Santa Fe Drive								Bellevue Road							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	0	0		10	10	0		0	10	0		0	0
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	140		237	0	0		423	2	0		0	232	0		0	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	140		237	0	0		423	2	0		0	232	0		0	0
Added Vol:	0		257	0	0		39	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	140		494	0	0		462	2	0		0	232	0		0	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	140		494	0	0		462	2	0		0	232	0		0	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	140		494	0	0		462	2	0		0	232	0		0	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	140		494	0	0		462	2	0		0	232	0		0	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	1.00	1.00		0.95	0.95	1.00		1.00	0.87	1.00		1.00	1.00
Lanes:	1.00		2.00	0.00	0.00		1.99	0.01	0.00		0.00	1.00	0.00		0.00	0.00
Final Sat.:	1805		3610	0	0		3591	16	0		0	1644	0		0	0
Capacity Analysis Module:																
Vol/Sat:	0.08		0.14	0.00	0.00		0.13	0.13	0.00		0.00	0.14	0.00		0.00	0.00
Crit Moves:	****						****					****				
Green/Cycle:	0.26		0.69	0.00	0.00		0.43	0.43	0.00		0.00	0.47	0.00		0.00	0.00
Volume/Cap:	0.30		0.20	0.00	0.00		0.30	0.30	0.00		0.00	0.30	0.00		0.00	0.00
Delay/Veh:	27.2		5.1	0.0	0.0		16.9	16.9	0.0		0.0	14.9	0.0		0.0	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	27.2		5.1	0.0	0.0		16.9	16.9	0.0		0.0	14.9	0.0		0.0	0.0
LOS by Move:	C		A	A	A		B	B	A		A	B	A		A	A
HCM2kAvgQ:	3		3	0	0		4	4	0		0	4	0		0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #14: Santa Fe Dr / Bellevue Rd



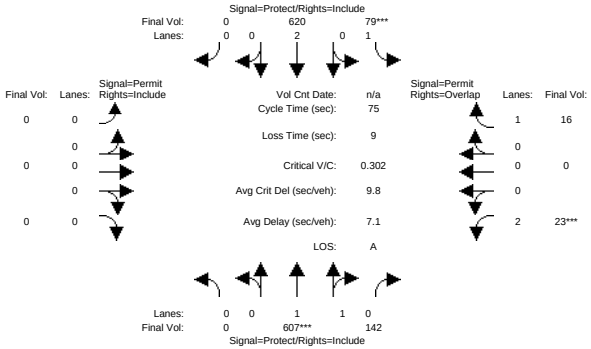
Street Name:	Santa Fe Drive								Bellevue Road							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	0	0		10	10	0		0	10	0		0	0
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	371		346	0	0		346	3	0		0	209	0		0	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	371		346	0	0		346	3	0		0	209	0		0	0
Added Vol:	0		145	0	0		70	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	371		491	0	0		416	3	0		0	209	0		0	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	371		491	0	0		416	3	0		0	209	0		0	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	371		491	0	0		416	3	0		0	209	0		0	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	371		491	0	0		416	3	0		0	209	0		0	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	1.00	1.00		0.95	0.95	1.00		1.00	0.87	1.00		1.00	1.00
Lanes:	1.00		2.00	0.00	0.00		1.99	0.01	0.00		0.00	1.00	0.00		0.00	0.00
Final Sat.:	1805		3610	0	0		3581	26	0		0	1644	0		0	0
Capacity Analysis Module:																
Vol/Sat:	0.21		0.14	0.00	0.00		0.12	0.12	0.00		0.00	0.13	0.00		0.00	0.00
Crit Moves:	****						****									
Green/Cycle:	0.57		0.90	0.00	0.00		0.33	0.33	0.00		0.00	0.57	0.00		0.00	0.00
Volume/Cap:	0.36		0.15	0.00	0.00		0.36	0.36	0.00		0.00	0.22	0.00		0.00	0.00
Delay/Veh:	10.4		0.5	0.0	0.0		23.4	23.4	0.0		0.0	9.4	0.0		0.0	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	10.4		0.5	0.0	0.0		23.4	23.4	0.0		0.0	9.4	0.0		0.0	0.0
LOS by Move:	B		A	A	A		C	C	A		A	A	A		A	A
HCM2kAvgQ:	5		1	0	0		4	4	0		0	3	0		0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #15: Santa Fe Dr / F St



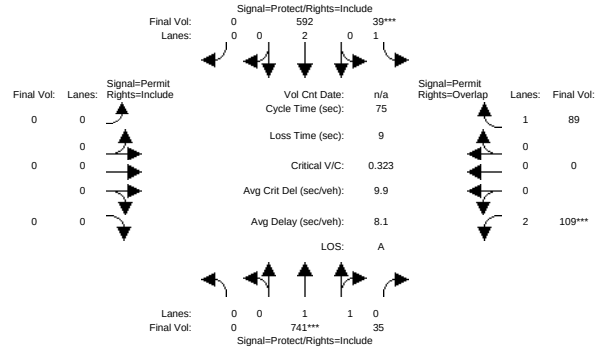
Street Name:	Santa Fe Drive						F Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	350	142	79	581	0	0	0	0	23	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	350	142	79	581	0	0	0	0	23	0	16
Added Vol:	0	257	0	0	39	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	607	142	79	620	0	0	0	0	23	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	607	142	79	620	0	0	0	0	23	0	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	607	142	79	620	0	0	0	0	23	0	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	607	142	79	620	0	0	0	0	23	0	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.92	0.92	0.95	0.95	1.00	1.00	1.00	1.00	0.71	1.00	0.85
Lanes:	0.00	1.62	0.38	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	2844	665	1805	3610	0	0	0	0	2698	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.21	0.21	0.04	0.17	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Crit Moves:		****		****						****		
Green/Cycle:	0.00	0.62	0.62	0.13	0.75	0.00	0.00	0.00	0.00	0.13	0.00	0.26
Volume/Cap:	0.00	0.34	0.34	0.34	0.23	0.00	0.00	0.00	0.00	0.06	0.00	0.04
Delay/Veh:	0.0	7.0	7.0	30.8	2.9	0.0	0.0	0.0	0.0	28.5	0.0	20.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	7.0	7.0	30.8	2.9	0.0	0.0	0.0	0.0	28.5	0.0	20.8
LOS by Move:	A	A	A	C	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	4	4	2	2	0	0	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #15: Santa Fe Dr / F St



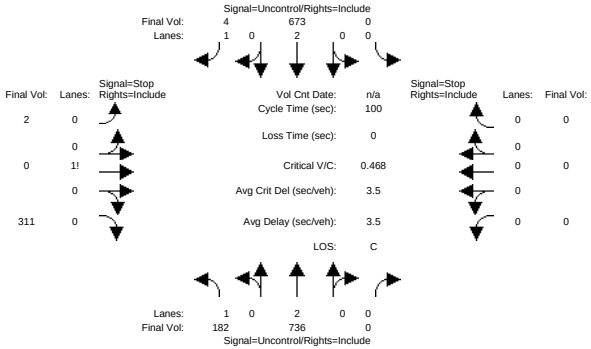
Street Name:	Santa Fe Drive						F Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	596	35	39	522	0	0	0	0	109	0	89
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	596	35	39	522	0	0	0	0	109	0	89
Added Vol:	0	145	0	0	70	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	741	35	39	592	0	0	0	0	109	0	89
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	741	35	39	592	0	0	0	0	109	0	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	741	35	39	592	0	0	0	0	109	0	89
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	741	35	39	592	0	0	0	0	109	0	89
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.94	0.94	0.95	0.95	1.00	1.00	1.00	1.00	0.62	1.00	0.85
Lanes:	0.00	1.91	0.09	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3423	162	1805	3610	0	0	0	0	2370	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.22	0.22	0.02	0.16	0.00	0.00	0.00	0.00	0.05	0.00	0.06
Crit Moves:		****		****						****		
Green/Cycle:	0.00	0.65	0.65	0.09	0.74	0.00	0.00	0.00	0.00	0.14	0.00	0.23
Volume/Cap:	0.00	0.33	0.33	0.23	0.22	0.00	0.00	0.00	0.00	0.33	0.00	0.24
Delay/Veh:	0.0	6.0	6.0	32.2	3.0	0.0	0.0	0.0	0.0	29.8	0.0	23.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	6.0	6.0	32.2	3.0	0.0	0.0	0.0	0.0	29.8	0.0	23.8
LOS by Move:	A	A	A	C	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	4	4	1	2	0	0	0	0	2	0	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #16: Santa Fe Dr / W Ave 2




```
Street Name:           Santa Fe Drive                        W Ave 2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     182  479     0     0  634     4     2    0   311     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  182  479     0     0  634     4     2    0   311     0    0     0
Added Vol:      0  257     0     0   39     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  182  736     0     0  673     4     2    0   311     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   182  736     0     0  673     4     2    0   311     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  182  736     0     0  673     4     2    0   311     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  677 xxxx xxxxx  xxxx xxxx xxxxx  1405 1773   337  xxxx xxxx xxxxx
Potent Cap.:  924 xxxx xxxxx  xxxx xxxx xxxxx   133   84   665  xxxx xxxx xxxxx
Move Cap.:    924 xxxx xxxxx  xxxx xxxx xxxxx   113   67   665  xxxx xxxx xxxxx
Volume/Cap:  0.20 xxxx  xxxx  xxxx xxxx  xxxx  0.02 0.00  0.47  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.7 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  645 xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  2.7 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 15.7 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             15.7           xxxxxx
ApproachLOS:         *                *               C                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  182  736     0     0  673     4     2    0   311     0    0     0
ApproachDel:    xxxxxx           xxxxxx             15.7           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=313]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1908]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

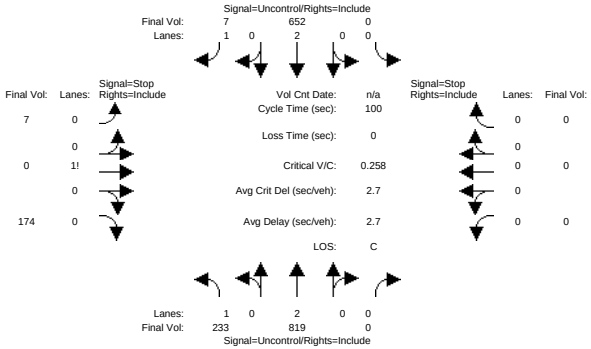
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  182  736     0     0  673     4     2    0   311     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1595
Minor Approach Volume:           313
Minor Approach Volume Threshold: 124
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #16: Santa Fe Dr / W Ave 2




```
Street Name:           Santa Fe Drive                        W Ave 2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     233  674     0     0  582     7     7    0   174     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  233  674     0     0  582     7     7    0   174     0    0     0
Added Vol:      0  145     0     0   70     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  233  819     0     0  652     7     7    0   174     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   233  819     0     0  652     7     7    0   174     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  233  819     0     0  652     7     7    0   174     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  659 xxxx xxxxx  xxxx xxxx xxxxx  1528 1937   326  xxxx xxxx xxxxx
Potent Cap.:  939 xxxx xxxxx  xxxx xxxx xxxxx   110   66   676  xxxx xxxx xxxxx
Move Cap.:    939 xxxx xxxxx  xxxx xxxx xxxxx    89   50   676  xxxx xxxx xxxxx
Volume/Cap:  0.25 xxxx  xxxx  xxxx xxxx  xxxx  0.08 0.00  0.26  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  539 xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  1.5 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 15.0 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             15.0           xxxxxx
ApproachLOS:         *                *                C                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  233  819     0     0  652     7     7    0   174     0    0     0
ApproachDel:    xxxxxx           xxxxxx             15.0           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=181]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1892]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

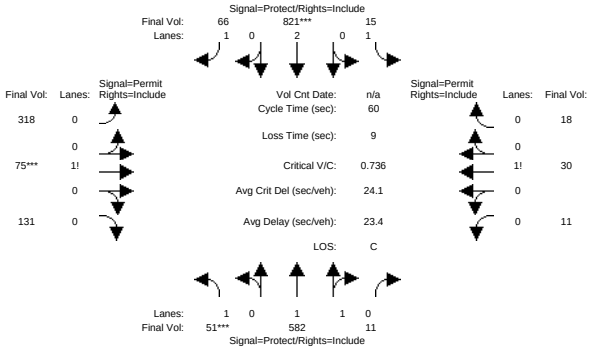
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                   Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  233  819     0     0  652     7     7    0   174     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1711
Minor Approach Volume:           181
Minor Approach Volume Threshold: 100 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #17: Santa Fe Dr / N Franklin Rd

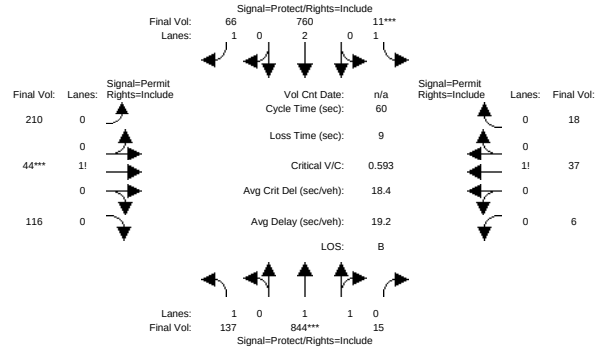



```
Street Name:          Santa Fe Drive                    N Franklin Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10    10   10    10    10   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      51  517    11    12  784    66   131   75   131    11   30    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   51  517    11    12  784    66   131   75   131    11   30    13
Added Vol:      0   65     0     3   37     0   187    0     0     0    0     5
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   51  582    11    15  821    66   318   75   131    11   30    18
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    51  582    11    15  821    66   318   75   131    11   30    18
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   51  582    11    15  821    66   318   75   131    11   30    18
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   51  582    11    15  821    66   318   75   131    11   30    18
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.95  0.95 0.95  0.85  0.74 0.74  0.74  0.88 0.88  0.88
Lanes:       1.00 1.96  0.04  1.00 2.00  1.00  0.61 0.14  0.25  0.19 0.51  0.30
Final Sat.:  1805 3532    67  1805 3610  1615   859  203   354   313  853   512
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.16  0.16  0.01 0.23  0.04  0.37 0.37  0.37  0.04 0.04  0.04
Crit Moves:  ****                 ****             ****
Green/Cycle: 0.12 0.23  0.23  0.16 0.28  0.28  0.45 0.45  0.45  0.45 0.45  0.45
Volume/Cap:  0.24 0.71  0.71  0.05 0.82  0.15  0.82 0.82  0.82  0.08 0.08  0.08
Delay/Veh:   24.7 24.0  24.0  21.3 25.4  16.4  22.1 22.1  22.1   9.3  9.3   9.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.7 24.0  24.0  21.3 25.4  16.4  22.1 22.1  22.1   9.3  9.3   9.3
LOS by Move:    C    C     C     C    C     B     C    C     C     A    A     A
HCM2kAvgQ:      1    7     7     0   10     1    11   11    11     1    1     1
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #17: Santa Fe Dr / N Franklin Rd

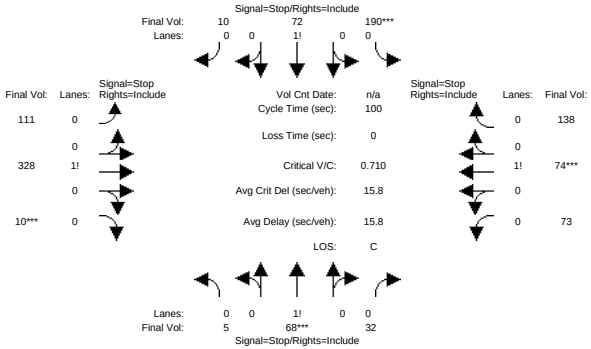



```
Street Name:          Santa Fe Drive                    N Franklin Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10    10   10    10    10   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     137  807    15     6  695    66   104   44   116     6   37    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  137  807    15     6  695    66   104   44   116     6   37    15
Added Vol:      0   37     0     5   65     0   106    0     0     0    0     3
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  137  844    15    11  760    66   210   44   116     6   37    18
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:  137  844    15    11  760    66   210   44   116     6   37    18
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 137  844    15    11  760    66   210   44   116     6   37    18
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume: 137  844    15    11  760    66   210   44   116     6   37    18
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.95  0.95 0.95  0.85  0.75 0.75  0.75  0.93 0.93  0.93
Lanes:       1.00 1.97  0.03  1.00 2.00  1.00  0.57 0.12  0.31  0.10 0.61  0.29
Final Sat.:  1805 3536    63  1805 3610  1615   811  170   448   174 1071   521
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.24  0.24  0.01 0.21  0.04  0.26 0.26  0.26  0.03 0.03  0.03
Crit Moves:       ****        ****             ****
Green/Cycle: 0.17 0.35  0.35  0.12 0.30  0.30  0.38 0.38  0.38  0.38 0.38  0.38
Volume/Cap:  0.45 0.68  0.68  0.05 0.70  0.14  0.68 0.68  0.68  0.09 0.09  0.09
Delay/Veh:   23.6 18.1  18.1  23.7 20.6  15.4  18.9 18.9  18.9  11.9 11.9  11.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  23.6 18.1  18.1  23.7 20.6  15.4  18.9 18.9  18.9  11.9 11.9  11.9
LOS by Move:    C    B     B     C    C     B     B    B     B     B    B     B
HCM2kAvgQ:      3    8     8     0    8     1     7    7     7     1    1     1
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Ext+Prj AM

Intersection #18: Ashby Rd / Franklin Rd




```
Street Name:             Ashby Road                        Franklin Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    68    32   190    72    10   111   141    10    73    74   138
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    5    68    32   190    72    10   111   141    10    73    74   138
Added Vol:      0     0     0     0     0     0     0   187     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    5    68    32   190    72    10   111   328    10    73    74   138
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     5    68    32   190    72    10   111   328    10    73    74   138
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    5    68    32   190    72    10   111   328    10    73    74   138
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    5    68    32   190    72    10   111   328    10    73    74   138
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.05  0.65  0.30  0.70  0.26  0.04  0.25  0.73  0.02  0.26  0.26  0.48
Final Sat.:    23   318   150   381   144    20   156   462    14   157   159   296
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.21  0.21  0.21  0.50  0.50  0.50  0.71  0.71  0.71  0.47  0.47  0.47
Crit Moves:        ****        ****                        ****        ****
Delay/Veh:   10.6  10.6  10.6  14.3  14.3  14.3  19.9  19.9  19.9  12.7  12.7  12.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.6  10.6  10.6  14.3  14.3  14.3  19.9  19.9  19.9  12.7  12.7  12.7
LOS by Move:    B     B     B     B     B     B     C     C     C     B     B     B
ApproachDel:       10.6             14.3             19.9             12.7
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:        10.6             14.3             19.9             12.7
LOS by Appr:          B                B                C                B
AllWayAvgQ:   0.2   0.2   0.2   0.8   0.8   0.8   2.0   2.0   2.0   0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #18 Ashby Rd / Franklin Rd

****

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```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5   68    32   190   72    10   111  328    10    73   74   138
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             734
Minor Approach Volume:           272
Minor Approach Volume Threshold: 302
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```


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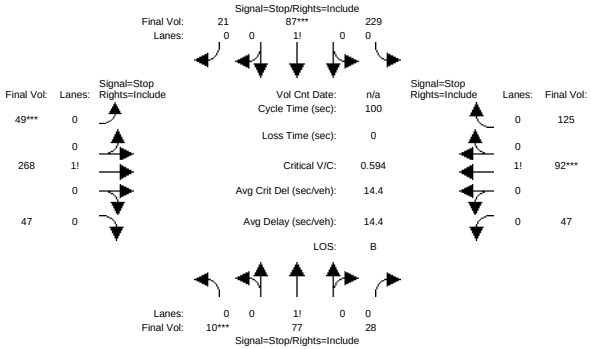
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Ext+Prj PM

Intersection #18: Ashby Rd / Franklin Rd




```
Street Name:             Ashby Road                    Franklin Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10    77    28   229    87    21    49   162    47    47    92   125
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   10    77    28   229    87    21    49   162    47    47    92   125
Added Vol:      0     0     0     0     0     0     0   106     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   10    77    28   229    87    21    49   268    47    47    92   125
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    10    77    28   229    87    21    49   268    47    47    92   125
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   10    77    28   229    87    21    49   268    47    47    92   125
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   10    77    28   229    87    21    49   268    47    47    92   125
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.09  0.67  0.24  0.68  0.26  0.06  0.13  0.74  0.13  0.18  0.35  0.47
Final Sat.:    44   341   124   393   149    36    83   451    79   107   209   284
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23  0.23  0.23  0.58  0.58  0.58  0.59  0.59  0.59  0.44  0.44  0.44
Crit Moves:  ****                  ****        ****                    ****
Delay/Veh:   10.6  10.6  10.6  15.8  15.8  15.8  15.7  15.7  15.7  12.4  12.4  12.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.6  10.6  10.6  15.8  15.8  15.8  15.7  15.7  15.7  12.4  12.4  12.4
LOS by Move:    B     B     B     C     C     C     C     C     C     B     B     B
ApproachDel:      10.6              15.8              15.7              12.4
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       10.6              15.8              15.7              12.4
LOS by Appr:         B                 C                 C                 B
AllWayAvgQ:   0.2  0.2   0.2   1.1   1.1   1.1   1.2   1.2   1.2   0.6   0.6   0.6
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #18 Ashby Rd / Franklin Rd

****

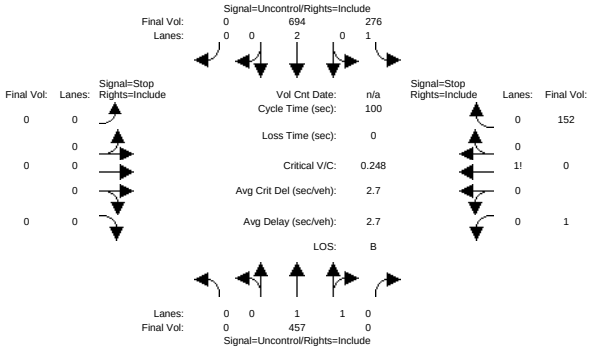

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   10   77    28   229   87    21    49  268    47    47   92   125
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             628
Minor Approach Volume:           337
Minor Approach Volume Threshold: 343
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #19: Santa Fe Dr / Belcher Ave




```
Street Name:           Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  392     0   276  657     0     0    0     0     1    0   152
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  392     0   276  657     0     0    0     0     1    0   152
Added Vol:      0   65     0     0   37     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  457     0   276  694     0     0    0     0     1    0   152
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  457     0   276  694     0     0    0     0     1    0   152
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  457     0   276  694     0     0    0     0     1    0   152
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   457 xxxx xxxxx  xxxx xxxx xxxxx  1356 1703   229
Potent Cap.: xxxx xxxx xxxxx  1114 xxxx xxxxx  xxxx xxxx xxxxx   143   93   780
Move Cap.:   xxxx xxxx xxxxx  1114 xxxx xxxxx  xxxx xxxx xxxxx   116   70   780
Volume/Cap:  xxxx xxxx  xxxx  0.25 xxxx  xxxx  xxxx xxxx  xxxx  0.01 0.00  0.19
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   1.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   9.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  752 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.8 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 11.0 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             11.0
ApproachLOS:         *                *                *                B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  457     0   276  694     0     0    0     0     1    0   152
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             11.0
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=153]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1580]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

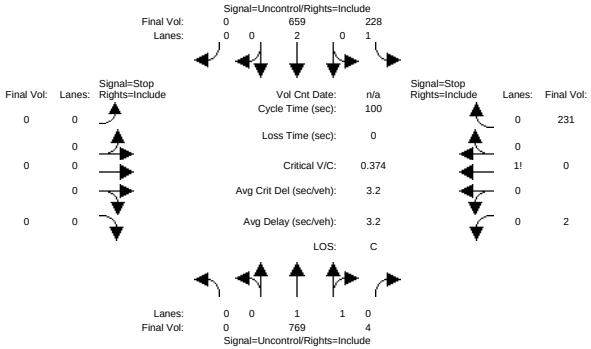
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  457     0   276  694     0     0    0     0     1    0   152
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1427
Minor Approach Volume:           153
Minor Approach Volume Threshold: 162
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #19: Santa Fe Dr / Belcher Ave




```
Street Name:           Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  732     4   228  594     0     0    0     0     2    0   231
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  732     4   228  594     0     0    0     0     2    0   231
Added Vol:      0   37     0     0   65     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  769     4   228  659     0     0    0     0     2    0   231
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  769     4   228  659     0     0    0     0     2    0   231
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  769     4   228  659     0     0    0     0     2    0   231
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   773 xxxx xxxxx  xxxx xxxx xxxxx  1557 1886   387
Potent Cap.: xxxx xxxx xxxxx   851 xxxx xxxxx  xxxx xxxx xxxxx   106   71   618
Move Cap.:   xxxx xxxx xxxxx   851 xxxx xxxxx  xxxx xxxx xxxxx    84   52   618
Volume/Cap:  xxxx xxxx  xxxx  0.27 xxxx  xxxx  xxxx xxxx  xxxx  0.02 0.00  0.37
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   1.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  10.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     B    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  586 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  1.9 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 15.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             15.2
ApproachLOS:         *                *                *                C
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  769     4   228  659     0     0    0     0     2    0   231
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             15.2
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=233]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1893]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

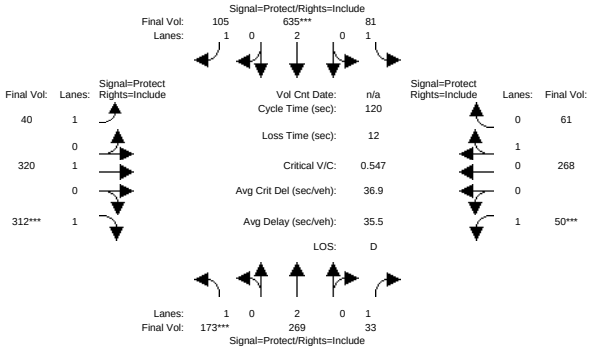
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  769     4   228  659     0     0    0     0     2    0   231
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1660
Minor Approach Volume:           233
Minor Approach Volume Threshold: 110
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

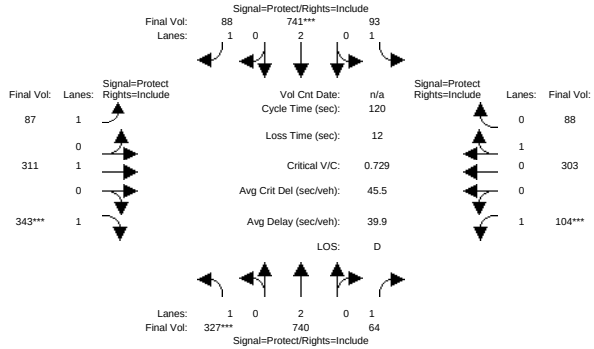



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     173 222  33    70 609 105    40 312 312    50 251  42
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  173 222  33    70 609 105    40 312 312    50 251  42
Added Vol:      0   0   0     0   0   0     0   8   0     0  17   0
Added Vol:      0  47   0    11  26   0     0   0   0     0   0  19
Initial Fut:  173 269  33    81 635 105    40 320 312    50 268  61
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   173 269  33    81 635 105    40 320 312    50 268  61
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  173 269  33    81 635 105    40 320 312    50 268  61
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  173 269  33    81 635 105    40 320 312    50 268  61
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 1.00 0.85 0.95 0.97 0.97
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 1.00 1.00 1.00 0.81 0.19
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 1900 1615 1805 1504  342
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.07 0.02 0.04 0.18 0.07 0.02 0.17 0.19 0.03 0.18 0.18
Crit Moves:  ****                ****                ****  ****
Green/Cycle: 0.17 0.29 0.29 0.20 0.32 0.32 0.10 0.35 0.35 0.06 0.31 0.31
Volume/Cap:  0.55 0.26 0.07 0.22 0.55 0.20 0.22 0.48 0.55 0.47 0.58 0.58
Delay/Veh:   47.5 32.9 31.0 40.3 34.4 30.0 50.2 31.1 32.6 58.1 36.5 36.5
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  47.5 32.9 31.0 40.3 34.4 30.0 50.2 31.1 32.6 58.1 36.5 36.5
LOS by Move:    D    C    C    D    C    C    D    C    C    E    D    D
HCM2kAvgQ:    144   95   21   63  260   70   38  231  239   61  264  264
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

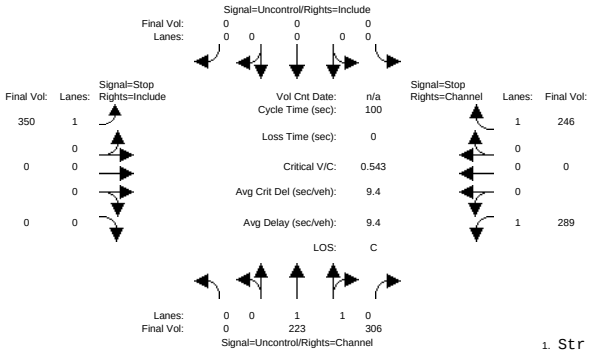



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     327 714  64    74 694  88    87 294 343   104 295  77
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  327 714  64    74 694  88    87 294 343   104 295  77
Added Vol:      0   0   0     0   0   0     0  17   0     0   8   0
Added Vol:      0  26   0    19  47   0     0   0   0     0   0  11
Initial Fut:  327 740  64    93 741  88    87 311 343   104 303  88
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   327 740  64    93 741  88    87 311 343   104 303  88
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  327 740  64    93 741  88    87 311 343   104 303  88
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  327 740  64    93 741  88    87 311 343   104 303  88
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 1.00 0.85 0.95 0.97 0.97
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 1.00 1.00 1.00 0.77 0.23
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 1900 1615 1805 1422  413
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.20 0.04 0.05 0.21 0.05 0.05 0.16 0.21 0.06 0.21 0.21
Crit Moves:  ****                ****                ****  ****
Green/Cycle: 0.25 0.41 0.41 0.12 0.28 0.28 0.08 0.29 0.29 0.08 0.29 0.29
Volume/Cap:  0.73 0.50 0.10 0.44 0.73 0.19 0.61 0.56 0.73 0.73 0.73 0.73
Delay/Veh:   47.4 26.3 21.6 50.7 41.7 33.0 60.6 37.4 44.0 71.3 43.6 43.6
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  47.4 26.3 21.6 50.7 41.7 33.0 60.6 37.4 44.0 71.3 43.6 43.6
LOS by Move:    D    C    C    D    D    C    E    D    D    E    D    D
HCM2kAvgQ:    274  253   34   91  353   62  103  250  316  133  354  354
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #25: 16th St / SR-59



1. Str

```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  194   298     0    0     0   350    0     0   272    0   246
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  194   298     0    0     0   350    0     0   272    0   246
Added Vol:      0   29     8     0    0     0     0    0     0    17    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  223   306     0    0     0   350    0     0   289    0   246
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  223   306     0    0     0   350    0     0   289    0   246
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  223   306     0    0     0   350    0     0   289    0   246
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   112 xxxx xxxxx   376 xxxx   112
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   871 xxxx xxxxx   585 xxxx   947
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   645 xxxx xxxxx   585 xxxx   947
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.54 xxxx  xxxx  0.49 xxxx  0.26
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  81.8 xxxx xxxxx  68.2 xxxx  26.0
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  17.0 xxxx xxxxx  17.0 xxxx  10.1
LOS by Move:    *    *     *     *    *     *     C    *     *     C    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             17.0            13.8
ApproachLOS:         *                *                C               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  223   306     0    0     0   350    0     0   289    0   246
ApproachDel:    xxxxxx           xxxxxx             17.0            13.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=350]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1414]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=535]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1414]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

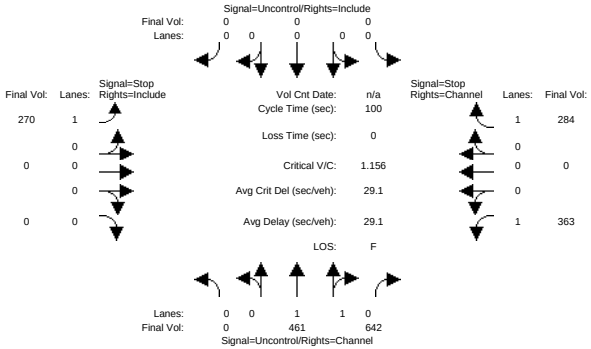
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  223   306     0    0     0   350    0     0   289    0   246
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             529
Minor Approach Volume:           535
Minor Approach Volume Threshold: 648
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #25: 16th St / SR-59




```
Street Name:            16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  427   625     0    0     0   270    0     0   355    0   284
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  427   625     0    0     0   270    0     0   355    0   284
Added Vol:      0   34    17     0    0     0     0    0     0     8    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  461   642     0    0     0   270    0     0   363    0   284
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  461   642     0    0     0   270    0     0   363    0   284
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  461   642     0    0     0   270    0     0   363    0   284
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   231 xxxx xxxxx   782 xxxx   231
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   729 xxxx xxxxx   314 xxxx   814
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   474 xxxx xxxxx   314 xxxx   814
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.57 xxxx  xxxx  1.16 xxxx  0.35
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  87.2 xxxx xxxxx   378 xxxx  39.3
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  22.1 xxxx xxxxx 136.2 xxxx  11.8
LOS by Move:    *    *     *     *    *     *     C    *     *     F    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             22.1            81.6
ApproachLOS:         *                *                C               F
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
******************************************************************************
Intersection #25 16th St / SR-59
******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  461   642     0    0     0   270    0     0   363    0   284
ApproachDel:    xxxxxx           xxxxxx             22.1            81.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=270]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2020]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=14.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=647]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2020]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

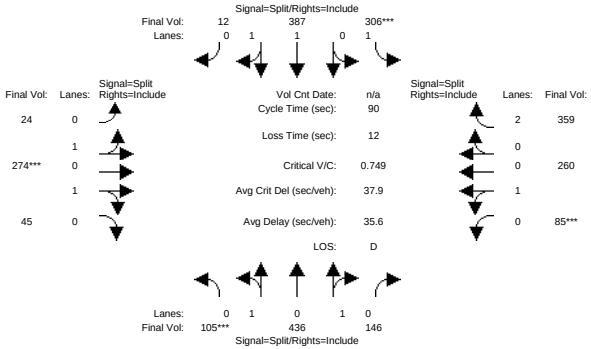
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
******************************************************************************
Intersection #25 16th St / SR-59
******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  461   642     0    0     0   270    0     0   363    0   284
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1103
Minor Approach Volume:           647
Minor Approach Volume Threshold: 332
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

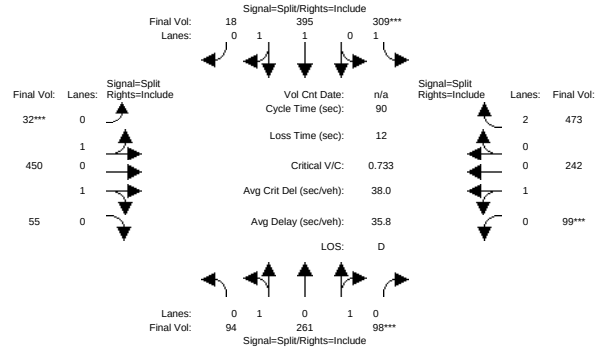



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  144   146  304  367    12   24  274    45   85  260   348
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   71  144   146  304  367    12   24  274    45   85  260   348
Added Vol:     34  292     0    2   20     0    0    0     0    0    0    11
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  105  436   146  306  387    12   24  274    45   85  260   359
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  105  436   146  306  387    12   24  274    45   85  260   359
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol: 105  436   146  306  387    12   24  274    45   85  260   359
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume: 105  436   146  306  387    12   24  274    45   85  260   359
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.91 0.91  0.91 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.31 1.27  0.42 1.00 1.94  0.06 0.14 1.60  0.26 0.25 0.75  2.00
Final Sat.:   530 2200   737 1805 3487   108  247 2818   463  462 1415  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.20 0.20  0.20 0.17 0.11  0.11 0.10 0.10  0.10 0.18 0.18  0.13
Crit Moves:  ****            ****                 ****       ****
Green/Cycle: 0.26 0.26  0.26 0.23 0.23  0.23 0.13 0.13  0.13 0.25 0.25  0.25
Volume/Cap:  0.75 0.75  0.75 0.75 0.49  0.49 0.75 0.75  0.75 0.75 0.75  0.51
Delay/Veh:   33.8 33.8  33.8 39.9 30.8  30.8 44.4 44.4  44.4 38.1 38.1  30.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  33.8 33.8  33.8 39.9 30.8  30.8 44.4 44.4  44.4 38.1 38.1  30.0
LOS by Move:    C    C     C    D    C     C    D    D     D    D    D     C
HCM2kAvgQ:    271  271   271  240  137   137  166  166   166  263  263   136
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

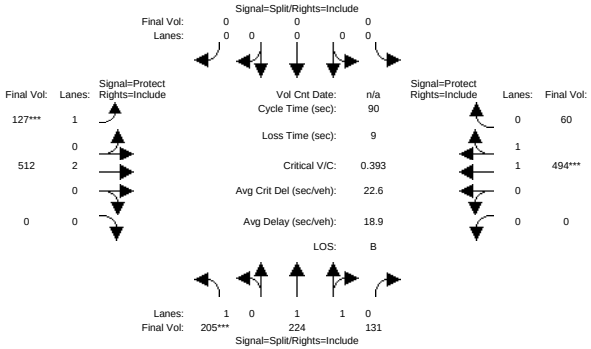



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      65  108    98  307  386    18   32  450    55   99  242   451
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   65  108    98  307  386    18   32  450    55   99  242   451
Added Vol:     29  153     0    2    9     0    0    0     0    0    0    22
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   94  261    98  309  395    18   32  450    55   99  242   473
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   94  261    98  309  395    18   32  450    55   99  242   473
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  94  261    98  309  395    18   32  450    55   99  242   473
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  94  261    98  309  395    18   32  450    55   99  242   473
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.91 0.91  0.91 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.42 1.15  0.43 1.00 1.91  0.09 0.12 1.68  0.20 0.29 0.71  2.00
Final Sat.:   718 1993   748 1805 3428   156  211 2971   363  544 1330  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.13 0.17 0.12  0.12 0.15 0.15  0.15 0.18 0.18  0.17
Crit Moves:             ****  ****             ****             ****
Green/Cycle: 0.18 0.18  0.18 0.23 0.23  0.23 0.21 0.21  0.21 0.25 0.25  0.25
Volume/Cap:  0.73 0.73  0.73 0.73 0.49  0.49 0.73 0.73  0.73 0.73 0.73  0.67
Delay/Veh:   39.5 39.5  39.5 38.4 30.3  30.3 37.2 37.2  37.2 37.0 37.0  33.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  39.5 39.5  39.5 38.4 30.3  30.3 37.2 37.2  37.2 37.0 37.0  33.0
LOS by Move:    D    D     D    D    C     C    D    D     D    D    D     C
HCM2kAvgQ:    198  198   198  238  141   141  223  223   223  255  255   197
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #27: 14th St - SR-99 NB Onramp / V St

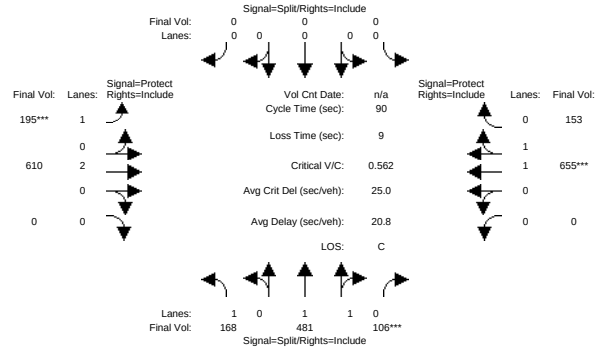



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     202   77   131     0    0     0   127  476     0     0  486    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  202   77   131     0    0     0   127  476     0     0  486    46
Added Vol:      3  147     0     0    0     0     0   36     0     0    8    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  205  224   131     0    0     0   127  512     0     0  494    60
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   205  224   131     0    0     0   127  512     0     0  494    60
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  205  224   131     0    0     0   127  512     0     0  494    60
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  205  224   131     0    0     0   127  512     0     0  494    60
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.90  0.90  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.93  0.93
Lanes:       1.00 1.26  0.74  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.78  0.22
Final Sat.:  1615 2153  1259     0    0     0  1805 3610     0     0 3168   385
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.10  0.10  0.00 0.00  0.00  0.07 0.14  0.00  0.00 0.16  0.16
Crit Moves:  ****                             ****                    ****
Green/Cycle: 0.32 0.32  0.32  0.00 0.00  0.00  0.18 0.58  0.00  0.00 0.40  0.40
Volume/Cap:  0.39 0.32  0.32  0.00 0.00  0.00  0.39 0.25  0.00  0.00 0.39  0.39
Delay/Veh:   24.1 23.2  23.2   0.0  0.0   0.0  33.4  9.5   0.0   0.0 19.5  19.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.1 23.2  23.2   0.0  0.0   0.0  33.4  9.5   0.0   0.0 19.5  19.5
LOS by Move:    C    C     C     A    A     A     C    A     A     A    B     B
HCM2kAvgQ:    115  100   100     0    0     0    86   91     0     0  139   139
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #27: 14th St - SR-99 NB Onramp / V St

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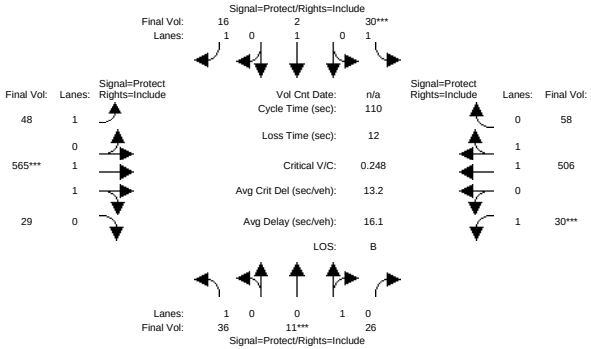
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156  173   106     0    0     0   195  579     0     0  645   136
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  156  173   106     0    0     0   195  579     0     0  645   136
Added Vol:     12  308     0     0    0     0     0   31     0     0   10    17
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  168  481   106     0    0     0   195  610     0     0  655   153
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   168  481   106     0    0     0   195  610     0     0  655   153
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  168  481   106     0    0     0   195  610     0     0  655   153
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  168  481   106     0    0     0   195  610     0     0  655   153
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.92  0.92  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.92  0.92
Lanes:       1.00 1.64  0.36  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.62  0.38
Final Sat.:  1615 2878   634     0    0     0  1805 3610     0     0 2844   664
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.17  0.17  0.00 0.00  0.00  0.11 0.17  0.00  0.00 0.23  0.23
Crit Moves:             ****                    ****                    ****
Green/Cycle: 0.30 0.30  0.30  0.00 0.00  0.00  0.19 0.60  0.00  0.00 0.41  0.41
Volume/Cap:  0.35 0.56  0.56  0.00 0.00  0.00  0.56 0.28  0.00  0.00 0.56  0.56
Delay/Veh:   25.2 27.4  27.4   0.0  0.0   0.0  35.0  8.6   0.0   0.0 20.9  20.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  25.2 27.4  27.4   0.0  0.0   0.0  35.0  8.6   0.0   0.0 20.9  20.9
LOS by Move:    C    C     C     A    A     A     C    A     A     A    C     C
HCM2kAvgQ:     96  194   194     0    0     0   140  106     0     0  221   221
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #28: 15th St / V St



Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	36	11	26	30	2	16	48	529	29	30	484	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	11	26	30	2	16	48	529	29	30	484	58
Added Vol:	0	0	0	0	0	0	0	36	0	0	22	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	11	26	30	2	16	48	565	29	30	506	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	11	26	30	2	16	48	565	29	30	506	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	11	26	30	2	16	48	565	29	30	506	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	11	26	30	2	16	48	565	29	30	506	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.79	0.21
Final Sat.:	1805	506	1195	1805	1900	1615	1805	3410	175	1805	3190	366
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.02	0.00	0.01	0.03	0.17	0.17	0.02	0.16	0.16
Crit Moves:		****		****				****		****		
Green/Cycle:	0.06	0.09	0.09	0.07	0.09	0.09	0.21	0.67	0.67	0.07	0.52	0.52
Volume/Cap:	0.31	0.24	0.24	0.25	0.01	0.11	0.13	0.25	0.25	0.25	0.30	0.30
Delay/Veh:	50.6	47.3	47.3	49.8	45.3	46.0	35.4	7.4	7.4	49.8	15.0	15.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.6	47.3	47.3	49.8	45.3	46.0	35.4	7.4	7.4	49.8	15.0	15.0
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	37	34	34	30	2	14	31	103	103	23	135	135

Note: Queue reported is the distance per lane in feet.

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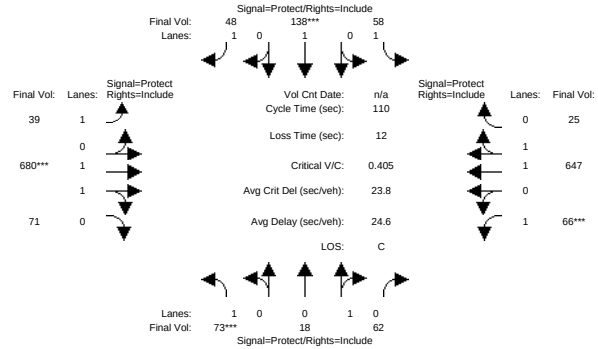
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #28: 15th St / V St



Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	73	18	62	58	138	48	39	649	71	66	620	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	18	62	58	138	48	39	649	71	66	620	25
Added Vol:	0	0	0	0	0	0	0	31	0	0	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	18	62	58	138	48	39	680	71	66	647	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	18	62	58	138	48	39	680	71	66	647	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	18	62	58	138	48	39	680	71	66	647	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	18	62	58	138	48	39	680	71	66	647	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.23	0.77	1.00	1.00	1.00	1.00	1.81	0.19	1.00	1.93	0.07
Final Sat.:	1805	378	1302	1805	1900	1615	1805	3223	337	1805	3455	133
Capacity Analysis Module:												
Vol/Sat:	0.04	0.05	0.05	0.03	0.07	0.03	0.02	0.21	0.21	0.04	0.19	0.19
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.16	0.16	0.12	0.18	0.18	0.16	0.52	0.52	0.09	0.46	0.46
Volume/Cap:	0.40	0.29	0.29	0.28	0.40	0.17	0.14	0.40	0.40	0.40	0.41	0.41
Delay/Veh:	47.9	40.9	40.9	45.2	40.7	38.4	40.4	16.1	16.1	48.9	20.2	20.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.9	40.9	40.9	45.2	40.7	38.4	40.4	16.1	16.1	48.9	20.2	20.2
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	C
HCM2kAvgQ:	69	64	64	50	110	36	27	196	196	51	190	190

Note: Queue reported is the distance per lane in feet.

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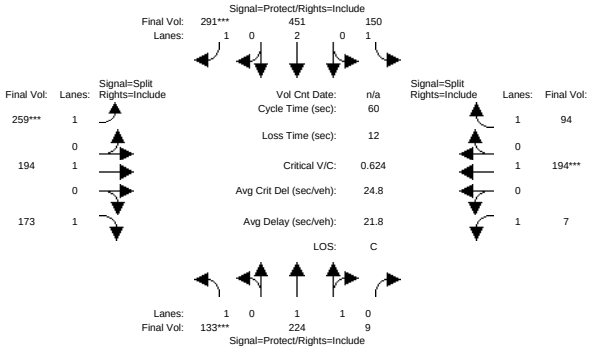
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #29: 16th St / V St



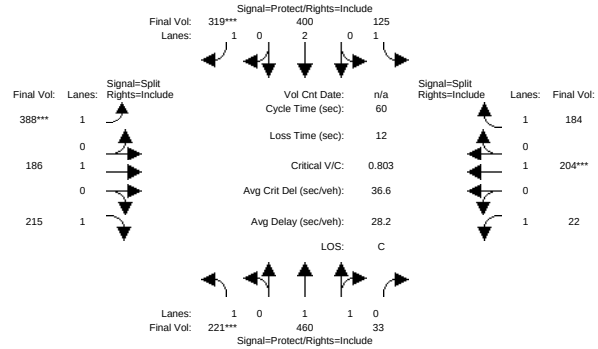
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	111	187	9	150	434	291	259	194	137	7	194	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	111	187	9	150	434	291	259	194	137	7	194	94
Added Vol:	22	37	0	0	17	0	0	0	36	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	133	224	9	150	451	291	259	194	173	7	194	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	133	224	9	150	451	291	259	194	173	7	194	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	133	224	9	150	451	291	259	194	173	7	194	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	133	224	9	150	451	291	259	194	173	7	194	94
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.92	0.08	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3450	139	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.06	0.06	0.08	0.12	0.18	0.14	0.10	0.11	0.00	0.10	0.06
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.24	0.24	0.17	0.29	0.29	0.23	0.23	0.23	0.17	0.17	0.17
Volume/Cap:	0.63	0.27	0.27	0.50	0.44	0.63	0.63	0.45	0.47	0.02	0.61	0.35
Delay/Veh:	31.1	18.8	18.8	24.0	17.7	21.3	23.9	20.6	20.9	20.9	26.7	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.1	18.8	18.8	24.0	17.7	21.3	23.9	20.6	20.9	20.9	26.7	22.9
LOS by Move:	C	B	B	C	B	C	C	C	C	C	C	C
HCM2kAvgQ:	61	45	45	80	99	145	110	76	69	3	111	48

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #29: 16th St / V St



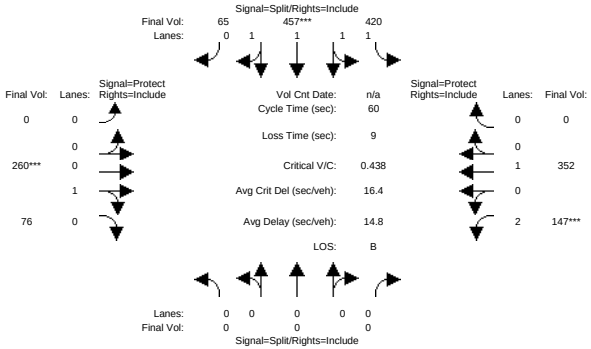
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	194	409	33	125	392	319	388	186	184	22	204	184
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	409	33	125	392	319	388	186	184	22	204	184
Added Vol:	27	51	0	0	8	0	0	0	31	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	221	460	33	125	400	319	388	186	215	22	204	184
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	221	460	33	125	400	319	388	186	215	22	204	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	221	460	33	125	400	319	388	186	215	22	204	184
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	221	460	33	125	400	319	388	186	215	22	204	184
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.87	0.13	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3335	239	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.12	0.14	0.14	0.07	0.11	0.20	0.21	0.10	0.13	0.01	0.11	0.11
Crit Moves:	****					****	****				****	
Green/Cycle:	0.14	0.22	0.22	0.16	0.23	0.23	0.25	0.25	0.25	0.17	0.17	0.17
Volume/Cap:	0.84	0.62	0.62	0.44	0.47	0.84	0.84	0.38	0.52	0.07	0.64	0.68
Delay/Veh:	46.5	22.5	22.5	24.1	20.2	37.8	34.7	19.0	20.5	21.2	27.9	30.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.5	22.5	22.5	24.1	20.2	37.8	34.7	19.0	20.5	21.2	27.9	30.6
LOS by Move:	D	C	C	C	C	D	C	B	C	C	C	C
HCM2kAvgQ:	114	109	109	66	97	218	190	69	85	10	120	118

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #30: 13th St / R St



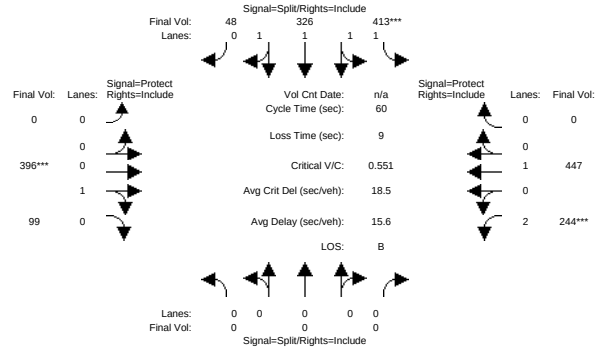
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	337	229	65	0	260	76	147	352	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	337	229	65	0	260	76	147	352	0
Added Vol:	0	0	0	83	228	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	420	457	65	0	260	76	147	352	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	420	457	65	0	260	76	147	352	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	420	457	65	0	260	76	147	352	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	420	457	65	0	260	76	147	352	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.84	0.84	0.84	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	1.78	1.94	0.28	0.00	0.77	0.23	2.00	1.00	0.00
Final Sat.:	0	0	0	2848	3099	441	0	1425	416	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.15	0.15	0.15	0.00	0.18	0.18	0.04	0.19	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.33	0.33	0.33	0.00	0.41	0.41	0.12	0.52	0.00
Volume/Cap:	0.00	0.00	0.00	0.45	0.45	0.45	0.00	0.45	0.45	0.36	0.35	0.00
Delay/Veh:	0.0	0.0	0.0	16.1	16.1	16.1	0.0	13.4	13.4	25.0	8.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.1	16.1	16.1	0.0	13.4	13.4	25.0	8.6	0.0
LOS by Move:	A	A	A	B	B	B	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	105	105	105	0	122	122	32	93	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #30: 13th St / R St



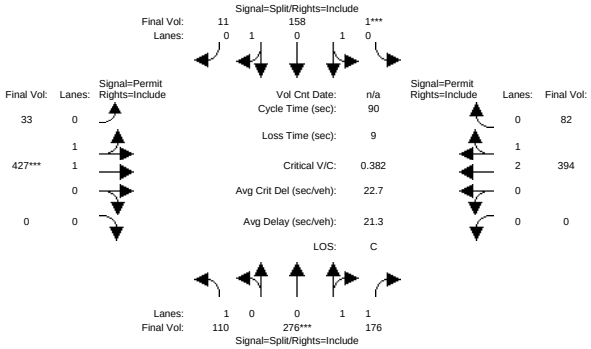
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	371	206	48	0	396	99	244	447	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	371	206	48	0	396	99	244	447	0
Added Vol:	0	0	0	42	120	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	413	326	48	0	396	99	244	447	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	413	326	48	0	396	99	244	447	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	413	326	48	0	396	99	244	447	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	413	326	48	0	396	99	244	447	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.83	0.83	0.83	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.74	0.26	0.00	0.80	0.20	2.00	1.00	0.00
Final Sat.:	0	0	0	3156	2751	405	0	1479	370	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.12	0.12	0.00	0.27	0.27	0.07	0.24	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.24	0.24	0.24	0.00	0.49	0.49	0.13	0.61	0.00
Volume/Cap:	0.00	0.00	0.00	0.55	0.50	0.50	0.00	0.55	0.55	0.55	0.38	0.00
Delay/Veh:	0.0	0.0	0.0	20.5	20.0	20.0	0.0	11.6	11.6	26.1	6.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	20.5	20.0	20.0	0.0	11.6	11.6	26.1	6.1	0.0
LOS by Move:	A	A	A	C	C	C	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	112	98	98	0	175	175	56	103	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #31: SR-99 NB Off-Ramp - 14th St / R Street

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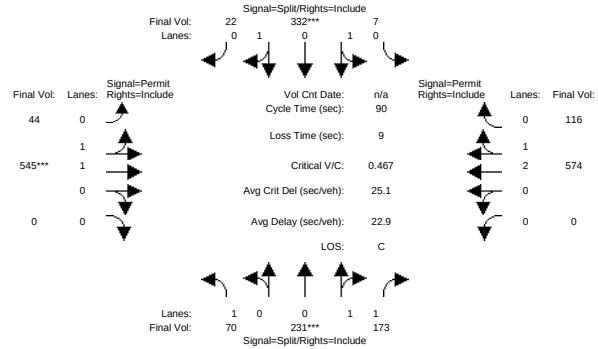
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10   10   10   10   10   10   10   10   10   10
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     110  276  176    1   36   11   33  344    0    0  394   68
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  110  276  176    1   36   11   33  344    0    0  394   68
Added Vol:      0    0    0    0  122    0    0   83    0    0    0   14
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:  110  276  176    1  158   11   33  427    0    0  394   82
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   110  276  176    1  158   11   33  427    0    0  394   82
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  110  276  176    1  158   11   33  427    0    0  394   82
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  110  276  176    1  158   11   33  427    0    0  394   82
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.94 0.94 0.94 0.94 0.94 0.85 0.85 1.00 1.00 0.89 0.89
Lanes:       1.00 1.00 1.00 0.01 1.86 0.13 0.14 1.86 0.00 0.00 2.48 0.52
Final Sat.:  1805 1790 1790   21 3322  231  232 3006    0    0 4182  870
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.15 0.10 0.05 0.05 0.05 0.14 0.14 0.00 0.00 0.09 0.09
Crit Moves:        ****      ****           ****
Green/Cycle: 0.40 0.40 0.40 0.12 0.12 0.12 0.37 0.37 0.00 0.00 0.37 0.37
Volume/Cap:  0.15 0.38 0.24 0.38 0.38 0.38 0.38 0.38 0.00 0.00 0.25 0.25
Delay/Veh:   17.1 19.1 17.8 36.8 36.8 36.8 20.9 20.9  0.0  0.0 19.7 19.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  17.1 19.1 17.8 36.8 36.8 36.8 20.9 20.9  0.0  0.0 19.7 19.7
LOS by Move:    B    B    B    D    D    D    C    C    A    A    B    B
HCM2kAvgQ:     48  137   81   66   66   66  118  118    0    0   80   80
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #31: SR-99 NB Off-Ramp - 14th St / R Street

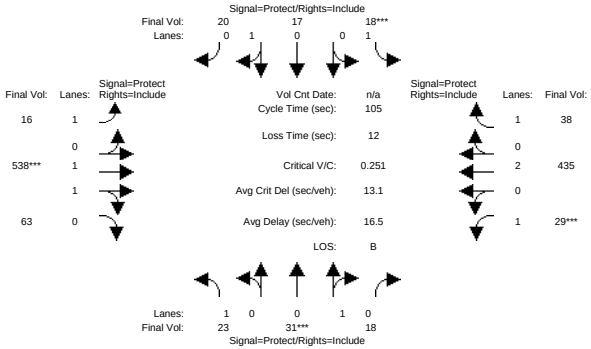



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10   10   10   10   10   10   10   10   10   10
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      70  231  173    7   86   22   44  503    0    0  574   99
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   70  231  173    7   86   22   44  503    0    0  574   99
Added Vol:      0    0    0    0  246    0    0   42    0    0    0   17
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:   70  231  173    7  332   22   44  545    0    0  574  116
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   70  231  173    7  332   22   44  545    0    0  574  116
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:   70  231  173    7  332   22   44  545    0    0  574  116
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   70  231  173    7  332   22   44  545    0    0  574  116
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.94 0.94 0.94 0.94 0.94 0.82 0.82 1.00 1.00 0.89 0.89
Lanes:       1.00 1.00 1.00 0.04 1.84 0.12 0.15 1.85 0.00 0.00 2.50 0.50
Final Sat.:  1805 1778 1778   69 3287  218  232 2879    0    0 4207  850
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.13 0.10 0.10 0.10 0.10 0.19 0.19 0.00 0.00 0.14 0.14
Crit Moves:        ****           ****           ****
Green/Cycle: 0.28 0.28 0.28 0.22 0.22 0.22 0.41 0.41 0.00 0.00 0.41 0.41
Volume/Cap:  0.14 0.47 0.35 0.47 0.47 0.47 0.47 0.47 0.00 0.00 0.34 0.34
Delay/Veh:   24.5 27.3 26.2 31.2 31.2 31.2 19.9 19.9  0.0  0.0 18.5 18.5
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  24.5 27.3 26.2 31.2 31.2 31.2 19.9 19.9  0.0  0.0 18.5 18.5
LOS by Move:    C    C    C    C    C    C    B    B    A    A    B    B
HCM2kAvgQ:     37  141  100  125  125  125  152  152    0    0  115  115
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #32: 15th St / R St



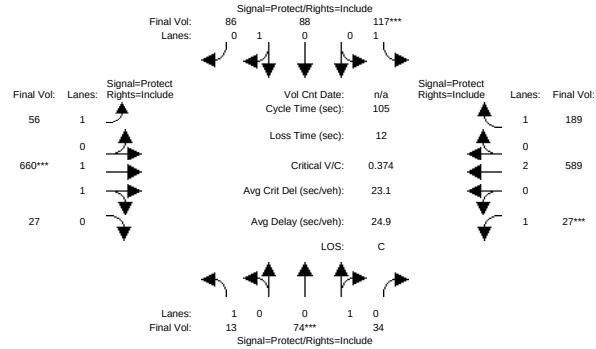
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	23	31	16	18	17	20	16	502	16	23	421	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	31	16	18	17	20	16	502	16	23	421	38
Added Vol:	0	0	2	0	0	0	0	36	47	6	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	23	31	18	18	17	20	16	538	63	29	435	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	31	18	18	17	20	16	538	63	29	435	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	31	18	18	17	20	16	538	63	29	435	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	31	18	18	17	20	16	538	63	29	435	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.95	0.85
Lanes:	1.00	0.63	0.37	1.00	0.46	0.54	1.00	1.79	0.21	1.00	2.00	1.00
Final Sat.:	1805	1136	660	1805	802	944	1805	3180	372	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.01	0.02	0.02	0.01	0.17	0.17	0.02	0.12	0.02
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.10	0.10	0.07	0.10	0.10	0.25	0.65	0.65	0.07	0.46	0.46
Volume/Cap:	0.18	0.26	0.26	0.15	0.21	0.21	0.03	0.26	0.26	0.24	0.26	0.05
Delay/Veh:	46.6	44.0	44.0	46.8	44.0	44.0	29.5	7.9	7.9	47.5	17.5	15.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.6	44.0	44.0	46.8	44.0	44.0	29.5	7.9	7.9	47.5	17.5	15.7
LOS by Move:	D	D	D	D	D	D	C	A	A	D	B	B
HCM2kAvgQ:	21	42	42	17	31	31	9	105	105	22	108	16

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #32: 15th St / R St



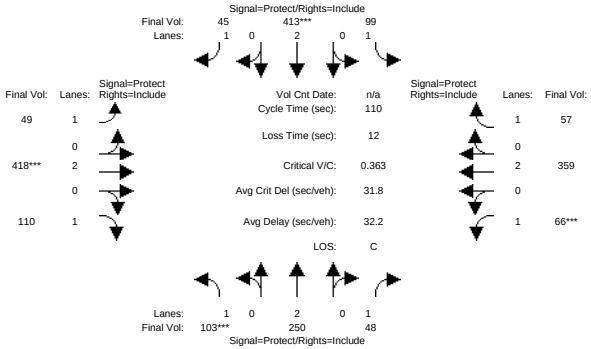
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	13	74	28	117	88	86	56	629	15	25	572	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	74	28	117	88	86	56	629	15	25	572	189
Added Vol:	0	0	6	0	0	0	0	31	12	2	17	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	74	34	117	88	86	56	660	27	27	589	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	74	34	117	88	86	56	660	27	27	589	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	74	34	117	88	86	56	660	27	27	589	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	74	34	117	88	86	56	660	27	27	589	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.93	0.93	0.95	0.94	0.94	0.95	0.95	0.85
Lanes:	1.00	0.69	0.31	1.00	0.51	0.49	1.00	1.92	0.08	1.00	2.00	1.00
Final Sat.:	1805	1241	570	1805	890	870	1805	3447	141	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.06	0.06	0.10	0.10	0.03	0.19	0.19	0.01	0.16	0.12
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.15	0.15	0.17	0.19	0.19	0.16	0.50	0.50	0.07	0.40	0.40
Volume/Cap:	0.06	0.39	0.39	0.39	0.51	0.51	0.19	0.39	0.39	0.22	0.41	0.29
Delay/Veh:	40.1	40.8	40.8	39.7	39.3	39.3	38.2	16.6	16.6	47.4	22.8	21.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.1	40.8	40.8	39.7	39.3	39.3	38.2	16.6	16.6	47.4	22.8	21.7
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	C
HCM2kAvgQ:	10	86	86	91	139	139	37	174	174	20	172	99

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #33: 16th St / R St



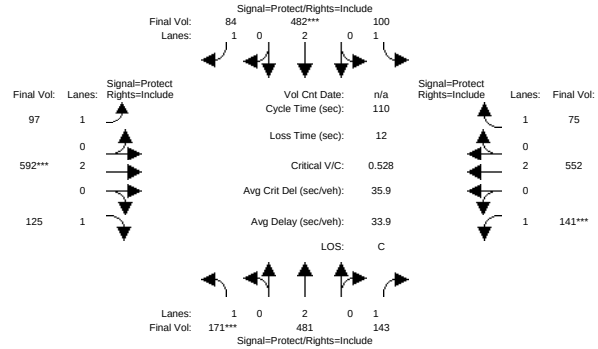
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	89	191	44	99	360	45	49	416	74	61	353	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	191	44	99	360	45	49	416	74	61	353	57
Added Vol:	14	59	4	0	53	0	0	2	36	5	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	250	48	99	413	45	49	418	110	66	359	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	103	250	48	99	413	45	49	418	110	66	359	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	250	48	99	413	45	49	418	110	66	359	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	250	48	99	413	45	49	418	110	66	359	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.03	0.05	0.11	0.03	0.03	0.12	0.07	0.04	0.10	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.28	0.28	0.19	0.31	0.31	0.16	0.32	0.32	0.10	0.26	0.26
Volume/Cap:	0.36	0.25	0.11	0.28	0.36	0.09	0.17	0.36	0.21	0.36	0.39	0.14
Delay/Veh:	42.2	31.0	29.7	38.2	29.4	26.6	39.8	29.1	27.6	47.4	34.1	31.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.2	31.0	29.7	38.2	29.4	26.6	39.8	29.1	27.6	47.4	34.1	31.7
LOS by Move:	D	C	C	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	84	86	30	68	136	25	34	137	65	51	127	35

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #33: 16th St / R St



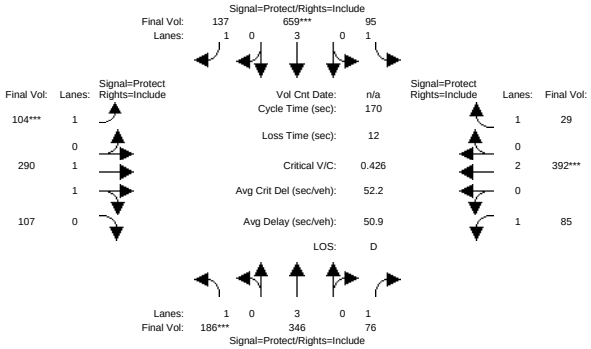
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	154	403	138	100	443	84	97	586	94	137	550	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	154	403	138	100	443	84	97	586	94	137	550	75
Added Vol:	17	78	5	0	39	0	0	6	31	4	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	171	481	143	100	482	84	97	592	125	141	552	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	171	481	143	100	482	84	97	592	125	141	552	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	171	481	143	100	482	84	97	592	125	141	552	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	171	481	143	100	482	84	97	592	125	141	552	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.09	0.06	0.13	0.05	0.05	0.16	0.08	0.08	0.15	0.05
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.29	0.29	0.14	0.25	0.25	0.13	0.31	0.31	0.15	0.32	0.32
Volume/Cap:	0.53	0.46	0.30	0.40	0.53	0.21	0.40	0.53	0.25	0.53	0.47	0.14
Delay/Veh:	42.5	32.1	30.6	44.1	36.0	32.6	44.6	31.7	28.6	45.3	30.0	26.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	32.1	30.6	44.1	36.0	32.6	44.6	31.7	28.6	45.3	30.0	26.5
LOS by Move:	D	C	C	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	145	178	96	74	179	53	73	211	75	109	190	43

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #34: Olive Ave / R St



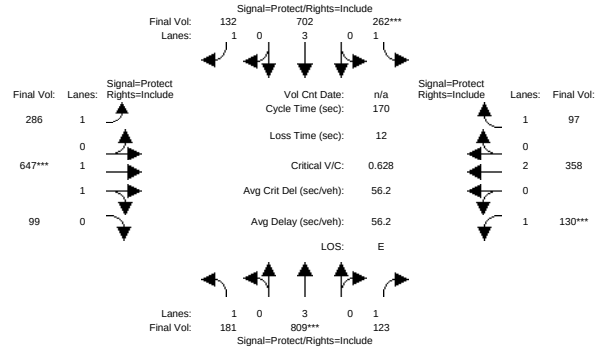
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	186		346		76	95		659		137	104		285		107	85		381		29
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	186		346		76	95		659		137	104		285		107	85		381		29
Added Vol:	0		0		0	0		0		0	0		5		0	0		11		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	186		346		76	95		659		137	104		290		107	85		392		29
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	186		346		76	95		659		137	104		290		107	85		392		29
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	186		346		76	95		659		137	104		290		107	85		392		29
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	186		346		76	95		659		137	104		290		107	85		392		29
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.91		0.91	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.46		0.54	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		2532		934	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.10		0.07		0.05	0.05		0.13		0.08	0.06		0.11		0.11	0.05		0.11		0.02
Crit Moves:	****							****			****							****		
Green/Cycle:	0.24		0.30		0.30	0.24		0.30		0.30	0.14		0.28		0.28	0.11		0.25		0.25
Volume/Cap:	0.43		0.22		0.16	0.22		0.43		0.28	0.43		0.41		0.41	0.41		0.43		0.07
Delay/Veh:	55.2		44.5		43.7	52.4		48.2		46.1	68.7		50.6		50.6	71.5		53.3		48.2
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	55.2		44.5		43.7	52.4		48.2		46.1	68.7		50.6		50.6	71.5		53.3		48.2
LOS by Move:	E		D		D	D		D		D	E		D		D	E		D		D
HCM2kAvgQ:	196		117		68	94		240		129	131		219		219	110		222		28

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #34: Olive Ave / R St



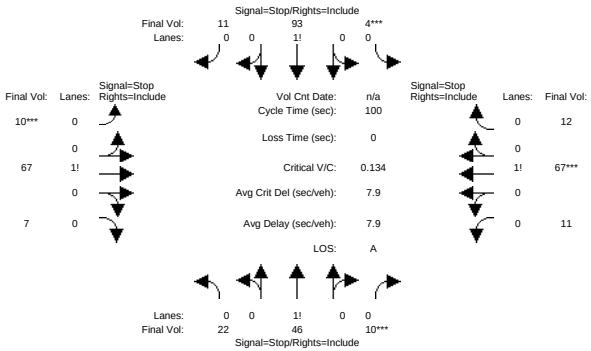
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	181		809		123	262		702		132	286		636		99	130		353		97
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	181		809		123	262		702		132	286		636		99	130		353		97
Added Vol:	0		0		0	0		0		0	0		11		0	0		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	181		809		123	262		702		132	286		647		99	130		358		97
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	181		809		123	262		702		132	286		647		99	130		358		97
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	181		809		123	262		702		132	286		647		99	130		358		97
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	181		809		123	262		702		132	286		647		99	130		358		97
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.93		0.93	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.73		0.27	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		3068		469	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.10		0.16		0.08	0.15		0.14		0.08	0.16		0.21		0.21	0.07		0.10		0.06
Crit Moves:			****			****							****			****				
Green/Cycle:	0.20		0.25		0.25	0.23		0.28		0.28	0.28		0.34		0.34	0.11		0.17		0.17
Volume/Cap:	0.49		0.63		0.31	0.63		0.49		0.30	0.57		0.63		0.63	0.63		0.57		0.35
Delay/Veh:	60.9		57.9		52.4	61.8		51.9		49.0	54.4		48.6		48.6	77.8		65.8		62.6
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	60.9		57.9		52.4	61.8		51.9		49.0	54.4		48.6		48.6	77.8		65.8		62.6
LOS by Move:	E		E		D	E		D		D	D		D		D	E		E		E
HCM2kAvgQ:	199		331		123	293		264		127	322		430		430	183		235		114

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #35: 15th St / O St

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Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8    44    10     4    40    11    10    67     7    11    67    12
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    8    44    10     4    40    11    10    67     7    11    67    12
Added Vol:     14     2     0     0    53     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   22    46    10     4    93    11    10    67     7    11    67    12
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    22    46    10     4    93    11    10    67     7    11    67    12
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   22    46    10     4    93    11    10    67     7    11    67    12
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   22    46    10     4    93    11    10    67     7    11    67    12
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.28  0.59  0.13  0.04  0.86  0.10  0.12  0.80  0.08  0.12  0.75  0.13
Final Sat.:   223   467   101    30   694    82    94   630    66    97   593   106
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10  0.10  0.10  0.13  0.13  0.13  0.11  0.11  0.11  0.11  0.11  0.11
Crit Moves:               ****  ****              ****                    ****
Delay/Veh:    7.8   7.8   7.8   7.9   7.9   7.9   7.9   7.9   7.9   7.9   7.9   7.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.8   7.8   7.8   7.9   7.9   7.9   7.9   7.9   7.9   7.9   7.9   7.9
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        7.8               7.9               7.9               7.9
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.8               7.9               7.9               7.9
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   2.5   2.5   2.5   3.6   3.6   3.6   2.7   2.7   2.7   2.9   2.9   2.9
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #35 15th St / O St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   22   46   10     4   93   11    10   67     7    11   67   12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             186
Minor Approach Volume:           90
Minor Approach Volume Threshold: 668
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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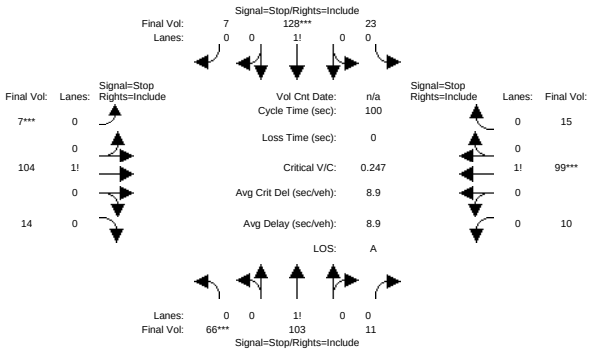
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #35: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9    97    11    23   115     7     7   104    14    10    99    15
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    9    97    11    23   115     7     7   104    14    10    99    15
Added Vol:     57     6     0     0    13     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   66   103    11    23   128     7     7   104    14    10    99    15
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    66   103    11    23   128     7     7   104    14    10    99    15
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   66   103    11    23   128     7     7   104    14    10    99    15
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   66   103    11    23   128     7     7   104    14    10    99    15
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.37  0.57  0.06  0.15  0.81  0.04  0.06  0.83  0.11  0.08  0.80  0.12
Final Sat.:   267   417    45   106   590    32    40   587    79    57   563    85
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.25  0.25  0.25  0.22  0.22  0.22  0.18  0.18  0.18  0.18  0.18  0.18
Crit Moves:  ****                  ****        ****                    ****
Delay/Veh:    9.2   9.2   9.2   8.9   8.9   8.9   8.7   8.7   8.7   8.7   8.7   8.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.2   9.2   9.2   8.9   8.9   8.9   8.7   8.7   8.7   8.7   8.7   8.7
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        9.2               8.9               8.7               8.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         9.2               8.9               8.7               8.7
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   7.3   7.3   7.3   6.2   6.2   6.2   4.7   4.7   4.7   4.6   4.6   4.6
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #35 15th St / O St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   66  103    11    23  128     7     7  104    14    10   99    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             338
Minor Approach Volume:           125
Minor Approach Volume Threshold: 509
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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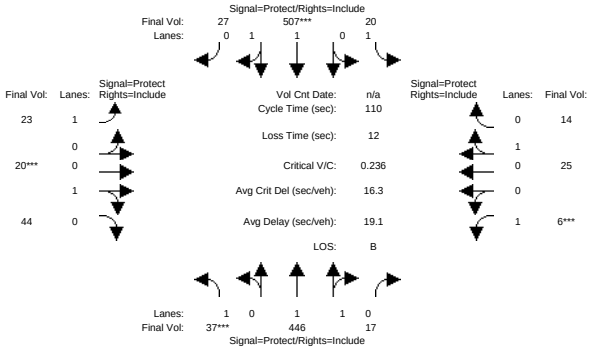
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #36: 16th St / O St



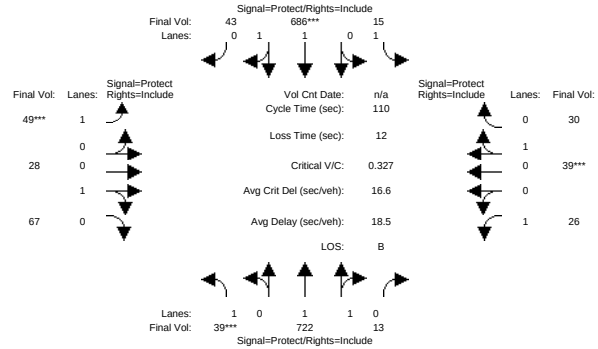
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	37	369	17	20	413	27	23	20	44	6	25	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	369	17	20	413	27	23	20	44	6	25	14
Added Vol:	0	77	0	0	94	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	37	446	17	20	507	27	23	20	44	6	25	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	446	17	20	507	27	23	20	44	6	25	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	446	17	20	507	27	23	20	44	6	25	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	446	17	20	507	27	23	20	44	6	25	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.93	0.07	1.00	1.90	0.10	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3457	132	1805	3400	181	1805	533	1172	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.01	0.15	0.15	0.01	0.04	0.04	0.00	0.02	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.08	0.45	0.45	0.22	0.60	0.60	0.09	0.15	0.15	0.06	0.13	0.13
Volume/Cap:	0.25	0.28	0.28	0.05	0.25	0.25	0.14	0.25	0.25	0.05	0.17	0.17
Delay/Veh:	48.2	18.9	18.9	33.6	10.6	10.6	46.8	41.8	41.8	48.6	43.3	43.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.2	18.9	18.9	33.6	10.6	10.6	46.8	41.8	41.8	48.6	43.3	43.3
LOS by Move:	D	B	B	C	B	B	D	D	D	D	D	D
HCM2kAvgQ:	35	127	127	13	110	110	20	51	51	6	32	32

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #36: 16th St / O St



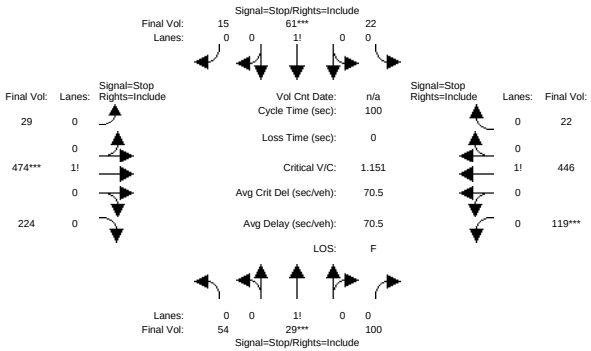
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	39	623	13	15	613	43	49	28	67	26	39	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	623	13	15	613	43	49	28	67	26	39	30
Added Vol:	0	99	0	0	73	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	722	13	15	686	43	49	28	67	26	39	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	722	13	15	686	43	49	28	67	26	39	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	722	13	15	686	43	49	28	67	26	39	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	722	13	15	686	43	49	28	67	26	39	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.88	0.12	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3536	64	1805	3366	211	1805	501	1198	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.02	0.20	0.20	0.01	0.20	0.20	0.03	0.06	0.06	0.01	0.04	0.04
Crit Moves:	****				****		****				****	
Green/Cycle:	0.07	0.53	0.53	0.16	0.62	0.62	0.08	0.12	0.12	0.08	0.12	0.12
Volume/Cap:	0.33	0.39	0.39	0.05	0.33	0.33	0.33	0.47	0.47	0.17	0.33	0.33
Delay/Veh:	50.6	15.7	15.7	38.9	9.9	9.9	48.8	47.0	47.0	47.5	45.3	45.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.6	15.7	15.7	38.9	9.9	9.9	48.8	47.0	47.0	47.5	45.3	45.3
LOS by Move:	D	B	B	D	A	A	D	D	D	D	D	D
HCM2kAvgQ:	40	192	192	11	151	151	47	89	89	24	60	60

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #37: 15th St / M St



Street Name:	15th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Volume Module:																
Base Vol:	2	13	92		22	8	15		29	337	6		85	343	22	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	2	13	92		22	8	15		29	337	6		85	343	22	
Added Vol:	52	16	8		0	53	0		0	137	218		34	103	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	54	29	100		22	61	15		29	474	224		119	446	22	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	54	29	100		22	61	15		29	474	224		119	446	22	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	54	29	100		22	61	15		29	474	224		119	446	22	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	54	29	100		22	61	15		29	474	224		119	446	22	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.29	0.16	0.55		0.22	0.63	0.15		0.04	0.65	0.31		0.20	0.76	0.04	
Final Sat.:	149	80	275		103	286	70		25	412	195		123	460	23	
Capacity Analysis Module:																
Vol/Sat:	0.36	0.36	0.36		0.21	0.21	0.21		1.15	1.15	1.15		0.97	0.97	0.97	
Crit Moves:		****				****				****			****			
Delay/Veh:	13.8	13.8	13.8		12.5	12.5	12.5		106.8	107	106.8		52.8	52.8	52.8	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	13.8	13.8	13.8		12.5	12.5	12.5		106.8	107	106.8		52.8	52.8	52.8	
LOS by Move:	B	B	B		B	B	B		F	F	F		F	F	F	
ApproachDel:		13.8				12.5				106.8				52.8		
Delay Adj:		1.00				1.00				1.00				1.00		
ApprAdjDel:		13.8				12.5				106.8				52.8		
LOS by Appr:		B				B				F				F		
AllWayAvgQ:	13.4	13.4	13.4		6.2	6.2	6.2		430	430	430.2		185	185	184.6	

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #37 15th St / M St

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0
Initial Vol:	54	29	100		22	61	15		29	474	224		119	446	22	

Major Street Volume: 1314
Minor Approach Volume: 183
Minor Approach Volume Threshold: 147

SIGNAL WARRANT DISCLAIMER

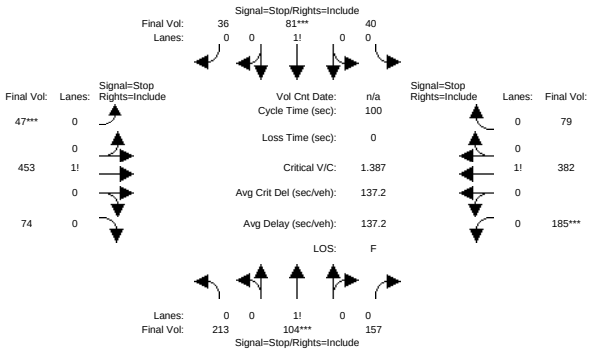
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #37: 15th St / M St

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Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    41   123    40    68    36    47   346    20   177   250    79
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    5    41   123    40    68    36    47   346    20   177   250    79
Added Vol:    208    63    34     0    13     0     0   107    54     8   132     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  213   104   157    40    81    36    47   453    74   185   382    79
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:   213   104   157    40    81    36    47   453    74   185   382    79
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  213   104   157    40    81    36    47   453    74   185   382    79
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:  213   104   157    40    81    36    47   453    74   185   382    79
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.45  0.22  0.33  0.25  0.52  0.23  0.08  0.79  0.13  0.29  0.59  0.12
Final Sat.:   212   103   156   102   206    91    38   370    60   133   275    57
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.01  1.01  1.01  0.39  0.39  0.39  1.23  1.23  1.23  1.39  1.39  1.39
Crit Moves:        ****              ****        ****              ****
Delay/Veh:   70.7  70.7  70.7  17.8  17.8  17.8 143.8   144 143.8 209.2   209 209.2
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  70.7  70.7  70.7  17.8  17.8  17.8 143.8   144 143.8 209.2   209 209.2
LOS by Move:    F     F     F     C     C     C     F     F     F     F     F     F
ApproachDel:      70.7             17.8            143.8            209.2
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       70.7             17.8            143.8            209.2
LOS by Appr:         F                C               F                F
AllWayAvgQ:   196  196 196.5  15.9 15.9  15.9   433  433 433.2   642  642 641.8
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #37 15th St / M St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  213  104   157    40   81    36    47  453    74   185  382    79
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1220
Minor Approach Volume:           474
Minor Approach Volume Threshold: 166
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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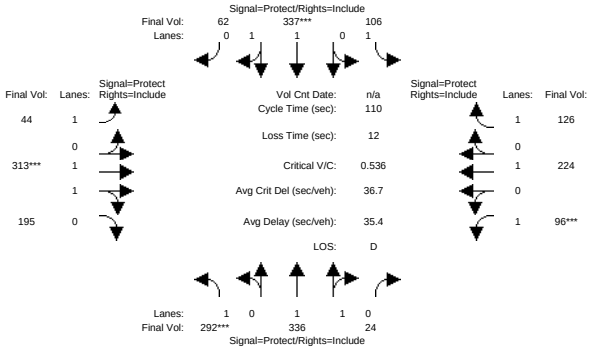
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #38: 16th St / M St



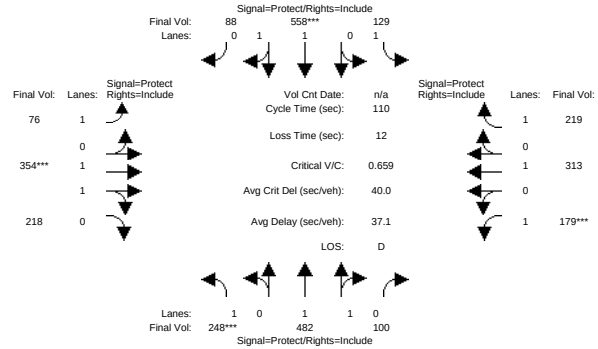
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	177		261	20	105		253	53	42		296	69	91		211	126
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	177		261	20	105		253	53	42		296	69	91		211	126
Added Vol:	115		75	4	1		84	9	2		17	126	5		13	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	292		336	24	106		337	62	44		313	195	96		224	126
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	292		336	24	106		337	62	44		313	195	96		224	126
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	292		336	24	106		337	62	44		313	195	96		224	126
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	292		336	24	106		337	62	44		313	195	96		224	126
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.94	0.94	0.95		0.93	0.93	0.95		0.89	0.89	0.95		1.00	0.85
Lanes:	1.00		1.87	0.13	1.00		1.69	0.31	1.00		1.23	0.77	1.00		1.00	1.00
Final Sat.:	1805		3336	238	1805		2979	548	1805		2095	1305	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.16		0.10	0.10	0.06		0.11	0.11	0.02		0.15	0.15	0.05		0.12	0.08
Crit Moves:	****						****				****		****			
Green/Cycle:	0.30		0.31	0.31	0.20		0.21	0.21	0.13		0.28	0.28	0.10		0.25	0.25
Volume/Cap:	0.54		0.32	0.32	0.30		0.54	0.54	0.18		0.54	0.54	0.54		0.48	0.32
Delay/Veh:	33.0		28.9	28.9	38.0		39.4	39.4	42.8		34.2	34.2	50.3		36.3	34.4
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	33.0		28.9	28.9	38.0		39.4	39.4	42.8		34.2	34.2	50.3		36.3	34.4
LOS by Move:	C		C	C	D		D	D	D		C	C	D		D	C
HCM2kAvgQ:	198		116	116	79		170	170	35		201	201	77		157	84

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #38: 16th St / M St



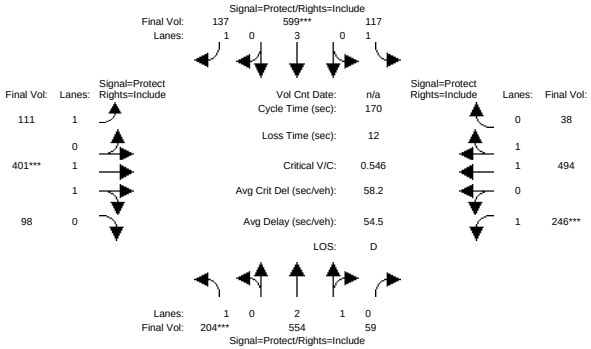
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	126		393	95	129		487	86	67		341	99	175		297	218
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	126		393	95	129		487	86	67		341	99	175		297	218
Added Vol:	122		89	5	0		71	2	9		13	119	4		16	1
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	248		482	100	129		558	88	76		354	218	179		313	219
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	248		482	100	129		558	88	76		354	218	179		313	219
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	248		482	100	129		558	88	76		354	218	179		313	219
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	248		482	100	129		558	88	76		354	218	179		313	219
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.93	0.93	0.95		0.93	0.93	0.95		0.90	0.90	0.95		1.00	0.85
Lanes:	1.00		1.66	0.34	1.00		1.73	0.27	1.00		1.24	0.76	1.00		1.00	1.00
Final Sat.:	1805		2912	604	1805		3056	482	1805		2107	1297	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.14		0.17	0.17	0.07		0.18	0.18	0.04		0.17	0.17	0.10		0.16	0.14
Crit Moves:	****						****				****		****			
Green/Cycle:	0.21		0.34	0.34	0.15		0.28	0.28	0.11		0.25	0.25	0.15		0.29	0.29
Volume/Cap:	0.66		0.49	0.49	0.49		0.66	0.66	0.37		0.66	0.66	0.66		0.56	0.46
Delay/Veh:	44.2		29.1	29.1	44.6		36.8	36.8	46.3		38.6	38.6	49.9		34.3	32.6
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	44.2		29.1	29.1	44.6		36.8	36.8	46.3		38.6	38.6	49.9		34.3	32.6
LOS by Move:	D		C	C	D		D	D	D		D	D	D		C	C
HCM2kAvgQ:	185		193	193	113		274	274	68		250	250	144		219	147

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #39: Olive Ave / M St



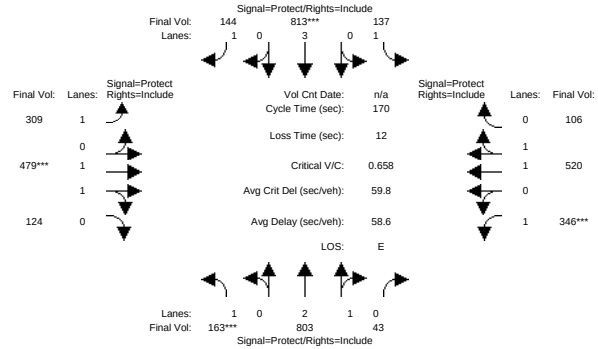
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	204		554	59	117		599	137	111		396	98	246		483	38
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	204		554	59	117		599	137	111		396	98	246		483	38
Added Vol:	0		0	0	0		0	0	0		5	0	0		11	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	204		554	59	117		599	137	111		401	98	246		494	38
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	204		554	59	117		599	137	111		401	98	246		494	38
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	204		554	59	117		599	137	111		401	98	246		494	38
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	204		554	59	117		599	137	111		401	98	246		494	38
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.91	0.85	0.95		0.92	0.92	0.95		0.94	0.94
Lanes:	1.00		2.71	0.29	1.00		3.00	1.00	1.00		1.61	0.39	1.00		1.86	0.14
Final Sat.:	1805		4622	492	1805		5187	1615	1805		2817	688	1805		3315	255
Capacity Analysis Module:																
Vol/Sat:	0.11		0.12	0.12	0.06		0.12	0.08	0.06		0.14	0.14	0.14		0.15	0.15
Crit Moves:	****						****				****		****			
Green/Cycle:	0.21		0.27	0.27	0.15		0.21	0.21	0.15		0.26	0.26	0.25		0.36	0.36
Volume/Cap:	0.55		0.44	0.44	0.44		0.55	0.40	0.41		0.55	0.55	0.55		0.41	0.41
Delay/Veh:	61.9		51.4	51.4	67.3		60.3	58.5	66.6		54.8	54.8	56.8		40.9	40.9
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	61.9		51.4	51.4	67.3		60.3	58.5	66.6		54.8	54.8	56.8		40.9	40.9
LOS by Move:	E		D	D	E		E	E	E		D	D	E		D	D
HCM2kAvgQ:	228		230	230	134		246	147	136		296	296	281		265	265

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #39: Olive Ave / M St



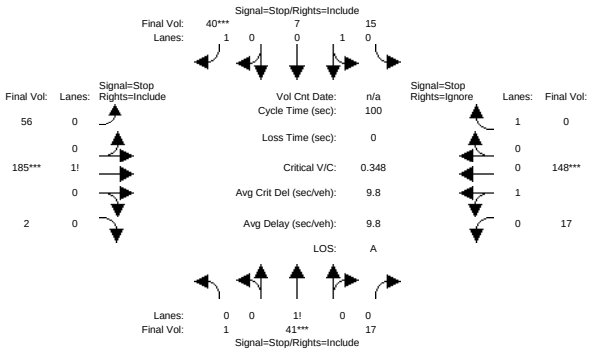
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	163		803	43	137		813	144	309		468	124	346		515	106
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	163		803	43	137		813	144	309		468	124	346		515	106
Added Vol:	0		0	0	0		0	0	0		11	0	0		5	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	163		803	43	137		813	144	309		479	124	346		520	106
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	163		803	43	137		813	144	309		479	124	346		520	106
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	163		803	43	137		813	144	309		479	124	346		520	106
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	163		803	43	137		813	144	309		479	124	346		520	106
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.91	0.85	0.95		0.92	0.92	0.95		0.93	0.93
Lanes:	1.00		2.85	0.15	1.00		3.00	1.00	1.00		1.59	0.41	1.00		1.66	0.34
Final Sat.:	1805		4884	262	1805		5187	1615	1805		2779	719	1805		2924	596
Capacity Analysis Module:																
Vol/Sat:	0.09		0.16	0.16	0.08		0.16	0.09	0.17		0.17	0.17	0.19		0.18	0.18
Crit Moves:	****						****				****		****			
Green/Cycle:	0.14		0.26	0.26	0.12		0.24	0.24	0.27		0.26	0.26	0.29		0.28	0.28
Volume/Cap:	0.66		0.64	0.64	0.64		0.66	0.37	0.63		0.66	0.66	0.66		0.63	0.63
Delay/Veh:	75.9		57.2	57.2	77.8		59.8	54.7	57.1		57.7	57.7	55.8		54.6	54.6
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	75.9		57.2	57.2	77.8		59.8	54.7	57.1		57.7	57.7	55.8		54.6	54.6
LOS by Move:	E		E	E	E		E	D	E		E	E	E		D	D
HCM2kAvgQ:	197		346	346	169		342	149	360		378	378	403		380	380

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #40: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue             Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1    41    17    15     7    40    56   185     2    17   148    52
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    1    41    17    15     7    40    56   185     2    17   148    52
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    1    41    17    15     7    40    56   185     2    17   148    52
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
PHF Volume:     1    41    17    15     7    40    56   185     2    17   148     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    1    41    17    15     7    40    56   185     2    17   148     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
FinalVolume:    1    41    17    15     7    40    56   185     2    17   148     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.02  0.69  0.29  0.68  0.32  1.00  0.23  0.76  0.01  0.10  0.90  1.00
Final Sat.:    11   431   179   390   182   685   161   532     6    71   621   809
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10  0.10  0.10  0.04  0.04  0.06  0.35  0.35  0.35  0.24  0.24  0.00
Crit Moves:        ****                    ****        ****              ****
Delay/Veh:    9.0   9.0   9.0   8.8   8.8   7.9  10.7  10.7  10.7   9.3   9.3   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.0   9.0   9.0   8.8   8.8   7.9  10.7  10.7  10.7   9.3   9.3   0.0
LOS by Move:    A     A     A     A     A     A     B     B     B     A     A     *
ApproachDel:        9.0               8.2              10.7               9.3
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         9.0               8.2              10.7               9.3
LOS by Appr:          A                 A                 B                 A
AllWayAvgQ:   2.3   2.3   2.3   0.9   0.9   1.3  12.6  12.6  12.6   7.4   7.4   0.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #40 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   41    17    15     7    40    56  185     2    17  148    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             460
Minor Approach Volume:           62
Minor Approach Volume Threshold: 708
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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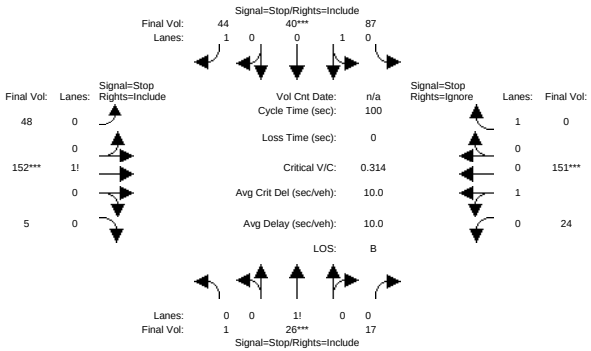
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #40: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   26    17    87   40    44    48  152     5    24  151    45
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   26    17    87   40    44    48  152     5    24  151    45
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   26    17    87   40    44    48  152     5    24  151    45
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     1   26    17    87   40    44    48  152     5    24  151     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1   26    17    87   40    44    48  152     5    24  151     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    1   26    17    87   40    44    48  152     5    24  151     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.69 0.31  1.00  0.23 0.75  0.02  0.14 0.86  1.00
Final Sat.:    14  359   234   400  184   701   153  485    16    89  560   751
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.07  0.22 0.22  0.06  0.31 0.31  0.31  0.27 0.27  0.00
Crit Moves:        ****              ****              ****              ****
Delay/Veh:    8.9  8.9   8.9  10.1 10.1   7.8  10.7 10.7  10.7   9.9  9.9   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.9  8.9   8.9  10.1 10.1   7.8  10.7 10.7  10.7   9.9  9.9   0.0
LOS by Move:    A    A     A     B    B     A     B    B     B     A    A     *
ApproachDel:       8.9               9.5              10.7               9.9
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:        8.9               9.5              10.7               9.9
LOS by Appr:         A                 A                 B                 A
AllWayAvgQ:   1.7  1.7   1.7   6.2  6.2   1.5  10.6 10.6  10.6   8.5  8.5   0.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #40 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   26    17    87   40    44    48  152     5    24  151    45
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             425
Minor Approach Volume:           171
Minor Approach Volume Threshold: 742
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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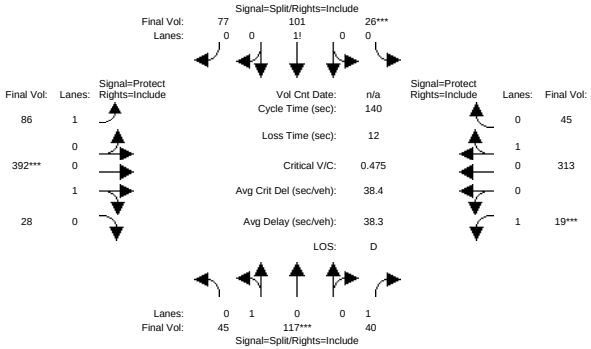
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #41: Childs Ave / Martin Luther King Wy



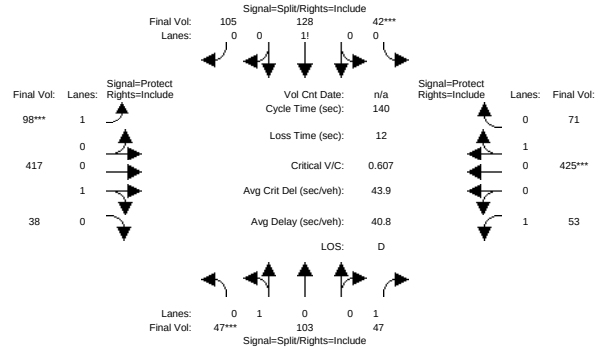
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	45	117	40	26	101	77	86	354	27	19	294	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	117	40	26	101	77	86	354	27	19	294	45
Added Vol:	0	0	0	0	0	0	0	38	1	0	19	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	45	117	40	26	101	77	86	392	28	19	313	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	45	117	40	26	101	77	86	392	28	19	313	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	45	117	40	26	101	77	86	392	28	19	313	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	45	117	40	26	101	77	86	392	28	19	313	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.13	0.49	0.38	1.00	0.93	0.07	1.00	0.87	0.13
Final Sat.:	520	1353	1615	228	887	676	1805	1756	125	1805	1630	234
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.02	0.11	0.11	0.11	0.05	0.22	0.22	0.01	0.19	0.19
Crit Moves:		****		****				****		****		
Green/Cycle:	0.18	0.18	0.18	0.23	0.23	0.23	0.10	0.46	0.46	0.05	0.40	0.40
Volume/Cap:	0.49	0.49	0.14	0.49	0.49	0.49	0.46	0.49	0.49	0.21	0.48	0.48
Delay/Veh:	53.1	53.1	48.9	47.5	47.5	47.5	60.7	27.2	27.2	65.0	31.6	31.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.1	53.1	48.9	47.5	47.5	47.5	60.7	27.2	27.2	65.0	31.6	31.6
LOS by Move:	D	D	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	165	165	37	195	195	195	98	310	310	19	274	274

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #41: Childs Ave / Martin Luther King Wy



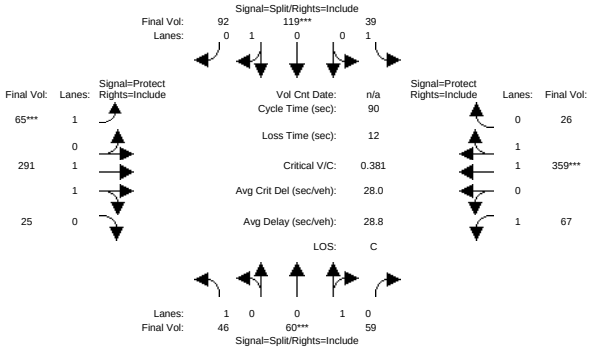
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	46	103	47	42	128	105	98	398	38	53	387	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	103	47	42	128	105	98	398	38	53	387	71
Added Vol:	1	0	0	0	0	0	0	19	0	0	38	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	103	47	42	128	105	98	417	38	53	425	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	103	47	42	128	105	98	417	38	53	425	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	103	47	42	128	105	98	417	38	53	425	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	103	47	42	128	105	98	417	38	53	425	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.31	0.69	1.00	0.15	0.47	0.38	1.00	0.92	0.08	1.00	0.86	0.14
Final Sat.:	586	1285	1615	273	832	682	1805	1719	157	1805	1594	266
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.03	0.15	0.15	0.15	0.05	0.24	0.24	0.03	0.27	0.27
Crit Moves:	****			****			****				****	
Green/Cycle:	0.13	0.13	0.13	0.25	0.25	0.25	0.09	0.44	0.44	0.09	0.44	0.44
Volume/Cap:	0.61	0.61	0.22	0.61	0.61	0.61	0.61	0.55	0.55	0.33	0.61	0.61
Delay/Veh:	61.6	61.6	54.8	48.5	48.5	48.5	67.9	30.0	30.0	60.8	31.3	31.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.6	61.6	54.8	48.5	48.5	48.5	67.9	30.0	30.0	60.8	31.3	31.3
LOS by Move:	E	E	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	172	172	48	272	272	272	125	358	358	51	392	392

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #42: 13th St / Martin Luther King Wy

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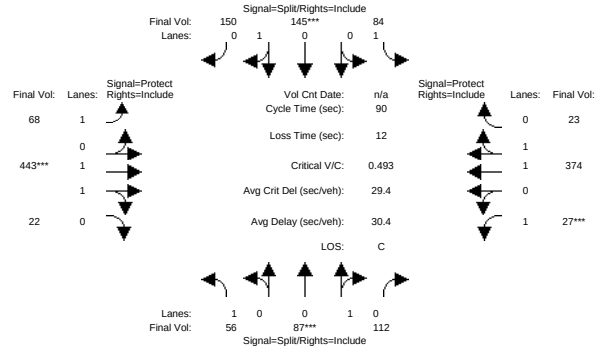
Street Name:           13th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      46   60    59   37  119    83   47  291    25   67  359    26
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   46   60    59   37  119    83   47  291    25   67  359    26
Added Vol:      0    0     0    2    0     9   18    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   46   60    59   39  119    92   65  291    25   67  359    26
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    46   60    59   39  119    92   65  291    25   67  359    26
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   46   60    59   39  119    92   65  291    25   67  359    26
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   46   60    59   39  119    92   65  291    25   67  359    26
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.93  0.93 0.95 0.94  0.94 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.50  0.50 1.00 0.56  0.44 1.00 1.84  0.16 1.00 1.86  0.14
Final Sat.:  1805  887   872 1805 1002   775 1805 3285   282 1805 3333   241
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.07  0.07 0.02 0.12  0.12 0.04 0.09  0.09 0.04 0.11  0.11
Crit Moves:        ****            ****        ****                ****
Green/Cycle: 0.18 0.18  0.18 0.31 0.31  0.31 0.09 0.22  0.22 0.16 0.28  0.28
Volume/Cap:  0.14 0.38  0.38 0.07 0.38  0.38 0.38 0.40  0.40 0.24 0.38  0.38
Delay/Veh:   31.4 33.4  33.4 21.8 24.6  24.6 39.7 30.2  30.2 33.8 26.2  26.2
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  31.4 33.4  33.4 21.8 24.6  24.6 39.7 30.2  30.2 33.8 26.2  26.2
LOS by Move:    C    C     C    C    C     C    D    C     C    C    C     C
HCM2kAvgQ:     28   81    81   19  118   118   41   95    95   39  109   109
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #42: 13th St / Martin Luther King Wy

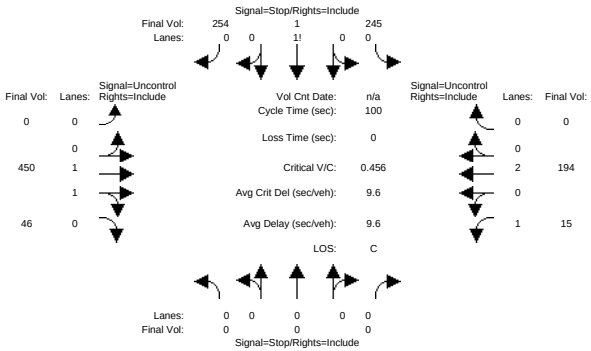



```
Street Name:           13th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      56   87   112   75  145   132   59  443    22   27  374    23
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   56   87   112   75  145   132   59  443    22   27  374    23
Added Vol:      0    0     0    9    0    18    9    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   56   87   112   84  145   150   68  443    22   27  374    23
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    56   87   112   84  145   150   68  443    22   27  374    23
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   56   87   112   84  145   150   68  443    22   27  374    23
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   56   87   112   84  145   150   68  443    22   27  374    23
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.92  0.92 0.95 0.92  0.92 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.44  0.56 1.00 0.49  0.51 1.00 1.91  0.09 1.00 1.88  0.12
Final Sat.:  1805  761   980 1805  863   893 1805 3415   170 1805 3370   207
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.11  0.11 0.05 0.17  0.17 0.04 0.13  0.13 0.01 0.11  0.11
Crit Moves:        ****            ****        ****                ****
Green/Cycle: 0.22 0.22  0.22 0.32 0.32  0.32 0.13 0.25  0.25 0.08 0.19  0.19
Volume/Cap:  0.14 0.52  0.52 0.14 0.52  0.52 0.28 0.52  0.52 0.19 0.58  0.58
Delay/Veh:   28.5 32.3  32.3 21.8 25.8  25.8 35.7 29.8  29.8 39.5 34.3  34.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  28.5 32.3  32.3 21.8 25.8  25.8 35.7 29.8  29.8 39.5 34.3  34.3
LOS by Move:    C    C     C    C    C     C    D    C     C    D    C     C
HCM2kAvgQ:     32  136   136   42  177   177   41  142   142   17  131   131
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   165    1   254     0  450    44    15  194     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   165    1   254     0  450    44    15  194     0
Added Vol:      0    0     0    80    0     0     0    0     2     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   245    1   254     0  450    46    15  194     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   245    1   254     0  450    46    15  194     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   245    1   254     0  450    46    15  194     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   449  720    97  xxxx xxxx xxxxx   496 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   544  356   947  xxxx xxxx xxxxx  1078 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   538  351   947  xxxx xxxx xxxxx  1078 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.46 0.00  0.27  xxxx xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  688 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  6.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 22.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             22.9           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   245    1   254     0  450    46    15  194     0
ApproachDel:    xxxxxx              22.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=500]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1205]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

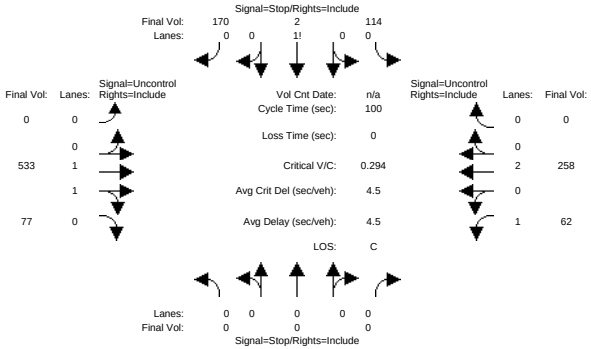
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   245    1   254     0  450    46    15  194     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             705
Minor Approach Volume:           500
Minor Approach Volume Threshold: 405
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    94    2   170     0  533    68    62  258     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    94    2   170     0  533    68    62  258     0
Added Vol:      0    0     0    20    0     0     0    0     9     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   114    2   170     0  533    77    62  258     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   114    2   170     0  533    77    62  258     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   114    2   170     0  533    77    62  258     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   649  992   129  xxxx xxxx xxxxx   610 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   407  248   903  xxxx xxxx xxxxx   979 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   388  232   903  xxxx xxxx xxxxx   979 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.29 0.01  0.19  xxxx xxxx  xxxx  0.06 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  583 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 17.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             17.0           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   114    2   170     0  533    77    62  258     0
ApproachDel:    xxxxxx              17.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=286]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1216]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

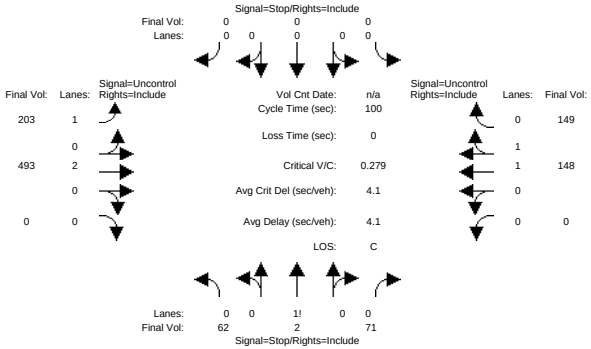
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   114    2   170     0  533    77    62  258     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             930
Minor Approach Volume:           286
Minor Approach Volume Threshold: 310
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62    2    71     0    0     0   203  413     0     0  148   137
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62    2    71     0    0     0   203  413     0     0  148   137
Added Vol:      0    0     0     0    0     0     0   80     0     0    0    12
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   62    2    71     0    0     0   203  493     0     0  148   149
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    62    2    71     0    0     0   203  493     0     0  148   149
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62    2    71     0    0     0   203  493     0     0  148   149
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  973 1196   247  xxxx xxxx xxxxx   297 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  253  188   760  xxxx xxxx xxxxx  1276 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    222  158   760  xxxx xxxx xxxxx  1276 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.28 0.01  0.09  xxxx xxxx  xxxx  0.16 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  14.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  351 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 21.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      21.6           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   62    2    71     0    0     0   203  493     0     0  148   149
ApproachDel:      21.6           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=135]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1128]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

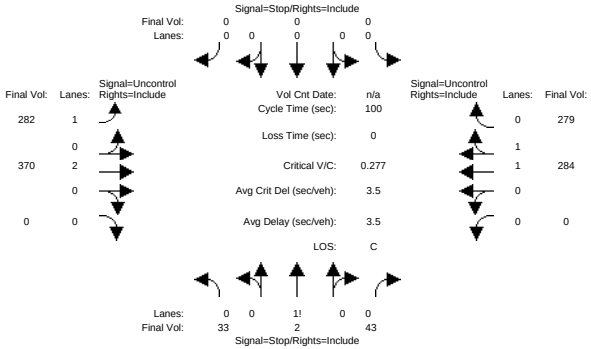
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   62    2    71     0    0     0   203  493     0     0  148   149
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             993
Minor Approach Volume:           135
Minor Approach Volume Threshold: 287
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    2    43     0    0     0   282  350     0     0  284   232
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   33    2    43     0    0     0   282  350     0     0  284   232
Added Vol:      0    0     0     0    0     0     0   20     0     0    0    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   33    2    43     0    0     0   282  370     0     0  284   279
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    33    2    43     0    0     0   282  370     0     0  284   279
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   33    2    43     0    0     0   282  370     0     0  284   279
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1076 1497   185  xxxx xxxx xxxxx   563 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  217  124   832  xxxx xxxx xxxxx  1019 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    171   90   832  xxxx xxxx xxxxx  1019 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.19 0.02  0.05  xxxx xxxx  xxxx  0.28 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  28.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.9 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  292 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 21.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      21.8           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   282  370     0     0  284   279
ApproachDel:      21.8           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=78]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1293]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   282  370     0     0  284   279
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1215
Minor Approach Volume:           78
Minor Approach Volume Threshold: 218
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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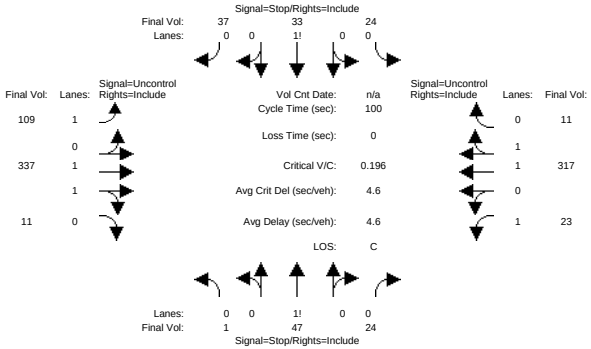
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   38    24    24   33    25    29  337    11    23  317    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   38    24    24   33    25    29  337    11    23  317    11
Added Vol:      0    9     0     0    0    12    80    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   47    24    24   33    37   109  337    11    23  317    11
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1   47    24    24   33    37   109  337    11    23  317    11
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1   47    24    24   33    37   109  337    11    23  317    11
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  782  935   174   779  935   164   328 xxxx xxxxx   348 xxxx xxxxx
Potent Cap.:  288  268   846   290  268   858  1243 xxxx xxxxx  1222 xxxx xxxxx
Move Cap.:    227  240   846   220  240   858  1243 xxxx xxxxx  1222 xxxx xxxxx
Volume/Cap:  0.00 0.20  0.03  0.11 0.14  0.04  0.09 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   7.2 xxxx xxxxx   1.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.2 xxxx xxxxx   8.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  314 xxxxx  xxxx  324 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx  1.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 19.8 xxxxx xxxxx 20.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     *    *     *     *    *     *
ApproachDel:      19.8             20.6           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   47    24    24   33    37   109  337    11    23  317    11
ApproachDel:      19.8             20.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=72]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=974]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=94]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=974]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

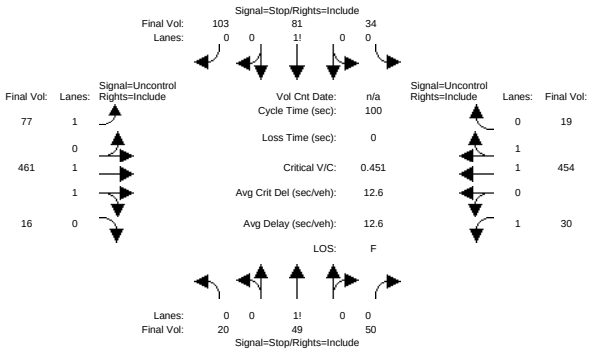
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   47    24    24   33    37   109  337    11    23  317    11
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             808
Minor Approach Volume:            94
Minor Approach Volume Threshold: 358
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20   47    50    34   81    56    57  461    16    30  454    19
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   20   47    50    34   81    56    57  461    16    30  454    19
Added Vol:      0    2     0     0    0    47    20    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20   49    50    34   81   103    77  461    16    30  454    19
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20   49    50    34   81   103    77  461    16    30  454    19
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20   49    50    34   81   103    77  461    16    30  454    19
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  951 1156   239   933 1155   237   473 xxxx xxxxx   477 xxxx xxxxx
Potent Cap.:  218  198   769   224  199   771  1099 xxxx xxxxx  1096 xxxx xxxxx
Move Cap.:    114  179   769   154  180   771  1099 xxxx xxxxx  1096 xxxx xxxxx
Volume/Cap:  0.18 0.27  0.07  0.22 0.45  0.13  0.07 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.6 xxxx xxxxx   2.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  232 xxxxx  xxxx  271 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.7 xxxxx xxxxx  6.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 35.9 xxxxx xxxxx 56.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *     *    F     *     *    *     *     *    *     *
ApproachDel:      35.9             56.6           xxxxxx           xxxxxx
ApproachLOS:         E                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   49    50    34   81   103    77  461    16    30  454    19
ApproachDel:      35.9             56.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=119]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1394]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=218]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1394]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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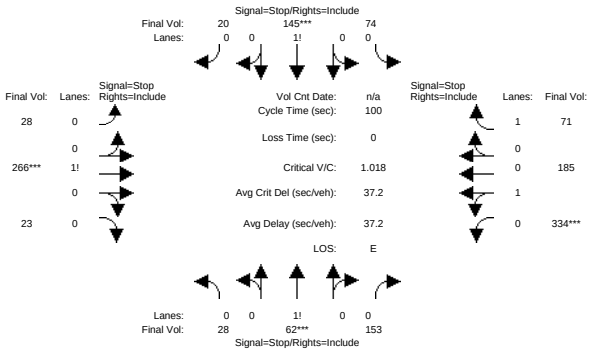
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   49    50    34   81   103    77  461    16    30  454    19
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1057
Minor Approach Volume:           218
Minor Approach Volume Threshold: 266
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #48: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      28    62   153    74   145    20    28   265    23   334   185    71
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   28    62   153    74   145    20    28   265    23   334   185    71
Added Vol:      0     0     0     0     0     0     0     1     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   28    62   153    74   145    20    28   266    23   334   185    71
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    28    62   153    74   145    20    28   266    23   334   185    71
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   28    62   153    74   145    20    28   266    23   334   185    71
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   28    62   153    74   145    20    28   266    23   334   185    71
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.12  0.25  0.63  0.31  0.61  0.08  0.09  0.84  0.07  0.64  0.36  1.00
Final Sat.:    57   126   311   146   287    40    45   427    37   328   182   596
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.49  0.49  0.49  0.51  0.51  0.51  0.62  0.62  0.62  1.02  1.02  0.12
Crit Moves:        ****              ****              ****        ****
Delay/Veh:   15.9  15.9  15.9  16.9  16.9  16.9  19.7  19.7  19.7  71.0  71.0   9.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  15.9  15.9  15.9  16.9  16.9  16.9  19.7  19.7  19.7  71.0  71.0   9.6
LOS by Move:    C     C     C     C     C     C     C     C     C     F     F     A
ApproachDel:       15.9              16.9              19.7              63.6
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        15.9              16.9              19.7              63.6
LOS by Appr:          C                 C                 C                 F
AllWayAvgQ:  20.4  20.4  20.4  21.6  21.6  21.6  34.7  34.7  34.7   217   217   3.4
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #48 13th St / G St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   28   62   153    74  145    20    28  266    23   334  185    71
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             907
Minor Approach Volume:           243
Minor Approach Volume Threshold: 318
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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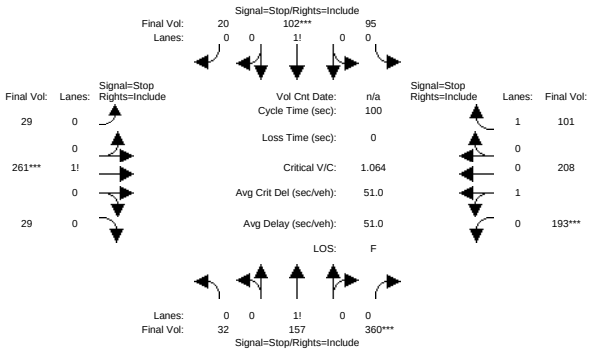
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #48: 13th St / G St




```
Street Name:            13th Street                     G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      32   157   360    95   102    20    29   261    29   193   207   101
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   32   157   360    95   102    20    29   261    29   193   207   101
Added Vol:      0     0     0     0     0     0     0     0     0     0     1     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   32   157   360    95   102    20    29   261    29   193   208   101
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    32   157   360    95   102    20    29   261    29   193   208   101
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   32   157   360    95   102    20    29   261    29   193   208   101
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   32   157   360    95   102    20    29   261    29   193   208   101
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.06  0.29  0.65  0.44  0.47  0.09  0.09  0.82  0.09  0.48  0.52  1.00
Final Sat.:    30   148   338   181   194    38    40   363    40   211   228   495
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.06  1.06  1.06  0.53  0.53  0.53  0.72  0.72  0.72  0.91  0.91  0.20
Crit Moves:               ****        ****              ****        ****
Delay/Veh:   83.8  83.8  83.8  19.4  19.4  19.4  27.6  27.6  27.6  51.7  51.7  11.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  83.8  83.8  83.8  19.4  19.4  19.4  27.6  27.6  27.6  51.7  51.7  11.7
LOS by Move:    F     F     F     C     C     C     D     D     D     F     F     B
ApproachDel:       83.8              19.4              27.6              43.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        83.8              19.4              27.6              43.7
LOS by Appr:          F                 C                 D                 E
AllWayAvgQ:   265  265 264.7  23.1  23.1  23.1  51.3  51.3  51.3   125   125   6.3
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #48 13th St / G St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   32  157   360    95  102    20    29  261    29   193  208   101
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             821
Minor Approach Volume:           549
Minor Approach Volume Threshold: 353
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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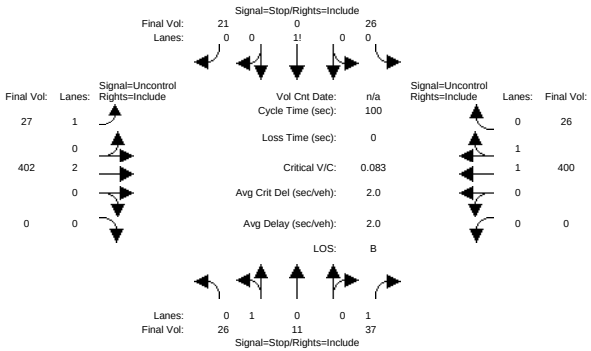
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #49: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26    2    37    26    0    21    27  401     0     0  394    26
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26    2    37    26    0    21    27  401     0     0  394    26
Added Vol:      0    9     0     0    0     0     0    1     0     0    6     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26   11    37    26    0    21    27  402     0     0  400    26
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26   11    37    26    0    21    27  402     0     0  400    26
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26   11    37    26    0    21    27  402     0     0  400    26
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  656  882   201   674  869   213   426 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  355  287   813   345  292   798  1144 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    339  280   813   313  285   798  1144 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.08 0.04  0.05  0.08 0.00  0.03  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.6  xxxx xxxx xxxxx   1.8 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx   9.6 xxxxx xxxx xxxxx   8.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     A     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  319 xxxx xxxxx  xxxx  430 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.4 xxxx xxxxx xxxxx  0.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 17.7 xxxx xxxxx xxxxx 14.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:      13.7             14.4           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   26   11    37    26    0    21    27  402     0     0  400    26
ApproachDel:      13.7             14.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=74]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=976]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=47]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=976]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   26   11    37    26    0    21    27  402     0     0  400    26
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             855
Minor Approach Volume:           74
Minor Approach Volume Threshold: 441
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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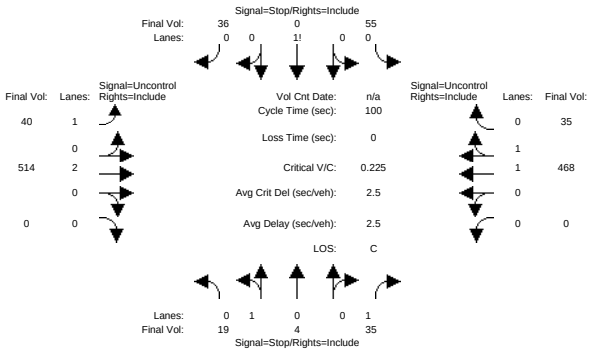
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #49: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      19    2    35    55    0    36    40  514     0     0  459    35
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   19    2    35    55    0    36    40  514     0     0  459    35
Added Vol:      0    2     0     0    0     0     0    0     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   19    4    35    55    0    36    40  514     0     0  468    35
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    19    4    35    55    0    36    40  514     0     0  468    35
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   19    4    35    55    0    36    40  514     0     0  468    35
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  828 1097   257   825 1080   252   503 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  267  215   748   268  220   754  1072 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    247  207   748   245  212   754  1072 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.08 0.02  0.05  0.22 0.00  0.05  0.04 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.7  xxxx xxxx xxxxx   2.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  10.0 xxxxx xxxx xxxxx   8.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  239 xxxx xxxxx  xxxx  334 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.3 xxxx xxxxx xxxxx  1.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 21.7 xxxx xxxxx xxxxx 19.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:      14.7             19.8           xxxxxx           xxxxxx
ApproachLOS:         B                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   19    4    35    55    0    36    40  514     0     0  468    35
ApproachDel:      14.7             19.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=58]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1206]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=91]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1206]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

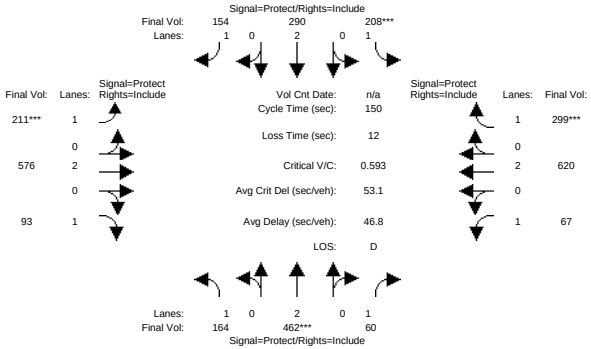
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   19    4    35    55    0    36    40  514     0     0  468    35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1057
Minor Approach Volume:           91
Minor Approach Volume Threshold: 266
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #51: Olive Ave / G St



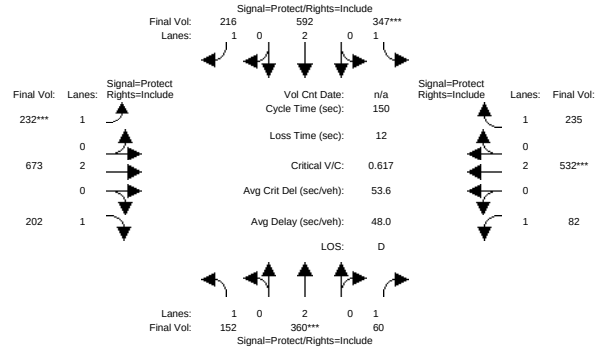
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	158	462	60	208	290	154	211	573	90	67	615	299
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	158	462	60	208	290	154	211	573	90	67	615	299
Added Vol:	6	0	0	0	0	0	0	3	3	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	164	462	60	208	290	154	211	576	93	67	620	299
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	164	462	60	208	290	154	211	576	93	67	620	299
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	164	462	60	208	290	154	211	576	93	67	620	299
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	164	462	60	208	290	154	211	576	93	67	620	299
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.04	0.12	0.08	0.10	0.12	0.16	0.06	0.04	0.17	0.19
Crit Moves:		****		****			****					****
Green/Cycle:	0.20	0.22	0.22	0.19	0.21	0.21	0.20	0.39	0.39	0.12	0.31	0.31
Volume/Cap:	0.45	0.59	0.17	0.59	0.38	0.45	0.59	0.40	0.15	0.32	0.55	0.59
Delay/Veh:	53.7	54.1	48.1	57.7	51.2	52.7	57.4	32.9	29.3	61.9	43.4	45.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.7	54.1	48.1	57.7	51.2	52.7	57.4	32.9	29.3	61.9	43.4	45.4
LOS by Move:	D	D	D	E	D	D	E	C	C	E	D	D
HCM2kAvgQ:	170	262	56	212	143	148	234	244	67	76	312	297

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #51: Olive Ave / G St



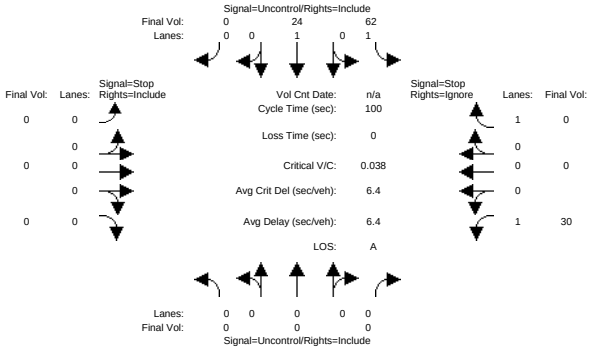
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	149	360	60	347	592	216	232	668	196	82	529	235
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	360	60	347	592	216	232	668	196	82	529	235
Added Vol:	3	0	0	0	0	0	0	5	6	0	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	152	360	60	347	592	216	232	673	202	82	532	235
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	152	360	60	347	592	216	232	673	202	82	532	235
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	152	360	60	347	592	216	232	673	202	82	532	235
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	152	360	60	347	592	216	232	673	202	82	532	235
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.10	0.04	0.19	0.16	0.13	0.13	0.19	0.13	0.05	0.15	0.15
Crit Moves:		****		****			****					****
Green/Cycle:	0.16	0.16	0.16	0.31	0.31	0.31	0.21	0.36	0.36	0.09	0.24	0.24
Volume/Cap:	0.52	0.62	0.23	0.62	0.52	0.43	0.62	0.52	0.35	0.51	0.62	0.61
Delay/Veh:	59.5	60.6	55.2	46.1	42.9	41.5	57.0	38.4	35.8	67.8	52.3	53.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.5	60.6	55.2	46.1	42.9	41.5	57.0	38.4	35.8	67.8	52.3	53.7
LOS by Move:	E	E	E	D	D	D	E	D	D	E	D	D
HCM2kAvgQ:	171	220	62	326	280	187	257	318	168	105	298	254

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #52: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    51   24     0     0    0     0    30    0   161
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    51   24     0     0    0     0    30    0   161
Added Vol:      0    0     0    11    0     0     0    0     0     0    0    21
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    62   24     0     0    0     0    30    0   182
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0    62   24     0     0    0     0    30    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    62   24     0     0    0     0    30    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   148 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   849 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   824 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.04 xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   3.0 xxxx xxxxx  xxxx xxxx xxxxx   2.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx   9.5 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.5
ApproachLOS:         *                *                *                A
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0    62   24     0     0    0     0    30    0   182
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.5
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=212]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=298]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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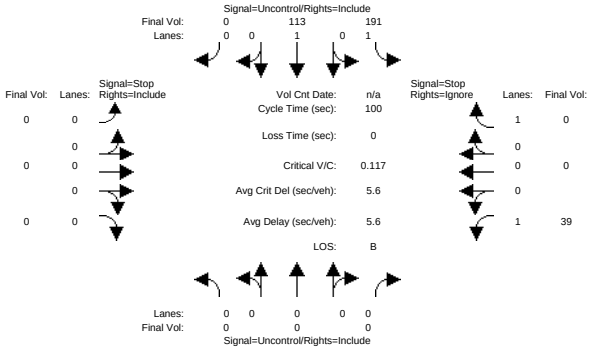
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0    62   24     0     0    0     0    30    0   182
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             86
Minor Approach Volume:          212
Minor Approach Volume Threshold: 1429
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #52: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   170  113     0     0    0     0    39    0    96
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   170  113     0     0    0     0    39    0    96
Added Vol:      0    0     0    21    0     0     0    0     0     0    0    11
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   191  113     0     0    0     0    39    0   107
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   191  113     0     0    0     0    39    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   191  113     0     0    0     0    39    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   495 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   537 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   489 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.12 xxxx  xxxx  xxxx xxxx  xxxx  0.08 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   9.9 xxxx xxxxx  xxxx xxxx xxxxx   6.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  13.0 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             13.0
ApproachLOS:         *                *                *                B
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   191  113     0     0    0     0    39    0   107
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             13.0
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=146]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=450]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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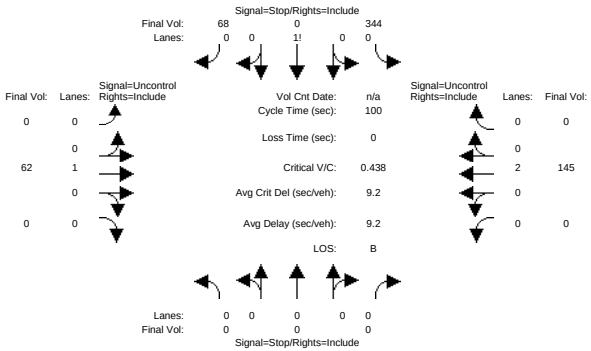
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   191  113     0     0    0     0    39    0   107
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             304
Minor Approach Volume:           146
Minor Approach Volume Threshold: 886
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #53: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   344    0    68     0   51     0     0  124     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   344    0    68     0   51     0     0  124     0
Added Vol:      0    0     0     0    0     0     0   11     0     0   21     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   344    0    68     0   62     0     0  145     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   344    0    68     0   62     0     0  145     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   344    0    68     0   62     0     0  145     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   207  207    73  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   786  693   995  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   786  693   995  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.44 0.00  0.07  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  814 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 13.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             13.9           xxxxxx           xxxxxx
ApproachLOS:         *               B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0    68     0   62     0     0  145     0
ApproachDel:    xxxxxx             13.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=412]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=619]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0    68     0   62     0     0  145     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             207
Minor Approach Volume:           412
Minor Approach Volume Threshold: 827
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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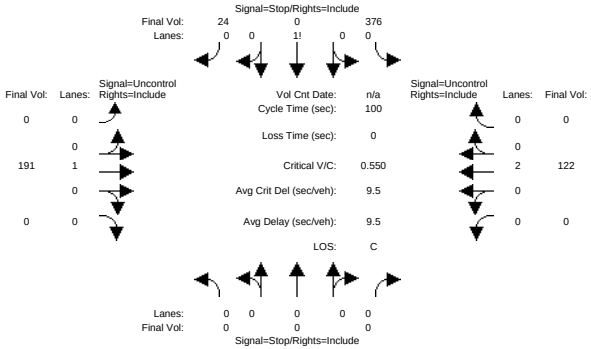
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #53: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   376    0    24     0  170     0     0  111     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   376    0    24     0  170     0     0  111     0
Added Vol:      0    0     0     0    0     0     0   21     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   376    0    24     0  191     0     0  122     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   376    0    24     0  191     0     0  122     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   376    0    24     0  191     0     0  122     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   313  313    61  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   684  606  1010  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   684  606  1010  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.55 0.00  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  697 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 16.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             16.9           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    24     0  191     0     0  122     0
ApproachDel:    xxxxxx              16.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=400]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=713]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    24     0  191     0     0  122     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             313
Minor Approach Volume:           400
Minor Approach Volume Threshold: 685
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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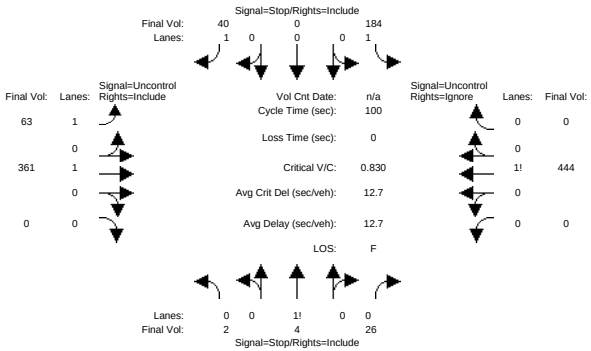
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    3    26   184    0    40    63  350     0     0  423   439
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    3    26   184    0    40    63  350     0     0  423   439
Added Vol:      0    1     0     0    0     0     0   11     0     0   21     1
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    4    26   184    0    40    63  361     0     0  444   440
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2    4    26   184    0    40    63  361     0     0  444     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    4    26   184    0    40    63  361     0     0  444     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  951  931   361   946 xxxx   444   444 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  242  269   688   243 xxxx   618  1127 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    216  254   688   222 xxxx   618  1127 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.01 0.02  0.04  0.83 xxxx  0.06  0.06 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   157 xxxx   5.2   4.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  69.8 xxxx  11.2   8.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     B     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  510 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     *    *     *
ApproachDel:      12.5             59.4            xxxxxx            xxxxxx
ApproachLOS:         B                F                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    2    4    26   184    0    40    63  361     0     0  444   440
ApproachDel:      12.5             59.4            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1564]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=224]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1564]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    2    4    26   184    0    40    63  361     0     0  444   440
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1308
Minor Approach Volume:           224
Minor Approach Volume Threshold: 259
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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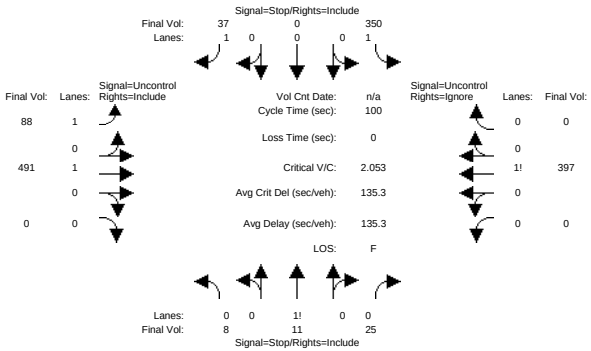
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8   11    25   349    0    37    88  470     0     0  386   312
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    8   11    25   349    0    37    88  470     0     0  386   312
Added Vol:      0    0     0     1    0     0     0   21     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    8   11    25   350    0    37    88  491     0     0  397   312
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     8   11    25   350    0    37    88  491     0     0  397     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    8   11    25   350    0    37    88  491     0     0  397     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1083 1064   491  1082 xxxx   397   397 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  197  225   582   197 xxxx   657  1173 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    175  208   582   170 xxxx   657  1173 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.05 0.05  0.04  2.05 xxxx  0.06  0.08 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   681 xxxx   4.5   6.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 538.2 xxxx  10.8   8.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     B     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  311 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 18.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      18.5            487.8           xxxxxx           xxxxxx
ApproachLOS:         C                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    8   11    25   350    0    37    88  491     0     0  397   312
ApproachDel:      18.5            487.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=44]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1719]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=52.4]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=387]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1719]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

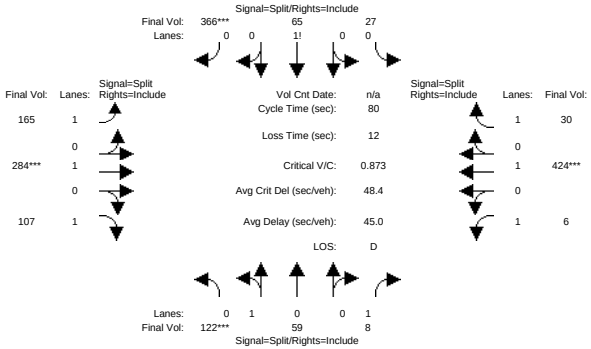
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    8   11    25   350    0    37    88  491     0     0  397   312
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1288
Minor Approach Volume:           387
Minor Approach Volume Threshold: 265
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

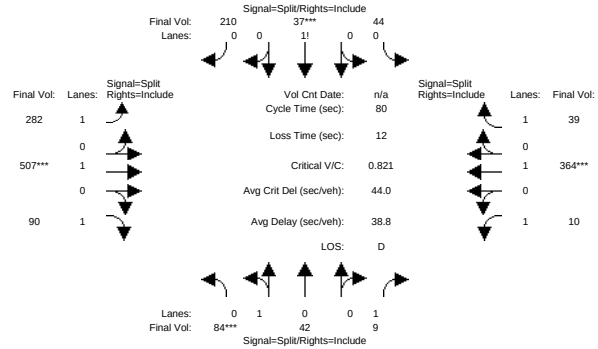



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     122   59     8   27   65   366  165  273   107    6  402    30
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  122   59     8   27   65   366  165  273   107    6  402    30
Added Vol:      0    0     0    0    0     0    0   11     0    0   22     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  122   59     8   27   65   366  165  284   107    6  424    30
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   122   59     8   27   65   366  165  284   107    6  424    30
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  122   59     8   27   65   366  165  284   107    6  424    30
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  122   59     8   27   65   366  165  284   107    6  424    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.89 0.89  0.89 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.06 0.14  0.80 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1238  599  1615  100  240  1350 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.00 0.27 0.27  0.27 0.09 0.15  0.07 0.00 0.22  0.02
Crit Moves:  ****                 ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.31 0.31  0.31 0.17 0.17  0.17 0.25 0.25  0.25
Volume/Cap:  0.79 0.79  0.04 0.89 0.89  0.89 0.54 0.89  0.39 0.01 0.89  0.07
Delay/Veh:   50.5 50.5  30.9 43.4 43.4  43.4 32.5 57.1  30.6 22.5 46.9  22.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  50.5 50.5  30.9 43.4 43.4  43.4 32.5 57.1  30.6 22.5 46.9  22.9
LOS by Move:    D    D     C    D    D     D    C    E     C    C    D     C
HCM2kAvgQ:    163  163     5  362  362   362  112  257    69    3  344    15
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

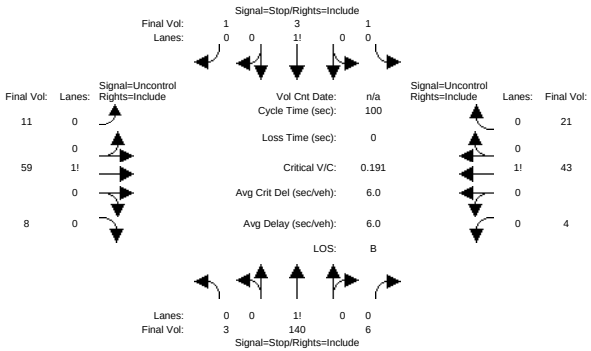



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      84   42     9   44   37   210  282  485    90   10  353    39
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   84   42     9   44   37   210  282  485    90   10  353    39
Added Vol:      0    0     0    0    0     0    0   22     0    0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   84   42     9   44   37   210  282  507    90   10  364    39
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    84   42     9   44   37   210  282  507    90   10  364    39
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   84   42     9   44   37   210  282  507    90   10  364    39
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   84   42     9   44   37   210  282  507    90   10  364    39
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.90 0.90  0.90 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.15 0.13  0.72 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1226  613  1615  258  217  1229 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.01 0.17 0.17  0.17 0.16 0.27  0.06 0.01 0.19  0.02
Crit Moves:  ****                 ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.20 0.20  0.20 0.31 0.31  0.31 0.22 0.22  0.22
Volume/Cap:  0.55 0.55  0.04 0.87 0.87  0.87 0.51 0.87  0.18 0.03 0.87  0.11
Delay/Veh:   35.7 35.7  30.9 51.8 51.8  51.8 23.5 39.3  20.5 24.5 47.3  25.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  35.7 35.7  30.9 51.8 51.8  51.8 23.5 39.3  20.5 24.5 47.3  25.0
LOS by Move:    D    D     C    D    D     D    C    D     C    C    D     C
HCM2kAvgQ:     94   94     6  253  253   253  154  378    42    5  298    20
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3   18     6     1     3     1    11   59     8     4   43     7
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3   18     6     1     3     1    11   59     8     4   43     7
Added Vol:      0  122     0     0     0     0     0    0     0     0    0    14
PasserByVol:    0    0     0     0     0     0     0    0     0     0    0     0
Initial Fut:    3  140     6     1     3     1    11   59     8     4   43    21
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3  140     6     1     3     1    11   59     8     4   43    21
Reduct Vol:     0    0     0     0     0     0     0    0     0     0    0     0
FinalVolume:    3  140     6     1     3     1    11   59     8     4   43    21
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  149  157    63   220  151    54    64 xxxx xxxxx    67 xxxx xxxxx
Potent Cap.:  824  739  1007   741  745  1019  1551 xxxx xxxxx  1547 xxxx xxxxx
Move Cap.:    815  732  1007   624  738  1019  1551 xxxx xxxxx  1547 xxxx xxxxx
Volume/Cap:  0.00 0.19  0.01  0.00 0.00  0.00  0.01 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  741 xxxxx  xxxx  752 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.7 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 11.1 xxxxx xxxxx  9.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    A     *     *    *     *     *    *     *
ApproachDel:      11.1              9.8           xxxxxx           xxxxxx
ApproachLOS:         B                A                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3  140     6     1     3     1    11   59     8     4   43    21
ApproachDel:      11.1              9.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=149]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=300]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=300]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

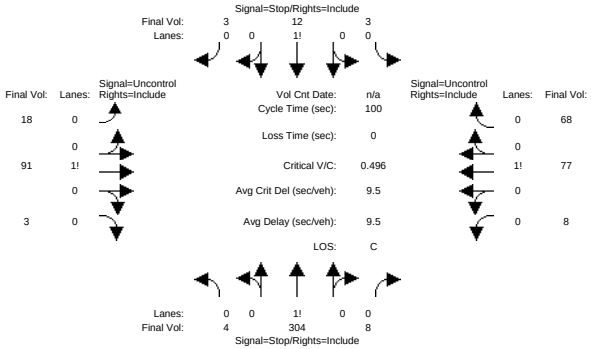
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3  140     6     1     3     1    11   59     8     4   43    21
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             146
Minor Approach Volume:           149
Minor Approach Volume Threshold: 733
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                         O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   58     8     3   12     3    18   91     3     8   77    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   58     8     3   12     3    18   91     3     8   77    11
Added Vol:      0  246     0     0    0     0     0    0     0     0    0    57
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4  304     8     3   12     3    18   91     3     8   77    68
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4  304     8     3   12     3    18   91     3     8   77    68
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4  304     8     3   12     3    18   91     3     8   77    68
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  263  290    93   412  257   111   145 xxxx xxxxx    94 xxxx xxxxx
Potent Cap.:  694  624   970   554  651   948  1450 xxxx xxxxx  1513 xxxx xxxxx
Move Cap.:    673  613   970   331  639   948  1450 xxxx xxxxx  1513 xxxx xxxxx
Volume/Cap:  0.01 0.50  0.01  0.01 0.02  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.9 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  619 xxxxx  xxxx  581 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.9 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 16.7 xxxxx xxxxx 11.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     *    *     *     *    *     *
ApproachDel:      16.7             11.4            xxxxxx           xxxxxx
ApproachLOS:         C                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  304     8     3   12     3    18   91     3     8   77    68
ApproachDel:      16.7             11.4            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=316]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=599]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=599]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

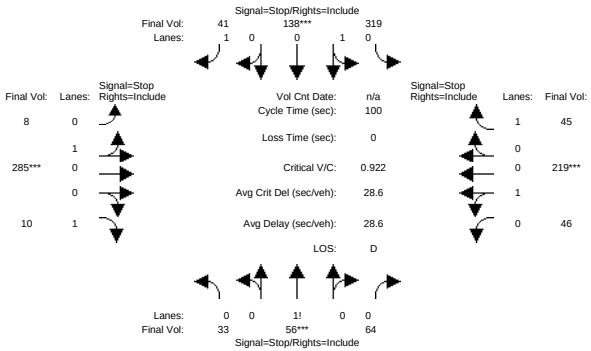
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  304     8     3   12     3    18   91     3     8   77    68
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             265
Minor Approach Volume:           316
Minor Approach Volume Threshold: 574
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #57: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    56    46    91   138    41     8   266    10    34   209    45
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   33    56    46    91   138    41     8   266    10    34   209    45
Added Vol:      0     0    18   228     0     0     0    19     0    12    10     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   33    56    64   319   138    41     8   285    10    46   219    45
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    33    56    64   319   138    41     8   285    10    46   219    45
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   33    56    64   319   138    41     8   285    10    46   219    45
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   33    56    64   319   138    41     8   285    10    46   219    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.21  0.37  0.42  0.70  0.30  1.00  0.03  0.97  1.00  0.17  0.83  1.00
Final Sat.:    95   161   184   346   150   571    13   456   516    80   382   514
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35  0.35  0.35  0.92  0.92  0.07  0.62  0.62  0.02  0.57  0.57  0.09
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   14.1  14.1  14.1  48.4  48.4   9.3  20.5  20.5   9.5  18.9  18.9  10.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  14.1  14.1  14.1  48.4  48.4   9.3  20.5  20.5   9.5  18.9  18.9  10.0
LOS by Move:    B     B     B     E     E     A     C     C     A     C     C     A
ApproachDel:       14.1              45.1              20.1              17.6
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        14.1              45.1              20.1              17.6
LOS by Appr:          B                 E                 C                 C
AllWayAvgQ:  10.9  10.9  10.9   132   132   1.8  33.9  33.9   0.4  27.9  27.9   2.2
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #57 13th St / M St
*******************************************************************************
```



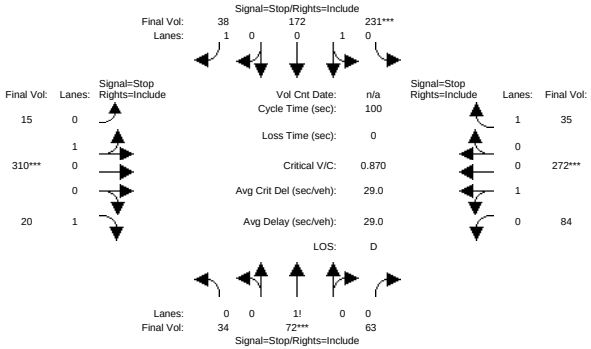
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   33   56   64   319  138   41     8  285   10    46  219   45
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             651
Minor Approach Volume:           310
Minor Approach Volume Threshold: 559
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #57: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      34    72    54   111   172    38    15   300    20    57   253    35
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   34    72    54   111   172    38    15   300    20    57   253    35
Added Vol:      0     0     9   120     0     0     0    10     0    27    19     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   34    72    63   231   172    38    15   310    20    84   272    35
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    34    72    63   231   172    38    15   310    20    84   272    35
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   34    72    63   231   172    38    15   310    20    84   272    35
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   34    72    63   231   172    38    15   310    20    84   272    35
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.20  0.43  0.37  0.57  0.43  1.00  0.05  0.95  1.00  0.24  0.76  1.00
Final Sat.:    81   171   150   265   198   524    21   436   499   109   352   510
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.42  0.42  0.42  0.87  0.87  0.07  0.71  0.71  0.04  0.77  0.77  0.07
Crit Moves:        ****        ****                  ****              ****
Delay/Veh:   16.0  16.0  16.0  41.2  41.2   9.9  25.3  25.3   9.8  29.8  29.8  10.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  16.0  16.0  16.0  41.2  41.2   9.9  25.3  25.3   9.8  29.8  29.8  10.0
LOS by Move:    C     C     C     E     E     A     D     D     A     D     D     A
ApproachDel:       16.0              38.5              24.4              28.0
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        16.0              38.5              24.4              28.0
LOS by Appr:          C                 E                 C                 D
AllWayAvgQ:  13.7  13.7  13.7  99.3  99.3   1.8  47.5  47.5   0.9  62.4  62.4   1.7
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #57 13th St / M St
*******************************************************************************
```



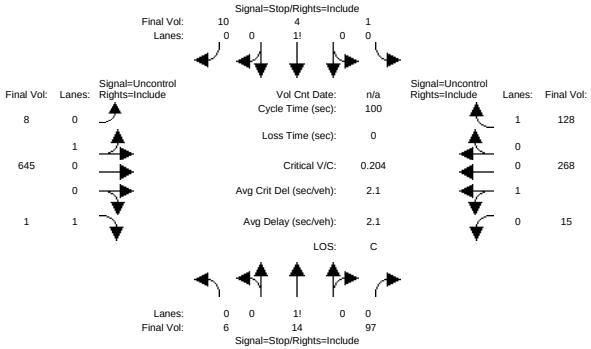
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   34   72   63   231  172   38    15  310   20    84  272   35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             736
Minor Approach Volume:           441
Minor Approach Volume Threshold: 506
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #58: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   14     7     1    4    10     8  379     1     3  247     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   14     7     1    4    10     8  379     1     3  247     6
Added Vol:      0    0    90     0    0     0     0  266     0    12   21   122
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6   14    97     1    4    10     8  645     1    15  268   128
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6   14    97     1    4    10     8  645     1    15  268   128
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6   14    97     1    4    10     8  645     1    15  268   128
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1030 1087   645  1015  960   268   396 xxxx xxxxx   646 xxxx xxxxx
Potent Cap.:  214  218   476   219  259   776  1174 xxxx xxxxx   949 xxxx xxxxx
Move Cap.:    205  213   476   162  253   776  1174 xxxx xxxxx   949 xxxx xxxxx
Volume/Cap:  0.03 0.07  0.20  0.01 0.02  0.01  0.01 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx   1.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx   8.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  391 xxxxx  xxxx  430 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.2 xxxxx xxxxx  0.1 xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 18.1 xxxxx xxxxx 13.7 xxxxx   8.1 xxxx xxxxx   8.9 xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     A    *     *     A    *     *
ApproachDel:      18.1             13.7            xxxxxx           xxxxxx
ApproachLOS:         C                B                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14    97     1    4    10     8  645     1    15  268   128
ApproachDel:      18.1             13.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=117]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1197]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1197]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

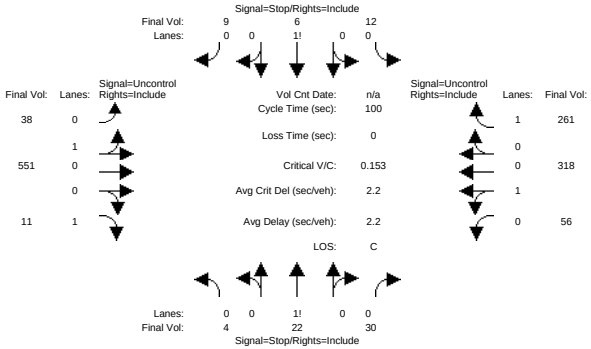
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14    97     1    4    10     8  645     1    15  268   128
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1065
Minor Approach Volume:           117
Minor Approach Volume Threshold: 263
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #58: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   22    8    12    6    9    38  412   11     9  271   15
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    4   22    8    12    6    9    38  412   11     9  271   15
Added Vol:      0    0   22     0    0    0     0  139    0    47   47  246
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    4   22   30    12    6    9    38  551   11    56  318  261
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     4   22   30    12    6    9    38  551   11    56  318  261
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
FinalVolume:    4   22   30    12    6    9    38  551   11    56  318  261
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1195 1318   551  1089 1068   318   579 xxxx xxxxx   562 xxxx xxxxx
Potent Cap.:  165  159   538   195  223   727  1005 xxxx xxxxx  1019 xxxx xxxxx
Move Cap.:    148  144   538   151  203   727  1005 xxxx xxxxx  1019 xxxx xxxxx
Volume/Cap:  0.03 0.15  0.06  0.08 0.03  0.01  0.04 xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.9 xxxx xxxxx   4.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.7 xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  238 xxxxx  xxxx  222 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx  0.4 xxxxx   0.1 xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx 24.8 xxxxx xxxxx 23.4 xxxxx   8.7 xxxx xxxxx   8.7 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      24.8             23.4           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22   30    12    6    9    38  551   11    56  318  261
ApproachDel:      24.8             23.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1318]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1318]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

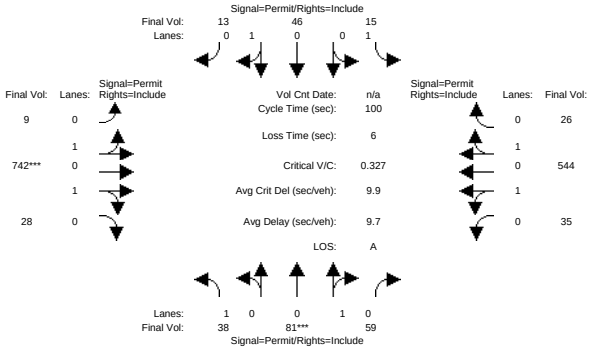
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22   30    12    6    9    38  551   11    56  318  261
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1235
Minor Approach Volume:           56
Minor Approach Volume Threshold: 212
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #59: Main St / M St



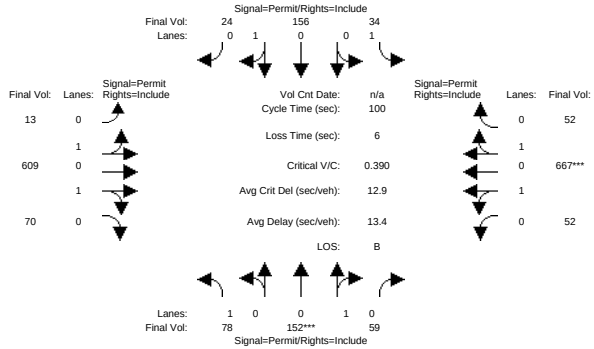
Street Name:	Main Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	35		81	59	15		46	13	9		721	27	35		529	26
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	35		81	59	15		46	13	9		721	27	35		529	26
Added Vol:	3		0	0	0		0	0	0		21	1	0		15	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	38		81	59	15		46	13	9		742	28	35		544	26
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	38		81	59	15		46	13	9		742	28	35		544	26
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	38		81	59	15		46	13	9		742	28	35		544	26
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	38		81	59	15		46	13	9		742	28	35		544	26
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.72		0.94	0.94	0.57		0.97	0.97	0.90		0.90	0.90	0.83		0.83	0.83
Lanes:	1.00		0.58	0.42	1.00		0.78	0.22	0.02		1.91	0.07	0.11		1.80	0.09
Final Sat.:	1368		1030	750	1079		1432	405	39		3240	122	182		2833	135
Capacity Analysis Module:																
Vol/Sat:	0.03		0.08	0.08	0.01		0.03	0.03	0.23		0.23	0.23	0.19		0.19	0.19
Crit Moves:			****								****					
Green/Cycle:	0.24		0.24	0.24	0.24		0.24	0.24	0.70		0.70	0.70	0.70		0.70	0.70
Volume/Cap:	0.12		0.33	0.33	0.06		0.13	0.13	0.33		0.33	0.33	0.27		0.27	0.27
Delay/Veh:	29.8		31.8	31.8	29.4		30.0	30.0	5.9		5.9	5.9	5.6		5.6	5.6
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	29.8		31.8	31.8	29.4		30.0	30.0	5.9		5.9	5.9	5.6		5.6	5.6
LOS by Move:	C		C	C	C		C	C	A		A	A	A		A	A
HCM2kAvgQ:	24		92	92	10		36	36	119		119	119	89		89	89

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #59: Main St / M St



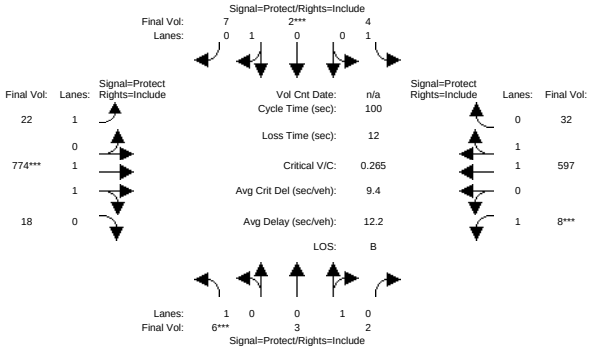
Street Name:	Main Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	77		152	59	34		156	24	13		594	67	52		646	52
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	77		152	59	34		156	24	13		594	67	52		646	52
Added Vol:	1		0	0	0		0	0	0		15	3	0		21	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	78		152	59	34		156	24	13		609	70	52		667	52
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	78		152	59	34		156	24	13		609	70	52		667	52
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	78		152	59	34		156	24	13		609	70	52		667	52
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	78		152	59	34		156	24	13		609	70	52		667	52
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.53		0.96	0.96	0.49		0.98	0.98	0.88		0.88	0.88	0.81		0.81	0.81
Lanes:	1.00		0.72	0.28	1.00		0.87	0.13	0.04		1.76	0.20	0.13		1.74	0.13
Final Sat.:	1015		1311	509	925		1614	248	63		2938	338	208		2665	208
Capacity Analysis Module:																
Vol/Sat:	0.08		0.12	0.12	0.04		0.10	0.10	0.21		0.21	0.21	0.25		0.25	0.25
Crit Moves:			****												****	
Green/Cycle:	0.30		0.30	0.30	0.30		0.30	0.30	0.64		0.64	0.64	0.64		0.64	0.64
Volume/Cap:	0.26		0.39	0.39	0.12		0.32	0.32	0.32		0.32	0.32	0.39		0.39	0.39
Delay/Veh:	27.2		28.4	28.4	25.8		27.7	27.7	8.2		8.2	8.2	8.7		8.7	8.7
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	27.2		28.4	28.4	25.8		27.7	27.7	8.2		8.2	8.2	8.7		8.7	8.7
LOS by Move:	C		C	C	C		C	C	A		A	A	A		A	A
HCM2kAvgQ:	50		132	132	21		109	109	121		121	121	146		146	146

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #60: 18th St / M St



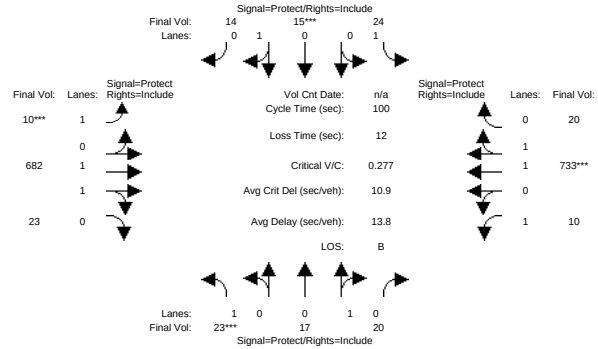
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	2		3	2	4		2	7	22		769	2	8		586	32
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	2		3	2	4		2	7	22		769	2	8		586	32
Added Vol:	4		0	0	0		0	0	0		5	16	0		11	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	6		3	2	4		2	7	22		774	18	8		597	32
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	6		3	2	4		2	7	22		774	18	8		597	32
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	6		3	2	4		2	7	22		774	18	8		597	32
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	6		3	2	4		2	7	22		774	18	8		597	32
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.94	0.94	0.95		0.88	0.88	0.95		0.95	0.95	0.95		0.94	0.94
Lanes:	1.00		0.60	0.40	1.00		0.22	0.78	1.00		1.95	0.05	1.00		1.90	0.10
Final Sat.:	1805		1072	714	1805		373	1305	1805		3517	82	1805		3399	182
Capacity Analysis Module:																
Vol/Sat:	0.00		0.00	0.00	0.00		0.01	0.01	0.01		0.22	0.22	0.00		0.18	0.18
Crit Moves:	****						****				****		****			
Green/Cycle:	0.07		0.10	0.10	0.07		0.10	0.10	0.20		0.64	0.64	0.07		0.51	0.51
Volume/Cap:	0.05		0.03	0.03	0.03		0.05	0.05	0.06		0.34	0.34	0.06		0.35	0.35
Delay/Veh:	43.5		40.7	40.7	43.4		40.9	40.9	32.3		8.4	8.4	43.6		14.8	14.8
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	43.5		40.7	40.7	43.4		40.9	40.9	32.3		8.4	8.4	43.6		14.8	14.8
LOS by Move:	D		D	D	D		D	D	C		A	A	D		B	B
HCM2kAvgQ:	5		4	4	3		6	6	13		144	144	7		150	150

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #60: 18th St / M St



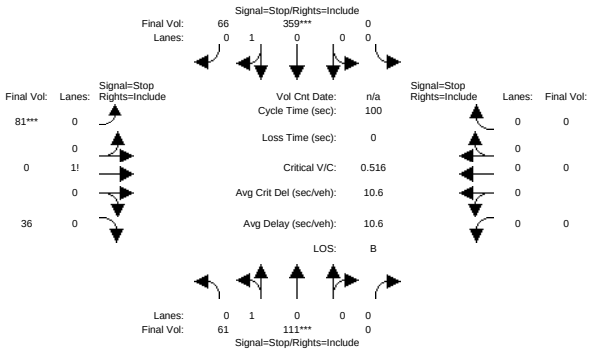
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	7		17	20	24		15	14	10		671	19	10		728	20
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	7		17	20	24		15	14	10		671	19	10		728	20
Added Vol:	16		0	0	0		0	0	0		11	4	0		5	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	23		17	20	24		15	14	10		682	23	10		733	20
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	23		17	20	24		15	14	10		682	23	10		733	20
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	23		17	20	24		15	14	10		682	23	10		733	20
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	23		17	20	24		15	14	10		682	23	10		733	20
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.92	0.92	0.95		0.93	0.93	0.95		0.95	0.95	0.95		0.95	0.95
Lanes:	1.00		0.46	0.54	1.00		0.52	0.48	1.00		1.93	0.07	1.00		1.95	0.05
Final Sat.:	1805		802	944	1805		912	851	1805		3475	117	1805		3500	95
Capacity Analysis Module:																
Vol/Sat:	0.01		0.02	0.02	0.01		0.02	0.02	0.01		0.20	0.20	0.01		0.21	0.21
Crit Moves:	****						****		****				****			
Green/Cycle:	0.07		0.10	0.10	0.07		0.10	0.10	0.07		0.52	0.52	0.19		0.64	0.64
Volume/Cap:	0.18		0.21	0.21	0.19		0.16	0.16	0.08		0.38	0.38	0.03		0.33	0.33
Delay/Veh:	44.5		42.0	42.0	44.6		41.6	41.6	43.8		14.3	14.3	33.3		8.3	8.3
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	44.5		42.0	42.0	44.6		41.6	41.6	43.8		14.3	14.3	33.3		8.3	8.3
LOS by Move:	D		D	D	D		D	D	D		B	B	C		A	A
HCM2kAvgQ:	21		30	30	17		20	20	7		163	163	6		137	137

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #61: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61    35     0     0    54    66    81     0    36     0     0     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   61    35     0     0    54    66    81     0    36     0     0     0
Added Vol:      0    76     0     0   305     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   61   111     0     0   359    66    81     0    36     0     0     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    61   111     0     0   359    66    81     0    36     0     0     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   61   111     0     0   359    66    81     0    36     0     0     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   61   111     0     0   359    66    81     0    36     0     0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.35  0.65  0.00  0.00  0.84  0.16  0.69  0.00  0.31  0.00  0.00  0.00
Final Sat.:   263   478     0     0   696   128   451     0   200     0     0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23  0.23  xxxx  xxxx  0.52  0.52  0.18  xxxx  0.18  xxxx  xxxx  xxxx
Crit Moves:        ****              ****        ****
Delay/Veh:    9.1   9.1   0.0   0.0  11.7  11.7   9.1   0.0   9.1   0.0   0.0   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.1   9.1   0.0   0.0  11.7  11.7   9.1   0.0   9.1   0.0   0.0   0.0
LOS by Move:    A     A     *     *     B     B     A     *     A     *     *     *
ApproachDel:        9.1              11.7               9.1            xxxxxx
Delay Adj:         1.00              1.00              1.00             xxxxx
ApprAdjDel:         9.1              11.7               9.1            xxxxxx
LOS by Appr:          A                 B                 A                 *
AllWayAvgQ:    7.0   7.0   7.0  24.9  24.9  24.9   4.5   4.5   4.5   0.0   0.0   0.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
```



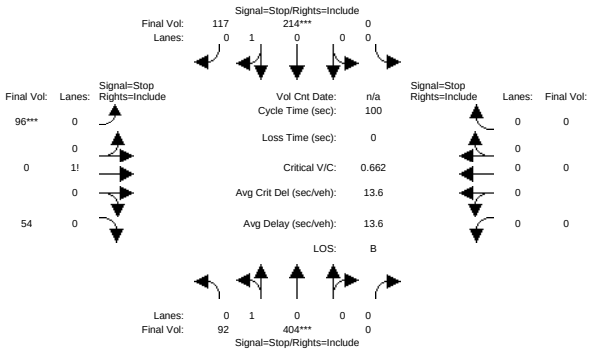
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   61  111     0    0  359    66    81    0    36    0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             597
Minor Approach Volume:           117
Minor Approach Volume Threshold: 357
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #61: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      92    99     0     0   138   117    96     0    54     0     0     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   92    99     0     0   138   117    96     0    54     0     0     0
Added Vol:      0   305     0     0    76     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   92   404     0     0   214   117    96     0    54     0     0     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    92   404     0     0   214   117    96     0    54     0     0     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   92   404     0     0   214   117    96     0    54     0     0     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   92   404     0     0   214   117    96     0    54     0     0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.19  0.81  0.00  0.00  0.65  0.35  0.64  0.00  0.36  0.00  0.00  0.00
Final Sat.:   139   610     0     0   483   264   378     0   213     0     0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.66  0.66  xxxx  xxxx  0.44  0.44  0.25  xxxx  0.25  xxxx  xxxx  xxxx
Crit Moves:        ****              ****        ****
Delay/Veh:   16.2  16.2   0.0   0.0  11.2  11.2  10.2   0.0  10.2   0.0   0.0   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  16.2  16.2   0.0   0.0  11.2  11.2  10.2   0.0  10.2   0.0   0.0   0.0
LOS by Move:    C     C     *     *     B     B     B     *     B     *     *     *
ApproachDel:       16.2              11.2              10.2            xxxxxx
Delay Adj:         1.00              1.00              1.00             xxxxx
ApprAdjDel:        16.2              11.2              10.2            xxxxxx
LOS by Appr:          C                 B                 B                 *
AllWayAvgQ:  43.9  43.9  43.9  18.1  18.1  18.1   6.8   6.8   6.8   0.0   0.0   0.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
```



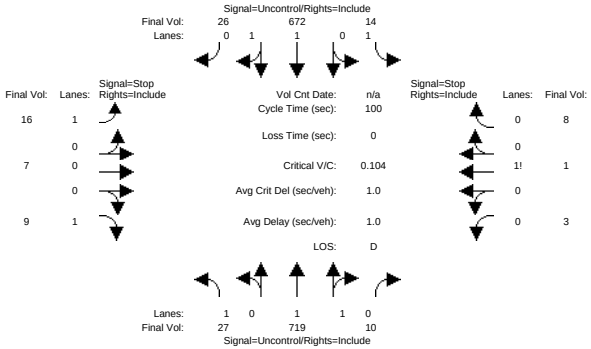
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   92  404     0    0  214   117    96    0    54    0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             827
Minor Approach Volume:           150
Minor Approach Volume Threshold: 270
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      27  525    10    14  457    26    16    7     9     3    1     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   27  525    10    14  457    26    16    7     9     3    1     8
Added Vol:      0  194     0     0  215     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   27  719    10    14  672    26    16    7     9     3    1     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    27  719    10    14  672    26    16    7     9     3    1     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   27  719    10    14  672    26    16    7     9     3    1     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  698 xxxx xxxxx   729 xxxx xxxxx  1127 1496   349  1146 1504   365
Potent Cap.:  908 xxxx xxxxx   884 xxxx xxxxx   162  124   653   157  123   638
Move Cap.:    908 xxxx xxxxx   884 xxxx xxxxx   153  118   653   143  117   638
Volume/Cap:  0.03 xxxx  xxxx  0.02 xxxx  xxxx  0.10 0.06  0.01  0.02 0.01  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.3 xxxx xxxxx   1.2 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.1 xxxx xxxxx   9.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   141 xxxx   219  xxxx  285 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.6 xxxx   0.2 xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  35.5 xxxx  22.7 xxxxx 18.2 xxxxx
Shared LOS:     *    *     *     *    *     *     E    *     C     *    C     *
ApproachDel:    xxxxxx           xxxxxx             30.3            18.2
ApproachLOS:         *                *                D               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   27  719    10    14  672    26    16    7     9     3    1     8
ApproachDel:    xxxxxx           xxxxxx             30.3            18.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1512]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1512]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

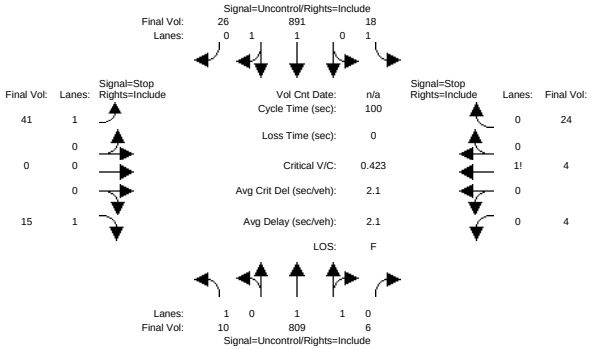
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   27  719    10    14  672    26    16    7     9     3    1     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1468
Minor Approach Volume:           32
Minor Approach Volume Threshold: 209
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10  594     6    18  697    26    41    0    15     4    4    24
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   10  594     6    18  697    26    41    0    15     4    4    24
Added Vol:      0  215     0     0  194     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   10  809     6    18  891    26    41    0    15     4    4    24
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    10  809     6    18  891    26    41    0    15     4    4    24
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   10  809     6    18  891    26    41    0    15     4    4    24
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  917 xxxx xxxxx   815 xxxx xxxxx  1367 xxxx   459  1314 1785   408
Potent Cap.:  752 xxxx xxxxx   821 xxxx xxxxx   108 xxxx   555   118   82   599
Move Cap.:    752 xxxx xxxxx   821 xxxx xxxxx    97 xxxx   555   112   80   599
Volume/Cap:  0.01 xxxx  xxxx  0.02 xxxx  xxxx  0.42 xxxx  0.03  0.04 0.05  0.04
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.0 xxxx xxxxx   1.7 xxxx xxxxx  43.9 xxxx   2.1  xxxx xxxx xxxxx
Control Del:  9.9 xxxx xxxxx   9.5 xxxx xxxxx  67.0 xxxx  11.7 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  254 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.4 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 21.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             52.2            21.2
ApproachLOS:         *                *                F               C
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   10  809     6    18  891    26    41    0    15     4    4    24
ApproachDel:    xxxxxx           xxxxxx             52.2            21.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1848]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1848]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   10  809     6    18  891    26    41    0    15     4    4    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1760
Minor Approach Volume:           56
Minor Approach Volume Threshold: 131 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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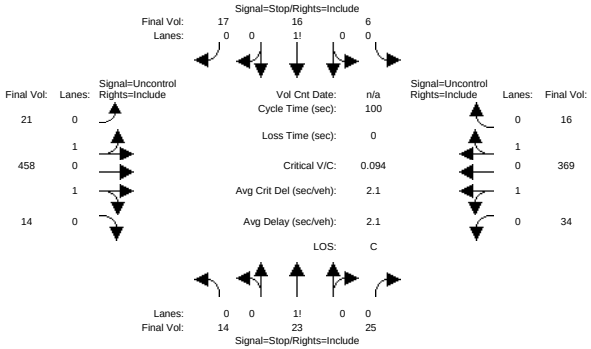
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #63: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      14   23    25     6   16     7     2  440    14    34  360    16
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   14   23    25     6   16     7     2  440    14    34  360    16
Added Vol:      0    0     0     0    0    10    19   18     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   14   23    25     6   16    17    21  458    14    34  369    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    14   23    25     6   16    17    21  458    14    34  369    16
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   14   23    25     6   16    17    21  458    14    34  369    16
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  768  960   236   728  959   193   385 xxxx xxxxx   472 xxxx xxxxx
Potent Cap.:  295  259   772   315  259   823  1185 xxxx xxxxx  1100 xxxx xxxxx
Move Cap.:    264  246   772   273  246   823  1185 xxxx xxxxx  1100 xxxx xxxxx
Volume/Cap:  0.05 0.09  0.03  0.02 0.06  0.02  0.02 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.4 xxxx xxxxx   2.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  347 xxxxx  xxxx  362 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  0.4 xxxxx   0.1 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 17.6 xxxxx xxxxx 16.1 xxxxx   8.1 xxxx xxxxx   8.4 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      17.6             16.1           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   23    25     6   16    17    21  458    14    34  369    16
ApproachDel:      17.6             16.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1013]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=39]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1013]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   23    25     6   16    17    21  458    14    34  369    16
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             912
Minor Approach Volume:           62
Minor Approach Volume Threshold: 317
-------------------------------------------------------------------------------
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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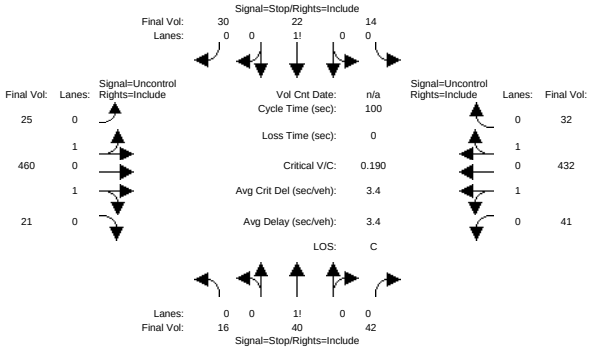
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #63: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      16   40    42    14   22    11    15  451    21    41  414    32
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   16   40    42    14   22    11    15  451    21    41  414    32
Added Vol:      0    0     0     0    0    19    10    9     0     0   18     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   16   40    42    14   22    30    25  460    21    41  432    32
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    16   40    42    14   22    30    25  460    21    41  432    32
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   16   40    42    14   22    30    25  460    21    41  432    32
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  830 1067   241   830 1061   232   464 xxxx xxxxx   481 xxxx xxxxx
Potent Cap.:  266  224   767   266  226   776  1108 xxxx xxxxx  1092 xxxx xxxxx
Move Cap.:    225  210   767   205  212   776  1108 xxxx xxxxx  1092 xxxx xxxxx
Volume/Cap:  0.07 0.19  0.05  0.07 0.10  0.04  0.02 xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.7 xxxx xxxxx   2.9 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  310 xxxxx  xxxx  313 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.3 xxxxx xxxxx  0.8 xxxxx   0.1 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 21.9 xxxxx xxxxx 19.5 xxxxx   8.3 xxxx xxxxx   8.4 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      21.9             19.5           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   40    42    14   22    30    25  460    21    41  432    32
ApproachDel:      21.9             19.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=98]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1175]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=66]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1175]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   40    42    14   22    30    25  460    21    41  432    32
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1011
Minor Approach Volume:           98
Minor Approach Volume Threshold: 281
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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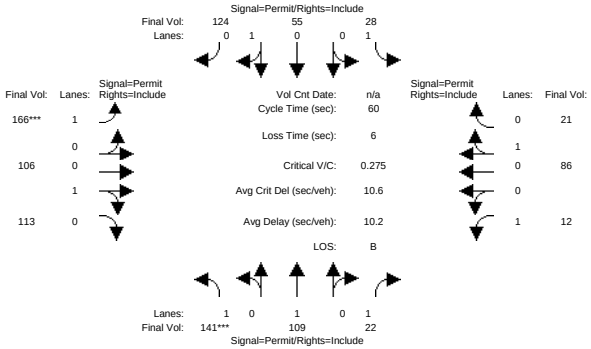
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #64: Main St / Martin Luther King Wy



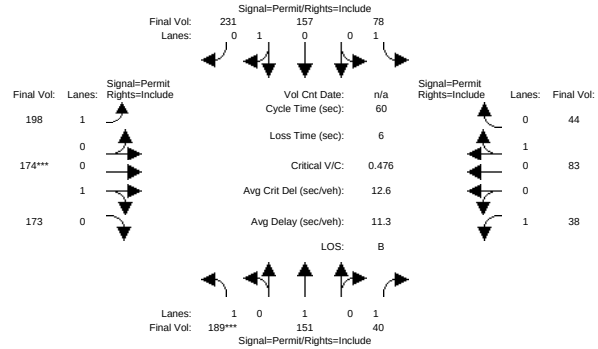
Street Name:	Main Street									Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	141	106	22	28	54	124	166	106	113	12	86	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	141	106	22	28	54	124	166	106	113	12	86	21
Added Vol:	0	3	0	0	1	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	141	109	22	28	55	124	166	106	113	12	86	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	141	109	22	28	55	124	166	106	113	12	86	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	141	109	22	28	55	124	166	106	113	12	86	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	141	109	22	28	55	124	166	106	113	12	86	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.62	1.00	0.85	0.68	0.90	0.90	0.69	0.92	0.92	0.58	0.97	0.97
Lanes:	1.00	1.00	1.00	1.00	0.31	0.69	1.00	0.48	0.52	1.00	0.80	0.20
Final Sat.:	1178	1900	1615	1298	523	1179	1302	849	905	1106	1483	362
Capacity Analysis Module:												
Vol/Sat:	0.12	0.06	0.01	0.02	0.11	0.11	0.13	0.12	0.12	0.01	0.06	0.06
Crit Moves:	****						****					
Green/Cycle:	0.44	0.44	0.44	0.44	0.44	0.44	0.46	0.46	0.46	0.46	0.46	0.46
Volume/Cap:	0.27	0.13	0.03	0.05	0.24	0.24	0.27	0.27	0.27	0.02	0.12	0.12
Delay/Veh:	11.1	10.2	9.7	9.8	10.8	10.8	10.1	10.0	10.0	8.7	9.2	9.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.1	10.2	9.7	9.8	10.8	10.8	10.1	10.0	10.0	8.7	9.2	9.2
LOS by Move:	B	B	A	A	B	B	B	B	B	A	A	A
HCM2kAvgQ:	47	31	6	8	55	55	46	59	59	3	29	29

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #64: Main St / Martin Luther King Wy



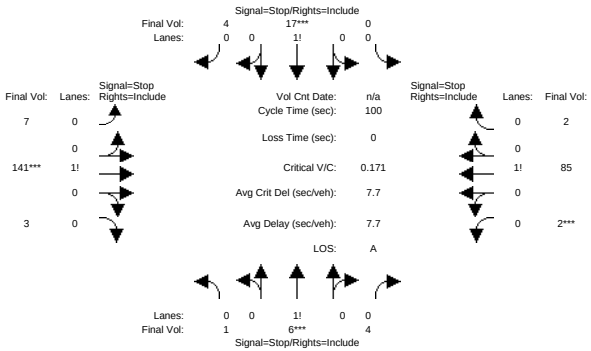
Street Name:	Main Street									Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	189	150	40	78	154	231	198	174	173	38	83	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	189	150	40	78	154	231	198	174	173	38	83	44
Added Vol:	0	1	0	0	3	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	189	151	40	78	157	231	198	174	173	38	83	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	189	151	40	78	157	231	198	174	173	38	83	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	189	151	40	78	157	231	198	174	173	38	83	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	189	151	40	78	157	231	198	174	173	38	83	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.43	1.00	0.85	0.66	0.91	0.91	0.67	0.93	0.93	0.43	0.95	0.95
Lanes:	1.00	1.00	1.00	1.00	0.40	0.60	1.00	0.50	0.50	1.00	0.65	0.35
Final Sat.:	819	1900	1615	1245	700	1031	1275	881	876	819	1177	624
Capacity Analysis Module:												
Vol/Sat:	0.23	0.08	0.02	0.06	0.22	0.22	0.16	0.20	0.20	0.05	0.07	0.07
Crit Moves:	****							****				
Green/Cycle:	0.49	0.49	0.49	0.49	0.49	0.49	0.41	0.41	0.41	0.41	0.41	0.41
Volume/Cap:	0.48	0.16	0.05	0.13	0.46	0.46	0.37	0.48	0.48	0.11	0.17	0.17
Delay/Veh:	11.2	8.7	8.2	8.6	10.7	10.7	12.6	13.3	13.3	10.9	11.2	11.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.2	8.7	8.2	8.6	10.7	10.7	12.6	13.3	13.3	10.9	11.2	11.2
LOS by Move:	B	A	A	A	B	B	B	B	B	B	B	B
HCM2kAvgQ:	75	40	10	22	128	128	60	111	111	13	38	38

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #65: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1     2     4     0     1     4     7   141     3     2    85     2
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    1     2     4     0     1     4     7   141     3     2    85     2
Added Vol:      0     4     0     0    16     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    1     6     4     0    17     4     7   141     3     2    85     2
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     1     6     4     0    17     4     7   141     3     2    85     2
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    1     6     4     0    17     4     7   141     3     2    85     2
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    1     6     4     0    17     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.09  0.55  0.36  0.00  0.81  0.19  0.05  0.93  0.02  0.02  0.96  0.02
Final Sat.:    74   442   295     0   646   152    41   822    17    20   829    20
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01  0.01  0.01  xxxx  0.03  0.03  0.17  0.17  0.17  0.10  0.10  0.10
Crit Moves:        ****              ****              ****        ****
Delay/Veh:    7.3   7.3   7.3   0.0   7.4   7.4   7.9   7.9   7.9   7.6   7.6   7.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.3   7.3   7.3   0.0   7.4   7.4   7.9   7.9   7.9   7.6   7.6   7.6
LOS by Move:    A     A     A     *     A     A     A     A     A     A     A     A
ApproachDel:        7.3               7.4               7.9               7.6
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.3               7.4               7.9               7.6
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   0.3   0.3   0.3   0.6   0.6   0.6   5.1   5.1   5.1   2.8   2.8   2.8
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #65 18th St / Martin Luther King Wy
*******************************************************************************
```



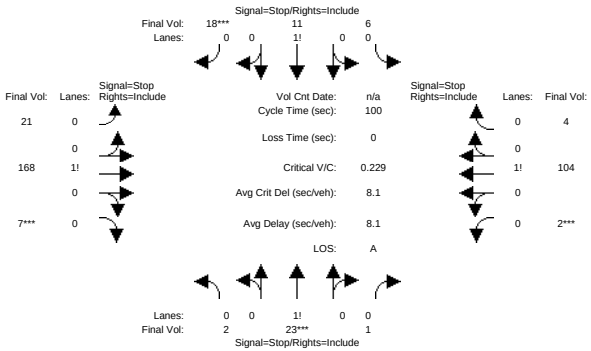
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    1     6     4     0    17     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             240
Minor Approach Volume:           21
Minor Approach Volume Threshold: 600
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #65: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2     7     1     6     7    18    21   168     7     2   104     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2     7     1     6     7    18    21   168     7     2   104     4
Added Vol:      0    16     0     0     4     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    2    23     1     6    11    18    21   168     7     2   104     4
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     2    23     1     6    11    18    21   168     7     2   104     4
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    2    23     1     6    11    18    21   168     7     2   104     4
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    2    23     1     6    11    18    21   168     7     2   104     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.08  0.88  0.04  0.17  0.31  0.52  0.11  0.86  0.03  0.02  0.94  0.04
Final Sat.:    57   656    29   135   247   405    92   734    31    15   793    31
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04  0.04  0.04  0.04  0.04  0.04  0.23  0.23  0.23  0.13  0.13  0.13
Crit Moves:        ****                    ****              ****  ****
Delay/Veh:    7.7   7.7   7.7   7.5   7.5   7.5   8.3   8.3   8.3   7.8   7.8   7.8
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.7   7.7   7.7   7.5   7.5   7.5   8.3   8.3   8.3   7.8   7.8   7.8
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        7.7               7.5               8.3               7.8
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.7               7.5               8.3               7.8
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   0.8   0.8   0.8   1.0   1.0   1.0   7.1   7.1   7.1   3.6   3.6   3.6
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #65 18th St / Martin Luther King Wy
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2    23     1     6    11    18    21   168     7     2   104     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             306
Minor Approach Volume:           35
Minor Approach Volume Threshold: 535
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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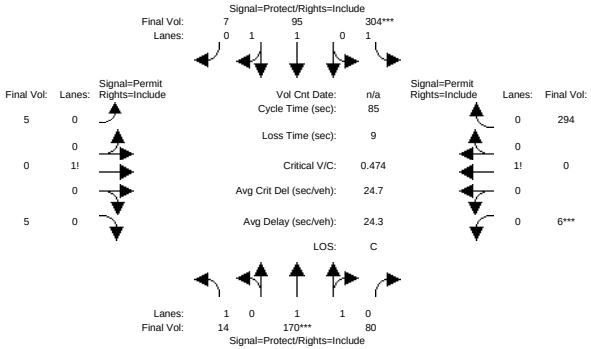
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #66: 16th St / H St



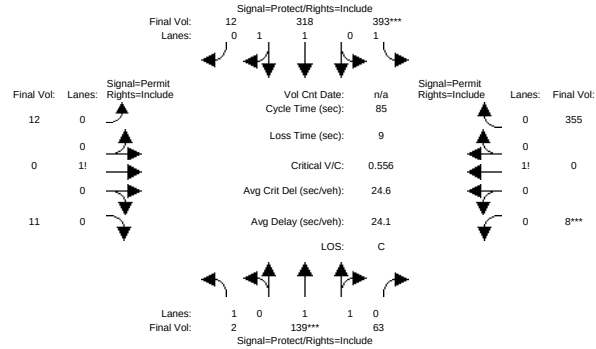
Street Name:	16th Street												H Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7	10	10			7	10	10			10	10	10			10	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	14	142	80			293	84	7			5	0	5			6	0	286		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	14	142	80			293	84	7			5	0	5			6	0	286		
Added Vol:	0	28	0			11	11	0			0	0	0			0	0	8		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	14	170	80			304	95	7			5	0	5			6	0	294		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	14	170	80			304	95	7			5	0	5			6	0	294		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	14	170	80			304	95	7			5	0	5			6	0	294		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	14	170	80			304	95	7			5	0	5			6	0	294		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.95	0.90	0.90			0.95	0.94	0.94			0.84	1.00	0.84			0.87	1.00	0.87		
Lanes:	1.00	1.36	0.64			1.00	1.86	0.14			0.50	0.00	0.50			0.02	0.00	0.98		
Final Sat.:	1805	2337	1100			1805	3329	245			799	0	799			33	0	1611		
Capacity Analysis Module:																				
Vol/Sat:	0.01	0.07	0.07			0.17	0.03	0.03			0.01	0.00	0.01			0.18	0.00	0.18		
Crit Moves:		****				****										****				
Green/Cycle:	0.21	0.15	0.15			0.36	0.30	0.30			0.39	0.00	0.39			0.39	0.00	0.39		
Volume/Cap:	0.04	0.47	0.47			0.47	0.10	0.10			0.02	0.00	0.02			0.47	0.00	0.47		
Delay/Veh:	26.8	33.5	33.5			21.8	21.5	21.5			16.2	0.0	16.2			20.2	0.0	20.2		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	26.8	33.5	33.5			21.8	21.5	21.5			16.2	0.0	16.2			20.2	0.0	20.2		
LOS by Move:	C	C	C			C	C	C			B	A	B			C	A	C		
HCM2kAvgQ:	8	92	92			161	25	25			4	0	4			155	0	155		

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #66: 16th St / H St



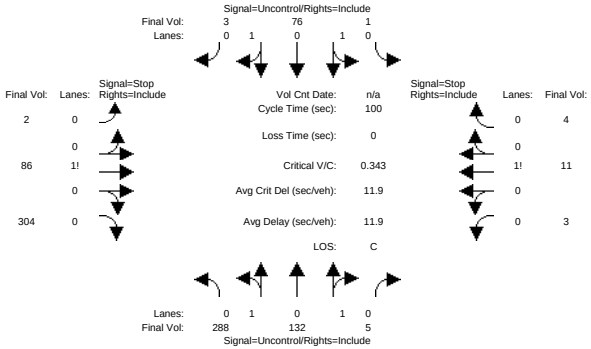
Street Name:	16th Street												H Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7	10	10			7	10	10			10	10	10			10	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	2	122	63			378	297	12			12	0	11			8	0	350		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	2	122	63			378	297	12			12	0	11			8	0	350		
Added Vol:	0	17	0			15	21	0			0	0	0			0	0	5		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	2	139	63			393	318	12			12	0	11			8	0	355		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	2	139	63			393	318	12			12	0	11			8	0	355		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	2	139	63			393	318	12			12	0	11			8	0	355		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	2	139	63			393	318	12			12	0	11			8	0	355		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.95	0.91	0.91			0.95	0.95	0.95			0.79	1.00	0.79			0.86	1.00	0.86		
Lanes:	1.00	1.38	0.62			1.00	1.93	0.07			0.52	0.00	0.48			0.02	0.00	0.98		
Final Sat.:	1805	2367	1073			1805	3461	131			787	0	721			36	0	1606		
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.06	0.06			0.22	0.09	0.09			0.02	0.00	0.02			0.22	0.00	0.22		
Crit Moves:		****				****										****				
Green/Cycle:	0.21	0.12	0.12			0.39	0.30	0.30			0.39	0.00	0.39			0.39	0.00	0.39		
Volume/Cap:	0.01	0.50	0.50			0.57	0.31	0.31			0.04	0.00	0.04			0.57	0.00	0.57		
Delay/Veh:	26.8	36.1	36.1			21.6	23.4	23.4			16.0	0.0	16.0			21.4	0.0	21.4		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	26.8	36.1	36.1			21.6	23.4	23.4			16.0	0.0	16.0			21.4	0.0	21.4		
LOS by Move:	C	D	D			C	C	C			B	A	B			C	A	C		
HCM2kAvgQ:	1	82	82			214	91	91			9	0	9			199	0	199		

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     280  129     5     1   75     3     2   86   293     3   11     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  280  129     5     1   75     3     2   86   293     3   11     4
Added Vol:      8    3     0     0    1     0     0    0    11     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  288  132     5     1   76     3     2   86   304     3   11     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   288  132     5     1   76     3     2   86   304     3   11     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  288  132     5     1   76     3     2   86   304     3   11     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   79 xxxx xxxxx   137 xxxx xxxxx   727  793    40   794  792    69
Potent Cap.: 1532 xxxx xxxxx  1459 xxxx xxxxx   315  324  1030   283  324   987
Move Cap.:   1532 xxxx xxxxx  1459 xxxx xxxxx   251  251  1030   122  251   987
Volume/Cap:  0.19 xxxx  xxxx  0.00 xxxx  xxxx  0.01 0.34  0.30  0.02 0.04  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   17.3 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.9 xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  607 xxxxx  xxxx  249 xxxxx
SharedQueue:  0.7 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  4.7 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:  7.9 xxxx xxxxx   7.5 xxxx xxxxx xxxxx 21.1 xxxxx xxxxx 20.6 xxxxx
Shared LOS:     A    *     *     A    *     *     *    C     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             21.1            20.6
ApproachLOS:         *                *                C               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  288  132     5     1   76     3     2   86   304     3   11     4
ApproachDel:    xxxxxx           xxxxxx             21.1            20.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=392]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=915]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=915]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

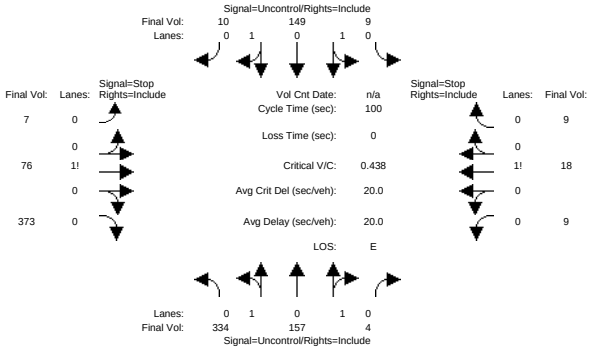
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  288  132     5     1   76     3     2   86   304     3   11     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             505
Minor Approach Volume:           392
Minor Approach Volume Threshold: 520
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     329  156     4     9  146    10     7   76   358     9   18     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  329  156     4     9  146    10     7   76   358     9   18     9
Added Vol:      5    1     0     0    3     0     0    0    15     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  334  157     4     9  149    10     7   76   373     9   18     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   334  157     4     9  149    10     7   76   373     9   18     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  334  157     4     9  149    10     7   76   373     9   18     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  159 xxxx xxxxx   161 xxxx xxxxx   928 1001    80   958 1004    81
Potent Cap.: 1433 xxxx xxxxx  1430 xxxx xxxxx   226  245   971   215  244   970
Move Cap.:   1433 xxxx xxxxx  1430 xxxx xxxxx   160  173   971    69  173   970
Volume/Cap:  0.23 xxxx  xxxx  0.01 xxxx  xxxx  0.04 0.44  0.38  0.13 0.10  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   22.6 xxxx xxxxx   0.5 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.3 xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  527 xxxxx  xxxx  147 xxxxx
SharedQueue:  0.9 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  9.4 xxxxx xxxxx  0.9 xxxxx
Shrd ConDel:  8.3 xxxx xxxxx   7.5 xxxx xxxxx xxxxx 41.5 xxxxx xxxxx 37.1 xxxxx
Shared LOS:     A    *     *     A    *     *     *    E     *     *    E     *
ApproachDel:    xxxxxx           xxxxxx             41.5            37.1
ApproachLOS:         *                *                E               E
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  334  157     4     9  149    10     7   76   373     9   18     9
ApproachDel:    xxxxxx           xxxxxx             41.5            37.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=456]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1155]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=36]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1155]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

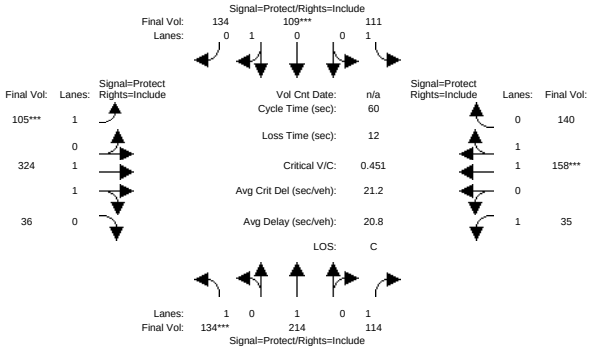
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  334  157     4     9  149    10     7   76   373     9   18     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             663
Minor Approach Volume:           456
Minor Approach Volume Threshold: 426
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #69: Main St / G St



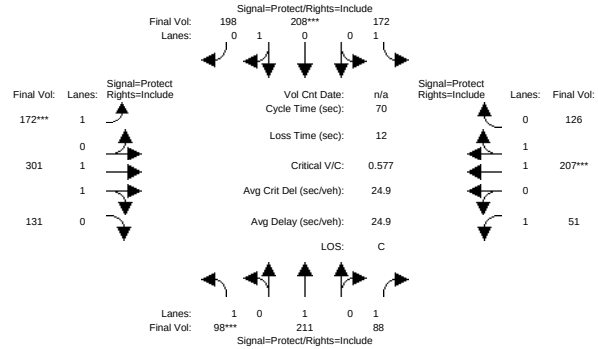
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	214	113	105	109	128	105	323	36	35	158	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	214	113	105	109	128	105	323	36	35	158	129
Added Vol:	0	0	1	6	0	6	0	1	0	0	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	214	114	111	109	134	105	324	36	35	158	140
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	134	214	114	111	109	134	105	324	36	35	158	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	214	114	111	109	134	105	324	36	35	158	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	134	214	114	111	109	134	105	324	36	35	158	140
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.92	0.92	0.95	0.94	0.94	0.95	0.88	0.88
Lanes:	1.00	1.00	1.00	1.00	0.45	0.55	1.00	1.80	0.20	1.00	1.06	0.94
Final Sat.:	1805	1900	1615	1805	782	961	1805	3200	356	1805	1780	1577
Capacity Analysis Module:												
Vol/Sat:	0.07	0.11	0.07	0.06	0.14	0.14	0.06	0.10	0.10	0.02	0.09	0.09
Crit Moves:	****				****		****				****	
Green/Cycle:	0.16	0.28	0.28	0.20	0.31	0.31	0.13	0.19	0.19	0.13	0.20	0.20
Volume/Cap:	0.45	0.40	0.25	0.32	0.45	0.45	0.45	0.53	0.53	0.14	0.45	0.45
Delay/Veh:	23.7	18.1	17.1	21.2	17.2	17.2	25.6	22.6	22.6	23.2	21.7	21.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.7	18.1	17.1	21.2	17.2	17.2	25.6	22.6	22.6	23.2	21.7	21.7
LOS by Move:	C	B	B	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	70	89	45	51	101	101	60	98	98	14	63	63

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #69: Main St / G St



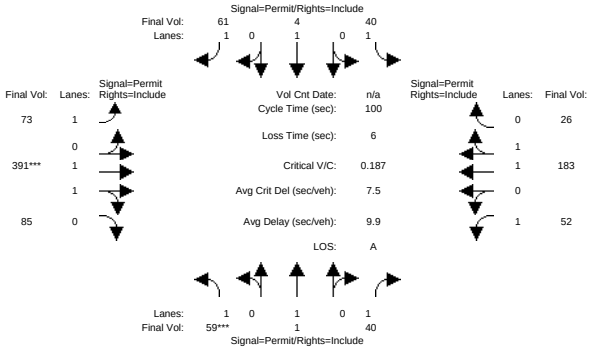
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	98	211	88	161	208	191	172	301	131	50	205	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	211	88	161	208	191	172	301	131	50	205	120
Added Vol:	0	0	0	11	0	7	0	0	0	1	2	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	211	88	172	208	198	172	301	131	51	207	126
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	211	88	172	208	198	172	301	131	51	207	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	211	88	172	208	198	172	301	131	51	207	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	211	88	172	208	198	172	301	131	51	207	126
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.91	0.91	0.95	0.90	0.90
Lanes:	1.00	1.00	1.00	1.00	0.51	0.49	1.00	1.39	0.61	1.00	1.24	0.76
Final Sat.:	1805	1900	1615	1805	902	859	1805	2402	1045	1805	2116	1288
Capacity Analysis Module:												
Vol/Sat:	0.05	0.11	0.05	0.10	0.23	0.23	0.10	0.13	0.13	0.03	0.10	0.10
Crit Moves:	****				****		****				****	
Green/Cycle:	0.10	0.29	0.29	0.20	0.40	0.40	0.16	0.20	0.20	0.14	0.17	0.17
Volume/Cap:	0.54	0.38	0.19	0.47	0.58	0.58	0.58	0.64	0.64	0.21	0.58	0.58
Delay/Veh:	33.3	20.2	18.7	25.4	17.8	17.8	30.0	28.0	28.0	27.3	28.4	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.3	20.2	18.7	25.4	17.8	17.8	30.0	28.0	28.0	27.3	28.4	28.4
LOS by Move:	C	C	B	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	72	97	38	95	188	188	109	142	142	24	88	88

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #70: 18th St / G St



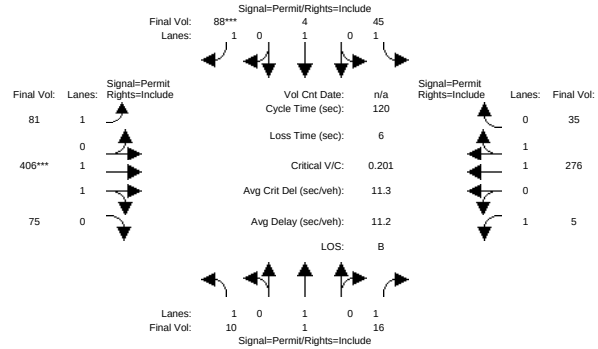
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	59	1	40	40	4	60	70	385	85	52	172	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	1	40	40	4	60	70	385	85	52	172	26
Added Vol:	0	0	0	0	0	1	3	6	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	59	1	40	40	4	61	73	391	85	52	183	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	1	40	40	4	61	73	391	85	52	183	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	1	40	40	4	61	73	391	85	52	183	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	59	1	40	40	4	61	73	391	85	52	183	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.61	0.92	0.92	0.47	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.64	0.36	1.00	1.75	0.25
Final Sat.:	1455	1900	1615	1459	1900	1615	1165	2885	627	885	3101	441
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.02	0.03	0.00	0.04	0.06	0.14	0.14	0.06	0.06	0.06
Crit Moves:	****							****				
Green/Cycle:	0.22	0.22	0.22	0.22	0.22	0.22	0.72	0.72	0.72	0.72	0.72	0.72
Volume/Cap:	0.19	0.00	0.11	0.13	0.01	0.17	0.09	0.19	0.19	0.08	0.08	0.08
Delay/Veh:	32.3	30.7	31.6	31.7	30.8	32.1	4.1	4.5	4.5	4.1	4.1	4.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	30.7	31.6	31.7	30.8	32.1	4.1	4.5	4.5	4.1	4.1	4.1
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	39	1	26	26	2	40	16	60	60	13	25	25

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #70: 18th St / G St



Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	1	16	45	4	85	80	395	75	5	270	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1	16	45	4	85	80	395	75	5	270	35
Added Vol:	0	0	0	0	0	3	1	11	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	1	16	45	4	88	81	406	75	5	276	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	1	16	45	4	88	81	406	75	5	276	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1	16	45	4	88	81	406	75	5	276	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1	16	45	4	88	81	406	75	5	276	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.55	0.93	0.93	0.45	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.69	0.31	1.00	1.77	0.23
Final Sat.:	1455	1900	1615	1459	1900	1615	1051	2977	550	863	3149	399
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.03	0.00	0.05	0.08	0.14	0.14	0.01	0.09	0.09
Crit Moves:						****		****				
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.68	0.68	0.68	0.68	0.68	0.68
Volume/Cap:	0.03	0.00	0.04	0.11	0.01	0.20	0.11	0.20	0.20	0.01	0.13	0.13
Delay/Veh:	32.1	31.9	32.2	33.0	31.9	33.9	6.8	7.2	7.2	6.2	6.8	6.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.1	31.9	32.2	33.0	31.9	33.9	6.8	7.2	7.2	6.2	6.8	6.8
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	7	1	11	31	3	63	25	83	83	2	52	52

Note: Queue reported is the distance per lane in feet.

HEAVY MANTENANCE FACILITY ANALYSIS – CASTLE COMMERCE

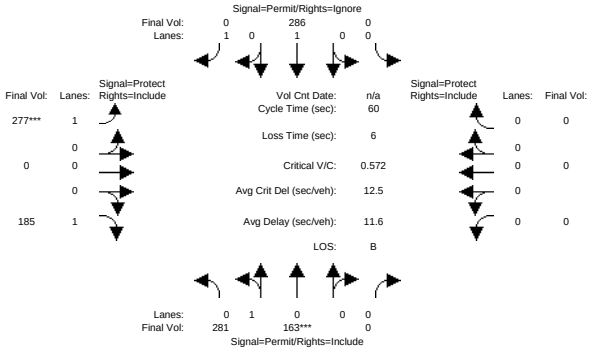
EXISTING WITH PROJECT_OPTION-A MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM Mit

Intersection #11: Ashby Rd/ Buhach Rd



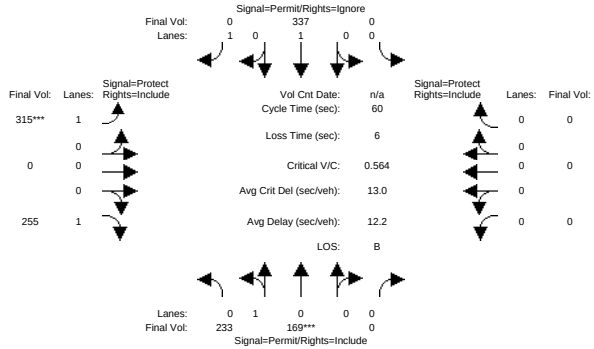
Street Name:	Ashby Road- Buhach Rd						Buhach Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	281	144	0	0	231	188	185	0	185	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	281	144	0	0	231	188	185	0	185	0	0	0
Added Vol:	0	19	0	0	55	8	92	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	281	163	0	0	286	196	277	0	185	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	281	163	0	0	286	0	277	0	185	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	281	163	0	0	286	0	277	0	185	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	281	163	0	0	286	0	277	0	185	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.65	0.65	1.00	1.00	1.00	1.00	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	0.63	0.37	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	778	451	0	0	1900	1900	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.36	0.36	0.00	0.00	0.15	0.00	0.15	0.00	0.11	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.63	0.63	0.00	0.00	0.63	0.00	0.27	0.00	0.27	0.00	0.00	0.00
Volume/Cap:	0.57	0.57	0.00	0.00	0.24	0.00	0.57	0.00	0.43	0.00	0.00	0.00
Delay/Veh:	7.4	7.4	0.0	0.0	4.9	0.0	20.6	0.0	18.8	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.4	7.4	0.0	0.0	4.9	0.0	20.6	0.0	18.8	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	C	A	B	A	A	A
HCM2kAvgQ:	6	6	0	0	2	0	5	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM Mit

Intersection #11: Ashby Rd/ Buhach Rd



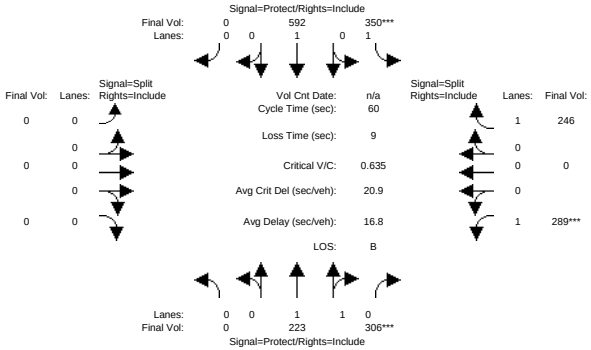
Street Name:	Ashby Road- Buhach Rd						Buhach Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	233	158	0	0	240	215	263	0	255	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	233	158	0	0	240	215	263	0	255	0	0	0
Added Vol:	0	11	0	0	97	14	52	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	233	169	0	0	337	229	315	0	255	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	233	169	0	0	337	0	315	0	255	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	169	0	0	337	0	315	0	255	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	233	169	0	0	337	0	315	0	255	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.64	0.64	1.00	1.00	1.00	1.00	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	0.58	0.42	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	699	507	0	0	1900	1900	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.00	0.00	0.18	0.00	0.17	0.00	0.16	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.59	0.59	0.00	0.00	0.59	0.00	0.31	0.00	0.31	0.00	0.00	0.00
Volume/Cap:	0.56	0.56	0.00	0.00	0.30	0.00	0.56	0.00	0.51	0.00	0.00	0.00
Delay/Veh:	8.6	8.6	0.0	0.0	6.3	0.0	18.7	0.0	17.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.6	8.6	0.0	0.0	6.3	0.0	18.7	0.0	17.9	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	B	A	B	A	A	A
HCM2kAvgQ:	5	5	0	0	3	0	6	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #25: 16th St / SR-59

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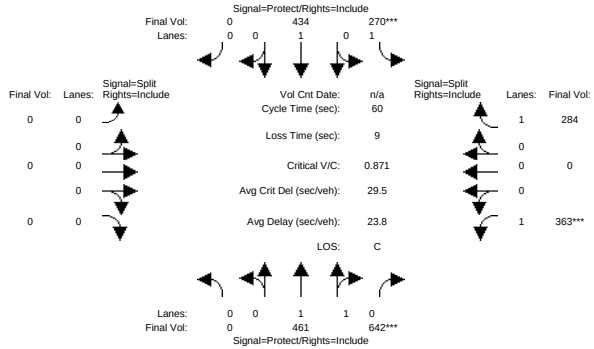
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10   10     7   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  194  298   350  592    0     0    0    0   272    0  246
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0  194  298   350  592    0     0    0    0   272    0  246
Added Vol:      0   29    8     0    0    0     0    0    0    17    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  223  306   350  592    0     0    0    0   289    0  246
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0  223  306   350  592    0     0    0    0   289    0  246
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  223  306   350  592    0     0    0    0   289    0  246
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0  223  306   350  592    0     0    0    0   289    0  246
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.87 0.87  0.95 1.00 1.00  1.00 1.00 1.00  0.95 1.00 0.85
Lanes:       0.00 1.00 1.00  1.00 1.00 0.00  0.00 0.00 0.00  1.00 0.00 1.00
Final Sat.:     0 1648 1648  1805 1900    0     0    0    0  1805    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.14 0.19  0.19 0.31 0.00  0.00 0.00 0.00  0.16 0.00 0.15
Crit Moves:                  ****  ****                       ****
Green/Cycle: 0.00 0.29 0.29  0.31 0.60 0.00  0.00 0.00 0.00  0.25 0.00 0.25
Volume/Cap:  0.00 0.46 0.63  0.63 0.52 0.00  0.00 0.00 0.00  0.63 0.00 0.60
Delay/Veh:    0.0 17.7 20.1  20.4  7.5  0.0   0.0  0.0  0.0  22.9  0.0 22.4
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 17.7 20.1  20.4  7.5  0.0   0.0  0.0  0.0  22.9  0.0 22.4
LOS by Move:    A    B    C     C    A    A     A    A    A     C    A    C
HCM2kAvgQ:      0  101  157   166  171    0     0    0    0   148    0  126
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #25: 16th St / SR-59

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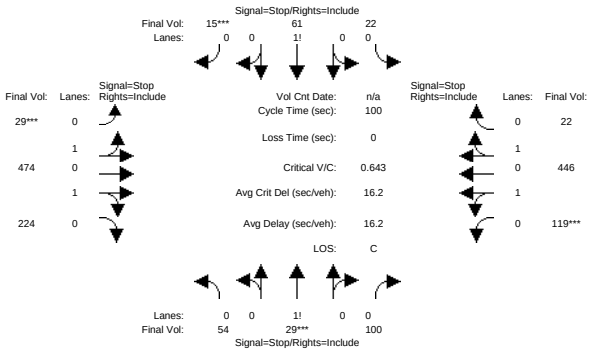
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10   10     7   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  427  625   270  434    0     0    0    0   355    0  284
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0  427  625   270  434    0     0    0    0   355    0  284
Added Vol:      0   34   17     0    0    0     0    0    0     8    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  461  642   270  434    0     0    0    0   363    0  284
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0  461  642   270  434    0     0    0    0   363    0  284
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  461  642   270  434    0     0    0    0   363    0  284
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0  461  642   270  434    0     0    0    0   363    0  284
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.87 0.87  0.95 1.00 1.00  1.00 1.00 1.00  0.95 1.00 0.85
Lanes:       0.00 1.00 1.00  1.00 1.00 0.00  0.00 0.00 0.00  1.00 0.00 1.00
Final Sat.:     0 1648 1648  1805 1900    0     0    0    0  1805    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.28 0.39  0.15 0.23 0.00  0.00 0.00 0.00  0.20 0.00 0.18
Crit Moves:                  ****  ****                       ****
Green/Cycle: 0.00 0.45 0.45  0.17 0.62 0.00  0.00 0.00 0.00  0.23 0.00 0.23
Volume/Cap:  0.00 0.63 0.87  0.87 0.37 0.00  0.00 0.00 0.00  0.87 0.00 0.76
Delay/Veh:    0.0 13.4 21.8  46.6  5.8  0.0   0.0  0.0  0.0  39.9  0.0 30.4
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 13.4 21.8  46.6  5.8  0.0   0.0  0.0  0.0  39.9  0.0 30.4
LOS by Move:    A    B    C     D    A    A     A    A    A     D    A    C
HCM2kAvgQ:      0  195  376   205  104    0     0    0    0   250    0  175
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #37: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    13    92    22     8    15    29   337     6    85   343    22
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2    13    92    22     8    15    29   337     6    85   343    22
Added Vol:     52    16     8     0    53     0     0   137   218    34   103     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   54    29   100    22    61    15    29   474   224   119   446    22
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    54    29   100    22    61    15    29   474   224   119   446    22
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   54    29   100    22    61    15    29   474   224   119   446    22
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   54    29   100    22    61    15    29   474   224   119   446    22
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.29  0.16  0.55  0.22  0.63  0.15  0.08  1.30  0.62  0.41  1.52  0.07
Final Sat.:   155    83   286   107   296    73    45   754   376   218   836    42
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35  0.35  0.35  0.21  0.21  0.21  0.64  0.63  0.60  0.55  0.53  0.53
Crit Moves:        ****                      ****  ****              ****
Delay/Veh:   12.7  12.7  12.7  11.6  11.6  11.6  19.3  18.4  16.4  16.6  16.0  15.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  12.7  12.7  12.7  11.6  11.6  11.6  19.3  18.4  16.4  16.6  16.0  15.6
LOS by Move:    B     B     B     B     B     B     C     C     C     C     C     C
ApproachDel:       12.7             11.6             17.9             16.1
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:        12.7             11.6             17.9             16.1
LOS by Appr:          B                B                C                C
AllWayAvgQ:  11.5  11.5  11.5   5.4   5.4   5.4  40.4  33.6  33.6  27.4  25.3  25.3
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #37 15th St / M St
*******************************************************************************
```



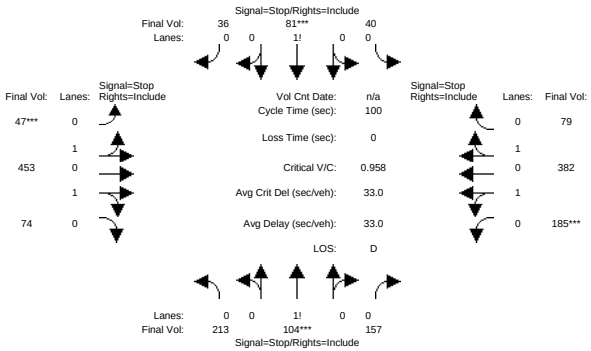
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   54   29   100    22   61    15    29  474   224   119  446    22
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1314
Minor Approach Volume:           183
Minor Approach Volume Threshold: 191
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #37: 15th St / M St




```
Street Name:            15th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    41   123    40    68    36    47   346    20   177   250    79
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    5    41   123    40    68    36    47   346    20   177   250    79
Added Vol:    208    63    34     0    13     0     0   107    54     8   132     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  213   104   157    40    81    36    47   453    74   185   382    79
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:   213   104   157    40    81    36    47   453    74   185   382    79
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  213   104   157    40    81    36    47   453    74   185   382    79
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:  213   104   157    40    81    36    47   453    74   185   382    79
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.45  0.22  0.33  0.25  0.52  0.23  0.16  1.58  0.26  0.57  1.19  0.24
Final Sat.:   222   109   164   104   211    94    72   705   117   249   534   113
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.96  0.96  0.96  0.38  0.38  0.38  0.65  0.64  0.63  0.74  0.71  0.70
Crit Moves:        ****              ****        ****              ****
Delay/Veh:   56.5  56.5  56.5  16.3  16.3  16.3  24.2  23.4  22.5  30.4  27.7  26.1
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  56.5  56.5  56.5  16.3  16.3  16.3  24.2  23.4  22.5  30.4  27.7  26.1
LOS by Move:    F     F     F     C     C     C     C     C     C     D     D     D
ApproachDel:       56.5              16.3              23.4              28.2
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        56.5              16.3              23.4              28.2
LOS by Appr:          F                 C                 C                 D
AllWayAvgQ:    159   159 159.0  13.8  13.8  13.8  41.0  37.9  37.9  58.9  50.3  50.3
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #37 15th St / M St
*******************************************************************************
```



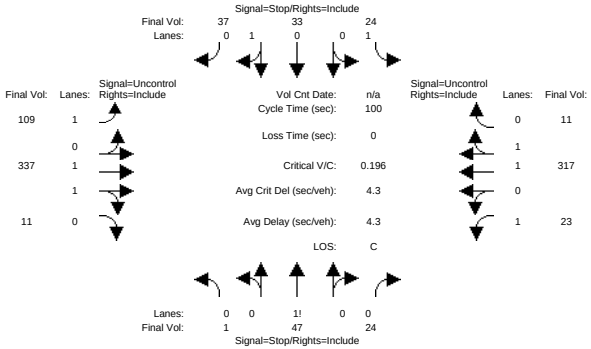
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:  213  104   157    40   81    36    47  453    74   185  382    79
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1220
Minor Approach Volume:           474
Minor Approach Volume Threshold: 216
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   38    24    24   33    25    29  337    11    23  317    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   38    24    24   33    25    29  337    11    23  317    11
Added Vol:      0    9     0     0    0    12    80    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   47    24    24   33    37   109  337    11    23  317    11
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1   47    24    24   33    37   109  337    11    23  317    11
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1   47    24    24   33    37   109  337    11    23  317    11
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  782  935   174   779  935   164   328 xxxx xxxxx   348 xxxx xxxxx
Potent Cap.:  288  268   846   290  268   858  1243 xxxx xxxxx  1222 xxxx xxxxx
Move Cap.:    227  240   846   220  240   858  1243 xxxx xxxxx  1222 xxxx xxxxx
Volume/Cap:  0.00 0.20  0.03  0.11 0.14  0.04  0.09 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   9.0 xxxx xxxxx   7.2 xxxx xxxxx   1.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  23.3 xxxx xxxxx   8.2 xxxx xxxxx   8.0 xxxx xxxxx
LOS by Move:    *    *     *     C    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  314 xxxxx  xxxx xxxx   387  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx xxxx   0.7 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 19.8 xxxxx xxxxx xxxx  16.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     C     *    *     *     *    *     *
ApproachDel:      19.8             18.1            xxxxxx           xxxxxx
ApproachLOS:         C                C                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   47    24    24   33    37   109  337    11    23  317    11
ApproachDel:      19.8             18.1            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=72]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=974]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=94]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=974]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

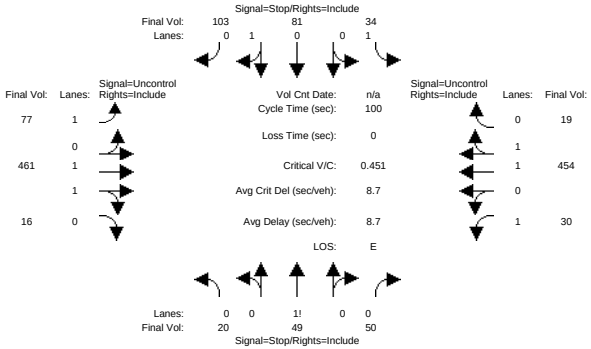
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   47    24    24   33    37   109  337    11    23  317    11
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             808
Minor Approach Volume:           94
Minor Approach Volume Threshold: 466
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20   47    50    34   81    56    57  461    16    30  454    19
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   20   47    50    34   81    56    57  461    16    30  454    19
Added Vol:      0    2     0     0    0    47    20    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20   49    50    34   81   103    77  461    16    30  454    19
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20   49    50    34   81   103    77  461    16    30  454    19
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20   49    50    34   81   103    77  461    16    30  454    19
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  951 1156   239   933 1155   237   473 xxxx xxxxx   477 xxxx xxxxx
Potent Cap.:  218  198   769   224  199   771  1099 xxxx xxxxx  1096 xxxx xxxxx
Move Cap.:    114  179   769   154  180   771  1099 xxxx xxxxx  1096 xxxx xxxxx
Volume/Cap:  0.18 0.27  0.07  0.22 0.45  0.13  0.07 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  20.2 xxxx xxxxx   5.6 xxxx xxxxx   2.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  34.9 xxxx xxxxx   8.5 xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     D    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  232 xxxxx  xxxx xxxx   315  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.7 xxxxx xxxxx xxxx   3.5 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 35.9 xxxxx xxxxx xxxx  31.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *     *    *     D     *    *     *     *    *     *
ApproachDel:      35.9             31.9            xxxxxx           xxxxxx
ApproachLOS:         E                D                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   49    50    34   81   103    77  461    16    30  454    19
ApproachDel:      35.9             31.9            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=119]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1394]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=218]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1394]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

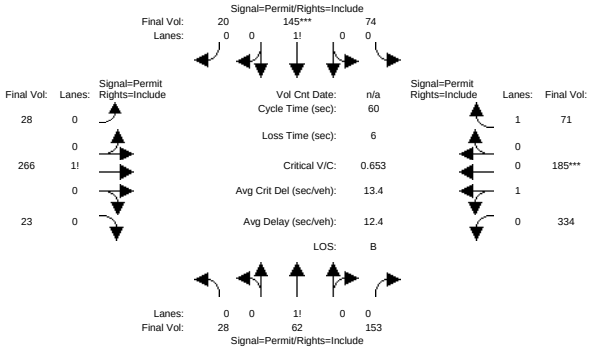
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   49    50    34   81   103    77  461    16    30  454    19
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1057
Minor Approach Volume:           218
Minor Approach Volume Threshold: 350
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #48: 13th St / G St



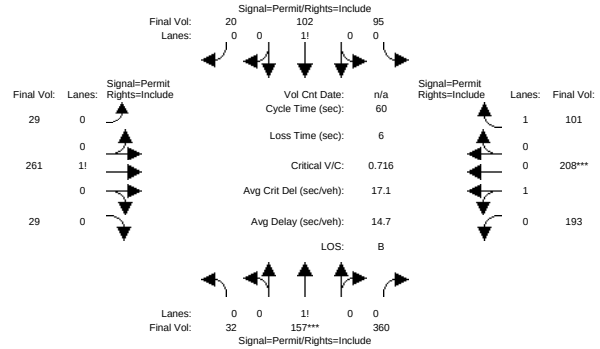
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	28	62	153	74	145	20	28	265	23	334	185	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	62	153	74	145	20	28	265	23	334	185	71
Added Vol:	0	0	0	0	0	0	0	1	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	62	153	74	145	20	28	266	23	334	185	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	62	153	74	145	20	28	266	23	334	185	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	62	153	74	145	20	28	266	23	334	185	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	62	153	74	145	20	28	266	23	334	185	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	0.88	0.88	0.78	0.78	0.78	0.94	0.94	0.94	0.64	0.64	0.85
Lanes:	0.12	0.25	0.63	0.31	0.61	0.08	0.09	0.84	0.07	0.64	0.36	1.00
Final Sat.:	192	424	1048	460	901	124	157	1493	129	783	433	1615
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.15	0.16	0.16	0.16	0.18	0.18	0.18	0.43	0.43	0.04
Crit Moves:					****						****	
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.65	0.65	0.65	0.65	0.65	0.65
Volume/Cap:	0.59	0.59	0.59	0.65	0.65	0.65	0.27	0.27	0.27	0.65	0.65	0.07
Delay/Veh:	22.3	22.3	22.3	24.5	24.5	24.5	4.5	4.5	4.5	8.2	8.2	3.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.3	22.3	22.3	24.5	24.5	24.5	4.5	4.5	4.5	8.2	8.2	3.8
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	123	123	123	102	102	102	65	65	65	150	150	12

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #48: 13th St / G St



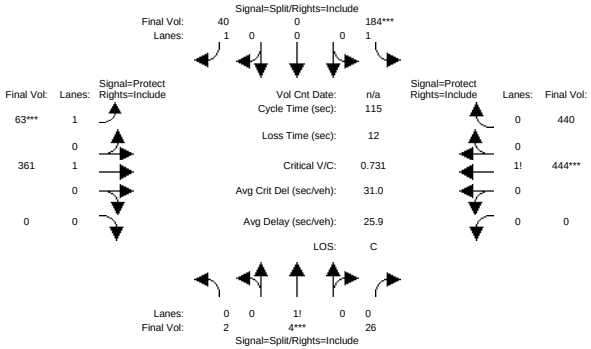
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	32	157	360	95	102	20	29	261	29	193	207	101
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	157	360	95	102	20	29	261	29	193	207	101
Added Vol:	0	0	0	0	0	0	0	0	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	157	360	95	102	20	29	261	29	193	208	101
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	157	360	95	102	20	29	261	29	193	208	101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	157	360	95	102	20	29	261	29	193	208	101
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	32	157	360	95	102	20	29	261	29	193	208	101
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.89	0.68	0.68	0.68	0.94	0.94	0.94	0.66	0.66	0.85
Lanes:	0.06	0.29	0.65	0.44	0.47	0.09	0.09	0.82	0.09	0.48	0.52	1.00
Final Sat.:	99	484	1109	562	604	118	162	1459	162	604	650	1615
Capacity Analysis Module:												
Vol/Sat:	0.32	0.32	0.32	0.17	0.17	0.17	0.18	0.18	0.18	0.32	0.32	0.06
Crit Moves:		****									****	
Green/Cycle:	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Volume/Cap:	0.72	0.72	0.72	0.37	0.37	0.37	0.40	0.40	0.40	0.72	0.72	0.14
Delay/Veh:	16.5	16.5	16.5	11.2	11.2	11.2	11.5	11.5	11.5	17.9	17.9	9.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.5	16.5	16.5	11.2	11.2	11.2	11.5	11.5	11.5	17.9	17.9	9.9
LOS by Move:	B	B	B	B	B	B	B	B	B	B	B	A
HCM2kAvgQ:	243	243	243	64	64	64	106	106	106	154	154	26

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

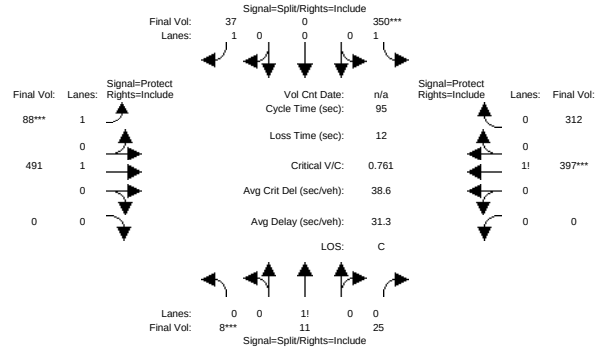



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10    0   10     7   10     0     0   10   10
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0   4.0  4.0   4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    3    26  184    0   40    63  350     0     0  423  439
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
Initial Bse:    2    3    26  184    0   40    63  350     0     0  423  439
Added Vol:      0    1     0    0    0    0     0   11     0     0   21    1
PasserByVol:    0    0     0    0    0    0     0    0     0     0    0    0
Initial Fut:    2    4    26  184    0   40    63  361     0     0  444  440
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
PHF Volume:     2    4    26  184    0   40    63  361     0     0  444  440
Reduct Vol:     0    0     0    0    0    0     0    0     0     0    0    0
Reduced Vol:    2    4    26  184    0   40    63  361     0     0  444  440
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
FinalVolume:    2    4    26  184    0   40    63  361     0     0  444  440
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900  1900 1900  1900  1900 1900 1900
Adjustment:  0.89 0.89  0.89 0.95 1.00 0.85  0.95 1.00  1.00  1.00 0.93 0.93
Lanes:       0.06 0.13  0.81 1.00 0.00 1.00  1.00 1.00  0.00  0.00 0.50 0.50
Final Sat.:   105  211  1370 1805    0 1615  1805 1900     0     0  890  882
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.02  0.02 0.10 0.00 0.02  0.03 0.19  0.00  0.00 0.50 0.50
Crit Moves:        ****        ****             ****                 ****
Green/Cycle: 0.09 0.09  0.09 0.13 0.00 0.13  0.06 0.68  0.00  0.00 0.62 0.62
Volume/Cap:  0.22 0.22  0.22 0.80 0.00 0.20  0.57 0.28  0.00  0.00 0.80 0.80
Delay/Veh:   49.6 49.6  49.6 67.0  0.0 45.4  59.7  7.3   0.0   0.0 20.8 20.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
AdjDel/Veh:  49.6 49.6  49.6 67.0  0.0 45.4  59.7  7.3   0.0   0.0 20.8 20.8
LOS by Move:    D    D     D    E    A    D     E    A     A     A    C    C
HCM2kAvgQ:     31   31    31  211    0   35    77  123     0     0  562  562
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

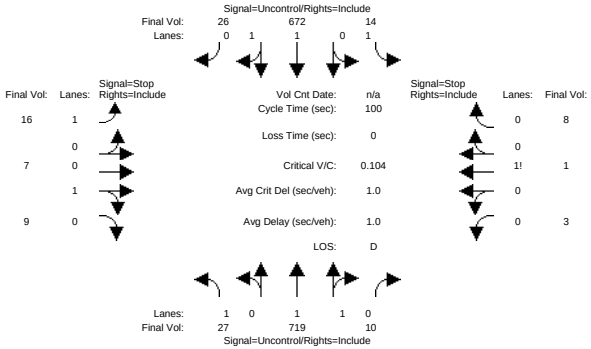



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10   10     7   10     0     0   10   10
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0   4.0  4.0   4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8   11    25  349    0   37    88  470     0     0  386  312
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
Initial Bse:    8   11    25  349    0   37    88  470     0     0  386  312
Added Vol:      0    0     0    1    0    0     0   21     0     0   11    0
PasserByVol:    0    0     0    0    0    0     0    0     0     0    0    0
Initial Fut:    8   11    25  350    0   37    88  491     0     0  397  312
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
PHF Volume:     8   11    25  350    0   37    88  491     0     0  397  312
Reduct Vol:     0    0     0    0    0    0     0    0     0     0    0    0
Reduced Vol:    8   11    25  350    0   37    88  491     0     0  397  312
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
FinalVolume:    8   11    25  350    0   37    88  491     0     0  397  312
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900  1900 1900  1900  1900 1900 1900
Adjustment:  0.91 0.91  0.91 0.95 1.00 0.85  0.95 1.00  1.00  1.00 0.94 0.94
Lanes:       0.18 0.25  0.57 1.00 0.00 1.00  1.00 1.00  0.00  0.00 0.56 0.44
Final Sat.:   316  434   987 1805    0 1615  1805 1900     0     0 1001  787
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.03  0.03 0.19 0.00 0.02  0.05 0.26  0.00  0.00 0.40 0.40
Crit Moves:  ****             ****             ****                 ****
Green/Cycle: 0.11 0.11  0.11 0.23 0.00 0.23  0.07 0.54  0.00  0.00 0.47 0.47
Volume/Cap:  0.24 0.24  0.24 0.85 0.00 0.10  0.66 0.48  0.00  0.00 0.85 0.85
Delay/Veh:   39.7 39.7  39.7 50.4  0.0 29.1  54.6 13.9   0.0   0.0 30.7 30.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
AdjDel/Veh:  39.7 39.7  39.7 50.4  0.0 29.1  54.6 13.9   0.0   0.0 30.7 30.7
LOS by Move:    D    D     D    D    A    C     D    B     A     A    C    C
HCM2kAvgQ:     34   34    34  316    0   22    95  223     0     0  445  445
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      27  525    10    14  457    26    16    7     9     3    1     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   27  525    10    14  457    26    16    7     9     3    1     8
Added Vol:      0  194     0     0  215     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   27  719    10    14  672    26    16    7     9     3    1     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    27  719    10    14  672    26    16    7     9     3    1     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   27  719    10    14  672    26    16    7     9     3    1     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  698 xxxx xxxxx   729 xxxx xxxxx  1127 1496   349  1146 1504   365
Potent Cap.:  908 xxxx xxxxx   884 xxxx xxxxx   162  124   653   157  123   638
Move Cap.:    908 xxxx xxxxx   884 xxxx xxxxx   153  118   653   143  117   638
Volume/Cap:  0.03 xxxx  xxxx  0.02 xxxx  xxxx  0.10 0.06  0.01  0.02 0.01  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.3 xxxx xxxxx   1.2 xxxx xxxxx   8.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.1 xxxx xxxxx   9.1 xxxx xxxxx  31.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     D    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   219  xxxx  285 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   0.2 xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  22.7 xxxxx 18.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     C     *    C     *
ApproachDel:    xxxxxx           xxxxxx             27.0            18.2
ApproachLOS:         *                *                D               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   27  719    10    14  672    26    16    7     9     3    1     8
ApproachDel:    xxxxxx           xxxxxx             27.0            18.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1512]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1512]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

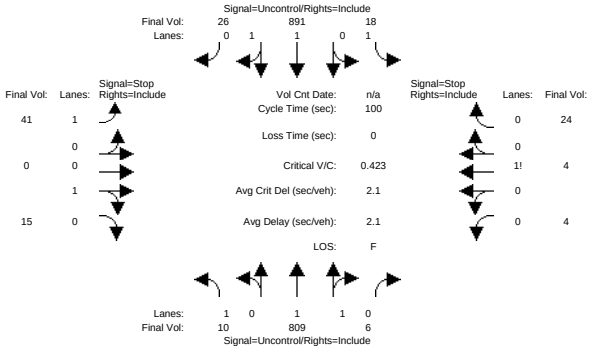
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   27  719    10    14  672    26    16    7     9     3    1     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1468
Minor Approach Volume:           32
Minor Approach Volume Threshold: 209
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10  594     6    18  697    26    41    0    15     4    4    24
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   10  594     6    18  697    26    41    0    15     4    4    24
Added Vol:      0  215     0     0  194     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   10  809     6    18  891    26    41    0    15     4    4    24
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    10  809     6    18  891    26    41    0    15     4    4    24
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   10  809     6    18  891    26    41    0    15     4    4    24
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  917 xxxx xxxxx   815 xxxx xxxxx  1367 1775   459  1314 1785   408
Potent Cap.:  752 xxxx xxxxx   821 xxxx xxxxx   108   84   555   118   82   599
Move Cap.:    752 xxxx xxxxx   821 xxxx xxxxx    97   81   555   112   80   599
Volume/Cap:  0.01 xxxx  xxxx  0.02 xxxx  xxxx  0.42 0.00  0.03  0.04 0.05  0.04
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.0 xxxx xxxxx   1.7 xxxx xxxxx  43.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.9 xxxx xxxxx   9.5 xxxx xxxxx  67.0 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     F    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   555  xxxx  254 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   0.1 xxxxx  0.4 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  11.7 xxxxx 21.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     B     *    C     *
ApproachDel:    xxxxxx           xxxxxx             52.2            21.2
ApproachLOS:         *                *                F               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   10  809     6    18  891    26    41    0    15     4    4    24
ApproachDel:    xxxxxx           xxxxxx             52.2            21.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1848]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1848]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

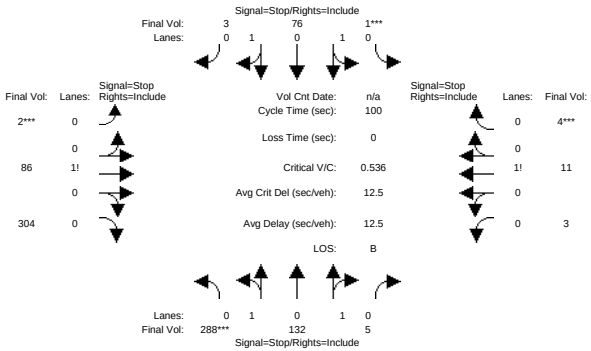
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   10  809     6    18  891    26    41    0    15     4    4    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1760
Minor Approach Volume:           56
Minor Approach Volume Threshold: 131 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     280  129     5     1   75     3     2   86   293     3   11     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  280  129     5     1   75     3     2   86   293     3   11     4
Added Vol:      8    3     0     0    1     0     0    0    11     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  288  132     5     1   76     3     2   86   304     3   11     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   288  132     5     1   76     3     2   86   304     3   11     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  288  132     5     1   76     3     2   86   304     3   11     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  288  132     5     1   76     3     2   86   304     3   11     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.98  0.02  0.02 1.90  0.08  0.01 0.22  0.77  0.17 0.61  0.22
Final Sat.:   573  609    15    14 1057    42     4  161   567    97  356   129
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.50 0.22  0.34  0.07 0.07  0.07  0.54 0.54  0.54  0.03 0.03  0.03
Crit Moves:  ****             ****             ****                            ****
Delay/Veh:   14.5  9.8   9.8   9.2  9.2   9.1  12.7 12.7  12.7   8.8  8.8   8.8
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  14.5  9.8   9.8   9.2  9.2   9.1  12.7 12.7  12.7   8.8  8.8   8.8
LOS by Move:    B    A     A     A    A     A     B    B     B     A    A     A
ApproachDel:      13.0              9.2             12.7              8.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       13.0              9.2             12.7              8.8
LOS by Appr:         B                A                B                A
AllWayAvgQ:  22.7  6.5   6.5   1.7  1.7   1.7  25.3 25.3  25.3   0.7  0.7   0.7
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
```



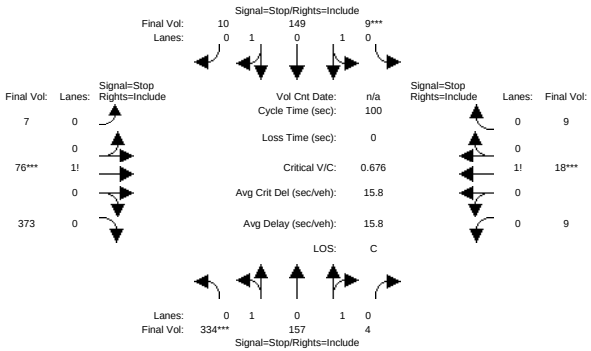
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  288  132     5    1   76     3    2   86   304    3   11     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             505
Minor Approach Volume:           392
Minor Approach Volume Threshold: 520
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     329  156     4     9  146    10     7   76   358     9   18     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  329  156     4     9  146    10     7   76   358     9   18     9
Added Vol:      5    1     0     0    3     0     0    0    15     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  334  157     4     9  149    10     7   76   373     9   18     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   334  157     4     9  149    10     7   76   373     9   18     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  334  157     4     9  149    10     7   76   373     9   18     9
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  334  157     4     9  149    10     7   76   373     9   18     9
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.98  0.02  0.11 1.77  0.12  0.01 0.17  0.82  0.25 0.50  0.25
Final Sat.:   535  569     9    55  914    62    10  112   552   127  254   127
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.62 0.28  0.43  0.16 0.16  0.16  0.68 0.68  0.68  0.07 0.07  0.07
Crit Moves:  ****             ****                   ****              ****
Delay/Veh:   19.0 11.0  11.0  10.5 10.4  10.3  17.6 17.6  17.6   9.8  9.8   9.8
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  19.0 11.0  11.0  10.5 10.4  10.3  17.6 17.6  17.6   9.8  9.8   9.8
LOS by Move:    C    B     B     B    B     B     C    C     C     A    A     A
ApproachDel:      16.4             10.4             17.6              9.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       16.4             10.4             17.6              9.8
LOS by Appr:         C                B                C                A
AllWayAvgQ:  36.2  9.0   9.0   4.3  4.1   4.1  43.9 43.9  43.9   1.5  1.5   1.5
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  334  157     4     9  149    10     7   76   373     9   18     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             663
Minor Approach Volume:           456
Minor Approach Volume Threshold: 426
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

HEAVY MANTENANCE FACILITY ANALYSIS - CASTLE COMMERCE

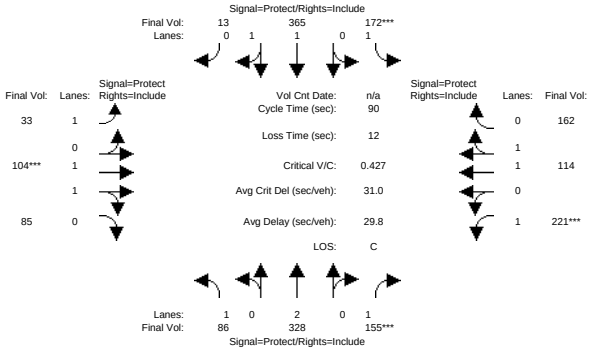
EXISTING WITH PROJECT_OPTION-B CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #1: Winton Wy/Bellevue Rd



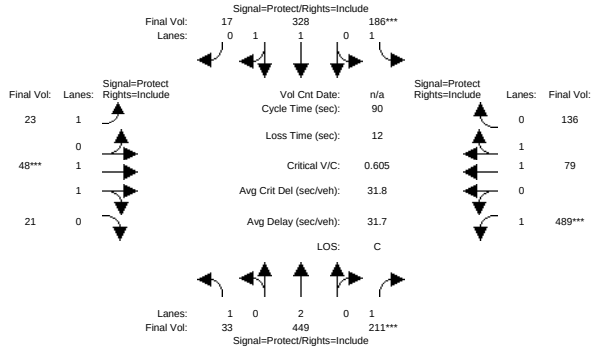
Street Name:	N. Winton Way						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	328	80	172	365	13	33	104	85	73	114	162
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	328	80	172	365	13	33	104	85	73	114	162
Added Vol:	0	0	75	0	0	0	0	0	0	148	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	86	328	155	172	365	13	33	104	85	221	114	162
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	328	155	172	365	13	33	104	85	221	114	162
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	328	155	172	365	13	33	104	85	221	114	162
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	328	155	172	365	13	33	104	85	221	114	162
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.95	0.95	0.89	0.89	0.95	0.87	0.87
Lanes:	1.00	2.00	1.00	1.00	1.93	0.07	1.00	1.10	0.90	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3468	124	1805	1853	1515	1805	1646	1646
Capacity Analysis Module:												
Vol/Sat:	0.05	0.09	0.10	0.10	0.11	0.11	0.02	0.06	0.06	0.12	0.07	0.10
Crit Moves:			****	****				****		****		
Green/Cycle:	0.18	0.22	0.22	0.22	0.26	0.26	0.17	0.13	0.13	0.29	0.25	0.25
Volume/Cap:	0.26	0.40	0.43	0.43	0.40	0.40	0.11	0.43	0.43	0.43	0.28	0.40
Delay/Veh:	31.8	30.1	30.7	30.7	27.5	27.5	31.6	36.6	36.6	26.6	27.6	28.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.8	30.1	30.7	30.7	27.5	27.5	31.6	36.6	36.6	26.6	27.6	28.7
LOS by Move:	C	C	C	C	C	C	C	D	D	C	C	C
HCM2kAvgQ:	2	4	4	4	5	5	1	3	3	5	3	4

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #1: Winton Wy/Bellevue Rd



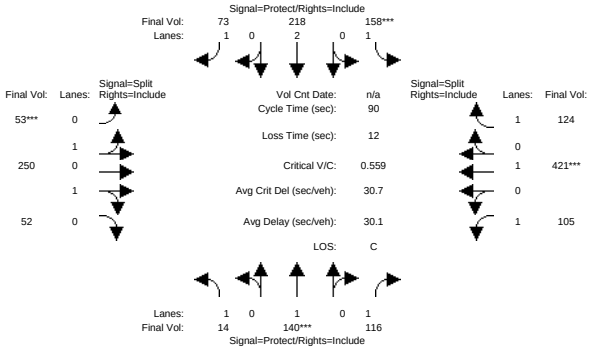
Street Name:	N. Winton Way						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	33	449	169	186	328	17	23	48	21	227	79	136
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	449	169	186	328	17	23	48	21	227	79	136
Added Vol:	0	0	42	0	0	0	0	0	0	262	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	449	211	186	328	17	23	48	21	489	79	136
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	33	449	211	186	328	17	23	48	21	489	79	136
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	449	211	186	328	17	23	48	21	489	79	136
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	33	449	211	186	328	17	23	48	21	489	79	136
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.94	0.94	0.95	0.91	0.91	0.95	0.86	0.86
Lanes:	1.00	2.00	1.00	1.00	1.90	0.10	1.00	1.39	0.61	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3408	177	1805	2396	1048	1805	1634	1634
Capacity Analysis Module:												
Vol/Sat:	0.02	0.12	0.13	0.10	0.10	0.10	0.01	0.02	0.02	0.27	0.05	0.08
Crit Moves:			****	****				****		****		
Green/Cycle:	0.14	0.20	0.20	0.15	0.21	0.21	0.21	0.11	0.11	0.41	0.30	0.30
Volume/Cap:	0.13	0.64	0.67	0.67	0.47	0.47	0.06	0.18	0.18	0.67	0.16	0.27
Delay/Veh:	33.8	35.2	38.9	42.0	31.9	31.9	28.3	36.5	36.5	24.2	23.0	24.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.8	35.2	38.9	42.0	31.9	31.9	28.3	36.5	36.5	24.2	23.0	24.0
LOS by Move:	C	D	D	D	C	C	C	D	D	C	C	C
HCM2kAvgQ:	1	7	7	6	5	5	1	1	1	12	2	3

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #2: Atwater Blvd / Applegate Rd



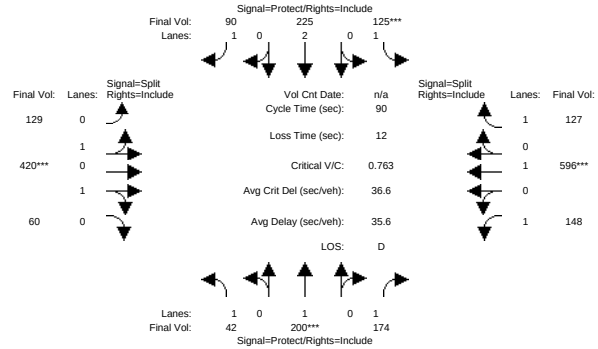
Street Name:	Atwater Boulevard									Applegate Road-Winton Way								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	14		140		116	158		218		73	53		175		52	105		273		124
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	14		140		116	158		218		73	53		175		52	105		273		124
Added Vol:	0		0		0	0		0		0	0		75		0	0		148		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	14		140		116	158		218		73	53		250		52	105		421		124
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	14		140		116	158		218		73	53		250		52	105		421		124
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	14		140		116	158		218		73	53		250		52	105		421		124
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	14		140		116	158		218		73	53		250		52	105		421		124
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.95		0.85	0.92		0.92		0.92	0.95		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		2.00		1.00	0.30		1.41		0.29	1.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		3610		1615	523		2469		514	1805		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.01		0.07		0.07	0.09		0.06		0.05	0.10		0.10		0.10	0.06		0.22		0.08
Crit Moves:			****			****					****							****		
Green/Cycle:	0.12		0.13		0.13	0.16		0.17		0.17	0.18		0.18		0.18	0.40		0.40		0.40
Volume/Cap:	0.07		0.56		0.54	0.56		0.36		0.27	0.56		0.56		0.56	0.15		0.56		0.19
Delay/Veh:	35.3		39.4		39.4	37.6		33.4		33.0	34.7		34.7		34.7	17.5		22.0		17.9
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	35.3		39.4		39.4	37.6		33.4		33.0	34.7		34.7		34.7	17.5		22.0		17.9
LOS by Move:	D		D		D	D		C		C	C		C		C	B		C		B
HCM2kAvgQ:	0		4		4	5		3		2	5		5		5	2		9		2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #2: Atwater Blvd / Applegate Rd



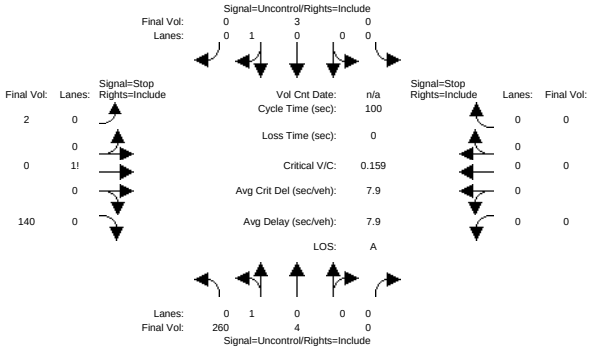
Street Name:	Atwater Boulevard									Applegate Road-Winton Way								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	42		200		174	125		225		90	129		378		60	148		334		127
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	42		200		174	125		225		90	129		378		60	148		334		127
Added Vol:	0		0		0	0		0		0	0		42		0	0		262		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	42		200		174	125		225		90	129		420		60	148		596		127
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	42		200		174	125		225		90	129		420		60	148		596		127
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	42		200		174	125		225		90	129		420		60	148		596		127
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	42		200		174	125		225		90	129		420		60	148		596		127
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.95		0.85	0.93		0.93		0.93	0.95		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		2.00		1.00	0.42		1.38		0.20	1.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		3610		1615	746		2428		347	1805		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.02		0.11		0.11	0.07		0.06		0.06	0.17		0.17		0.17	0.08		0.31		0.08
Crit Moves:			****			****							****					****		
Green/Cycle:	0.09		0.14		0.14	0.09		0.13		0.13	0.23		0.23		0.23	0.41		0.41		0.41
Volume/Cap:	0.25		0.76		0.78	0.76		0.46		0.41	0.76		0.76		0.76	0.20		0.76		0.19
Delay/Veh:	38.6		49.8		53.6	58.8		36.6		37.0	36.9		36.9		36.9	17.1		27.2		17.1
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	38.6		49.8		53.6	58.8		36.6		37.0	36.9		36.9		36.9	17.1		27.2		17.1
LOS by Move:	D		D		D	E		D		D	D		D		D	B		C		B
HCM2kAvgQ:	1		7		7	5		4		3	8		8		8	3		16		2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #3: Sycamore Ave / SR-99 NB Ramps




```
Street Name:         Sycamore Avenue                    SR-99 NB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     228    4     0     0    3     0     2    0   140     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  228    4     0     0    3     0     2    0   140     0    0     0
Added Vol:     32    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  260    4     0     0    3     0     2    0   140     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   260    4     0     0    3     0     2    0   140     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  260    4     0     0    3     0     2    0   140     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:    3 xxxx xxxxx  xxxx xxxx xxxxx   527  527     3  xxxx xxxx xxxxx
Potent Cap.: 1632 xxxx xxxxx  xxxx xxxx xxxxx   515  459  1087  xxxx xxxx xxxxx
Move Cap.:   1632 xxxx xxxxx  xxxx xxxx xxxxx   441  374  1087  xxxx xxxx xxxxx
Volume/Cap:  0.16 xxxx  xxxx  xxxx xxxx  xxxx  0.00 0.00  0.13  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.6 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 1065 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.5 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  8.9 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx               8.9           xxxxxx
ApproachLOS:         *                *                 A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  260    4     0     0    3     0     2    0   140     0    0     0
ApproachDel:    xxxxxx           xxxxxx               8.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=142]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=409]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

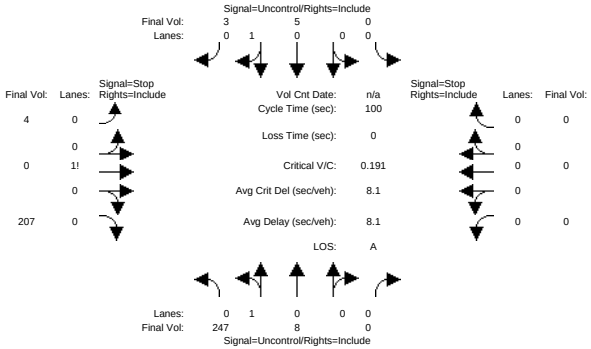
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  260    4     0     0    3     0     2    0   140     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             267
Minor Approach Volume:           142
Minor Approach Volume Threshold: 572
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #3: Sycamore Ave / SR-99 NB Ramps




```
Street Name:         Sycamore Avenue                    SR-99 NB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     191    8     0     0    5     3     4    0   207     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  191    8     0     0    5     3     4    0   207     0    0     0
Added Vol:     56    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  247    8     0     0    5     3     4    0   207     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   247    8     0     0    5     3     4    0   207     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  247    8     0     0    5     3     4    0   207     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:    8 xxxx xxxxx  xxxx xxxx xxxxx   509  509     7  xxxx xxxx xxxxx
Potent Cap.: 1625 xxxx xxxxx  xxxx xxxx xxxxx   528  470  1082  xxxx xxxx xxxxx
Move Cap.:   1625 xxxx xxxxx  xxxx xxxx xxxxx   456  388  1082  xxxx xxxx xxxxx
Volume/Cap:  0.15 xxxx  xxxx  xxxx xxxx  xxxx  0.01 0.00  0.19  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.5 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 1055 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.7 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.3 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              9.3           xxxxxx
ApproachLOS:         *                *               A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  247    8     0     0    5     3     4    0   207     0    0     0
ApproachDel:    xxxxxx           xxxxxx              9.3           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=211]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=474]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

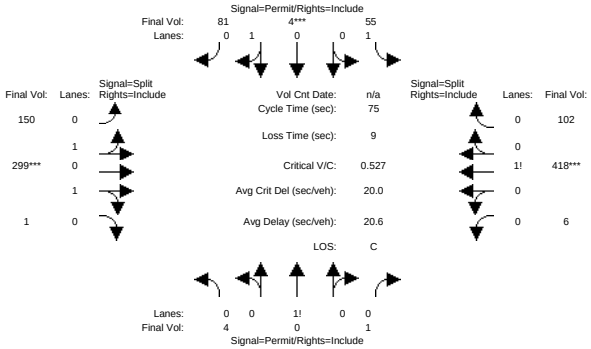
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  247    8     0     0    5     3     4    0   207     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             263
Minor Approach Volume:           211
Minor Approach Volume Threshold: 576
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #4: Sycamore Ave / Applegate Rd



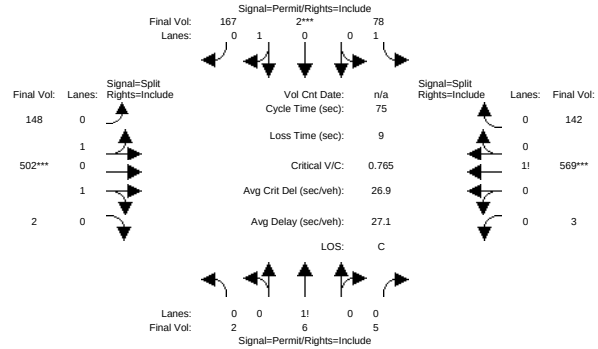
Street Name:	Sycamore Avenue												Applegate Road											
Approach:	North Bound				South Bound				East Bound				West Bound											
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																									
Base Vol:	4		0		1	55		4		81	150		224		1	6		302		70					
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
Initial Bse:	4		0		1	55		4		81	150		224		1	6		302		70					
Added Vol:	0		0		0	0		0		0	0		75		0	0		116		32					
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0					
Initial Fut:	4		0		1	55		4		81	150		299		1	6		418		102					
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Volume:	4		0		1	55		4		81	150		299		1	6		418		102					
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0					
Reduced Vol:	4		0		1	55		4		81	150		299		1	6		418		102					
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
FinalVolume:	4		0		1	55		4		81	150		299		1	6		418		102					
Saturation Flow Module:																									
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900					
Adjustment:	0.81		1.00		0.81	0.77		0.86		0.86	0.93		0.93		0.93	0.97		0.97		0.97					
Lanes:	0.80		0.00		0.20	1.00		0.05		0.95	0.66		1.33		0.01	0.01		0.80		0.19					
Final Sat.:	1238		0		309	1471		77		1552	1184		2360		8	21		1469		359					
Capacity Analysis Module:																									
Vol/Sat:	0.00		0.00		0.00	0.04		0.05		0.05	0.13		0.13		0.13	0.28		0.28		0.28					
Crit Moves:								****					****					****							
Green/Cycle:	0.13		0.00		0.13	0.13		0.13		0.13	0.23		0.23		0.23	0.52		0.52		0.52					
Volume/Cap:	0.02		0.00		0.02	0.28		0.39		0.39	0.55		0.55		0.55	0.55		0.55		0.55					
Delay/Veh:	28.3		0.0		28.3	30.0		30.9		30.9	26.3		26.3		26.3	12.9		12.9		12.9					
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
AdjDel/Veh:	28.3		0.0		28.3	30.0		30.9		30.9	26.3		26.3		26.3	12.9		12.9		12.9					
LOS by Move:	C		A		C	C		C		C	C		C		C	B		B		B					
HCM2kAvgQ:	0		0		0	1		2		2	5		5		5	8		8		8					

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #4: Sycamore Ave / Applegate Rd



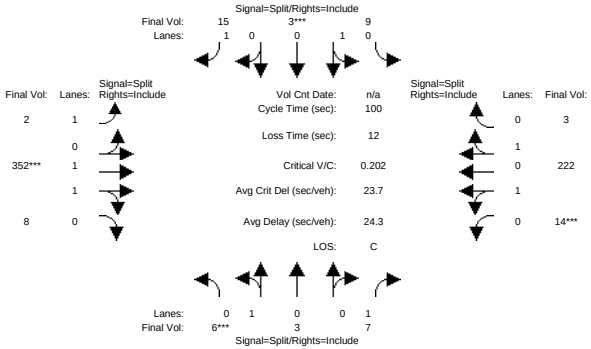
Street Name:	Sycamore Avenue												Applegate Road											
Approach:	North Bound				South Bound				East Bound				West Bound											
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																									
Base Vol:	2		6		5	78		2		167	148		460		2	3		363		86					
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
Initial Bse:	2		6		5	78		2		167	148		460		2	3		363		86					
Added Vol:	0		0		0	0		0		0	0		42		0	0		206		56					
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0					
Initial Fut:	2		6		5	78		2		167	148		502		2	3		569		142					
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Volume:	2		6		5	78		2		167	148		502		2	3		569		142					
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0					
Reduced Vol:	2		6		5	78		2		167	148		502		2	3		569		142					
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
FinalVolume:	2		6		5	78		2		167	148		502		2	3		569		142					
Saturation Flow Module:																									
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900					
Adjustment:	0.91		0.91		0.91	0.76		0.85		0.85	0.94		0.94		0.94	0.97		0.97		0.97					
Lanes:	0.15		0.47		0.38	1.00		0.01		0.99	0.45		1.54		0.01	0.01		0.79		0.20					
Final Sat.:	265		795		662	1440		19		1600	810		2749		11	8		1473		368					
Capacity Analysis Module:																									
Vol/Sat:	0.01		0.01		0.01	0.05		0.10		0.10	0.18		0.18		0.18	0.39		0.39		0.39					
Crit Moves:								****					****					****							
Green/Cycle:	0.14		0.14		0.14	0.14		0.14		0.14	0.24		0.24		0.24	0.50		0.50		0.50					
Volume/Cap:	0.06		0.06		0.06	0.40		0.77		0.77	0.77		0.77		0.77	0.77		0.77		0.77					
Delay/Veh:	28.3		28.3		28.3	30.9		45.9		45.9	30.8		30.8		30.8	18.8		18.8		18.8					
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
AdjDel/Veh:	28.3		28.3		28.3	30.9		45.9		45.9	30.8		30.8		30.8	18.8		18.8		18.8					
LOS by Move:	C		C		C	C		D		D	C		C		C	B		B		B					
HCM2kAvgQ:	0		0		0	2		6		6	8		8		8	13		13		13					

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #5: Bell Ln-Mall Access / SR-99 SB Ramps



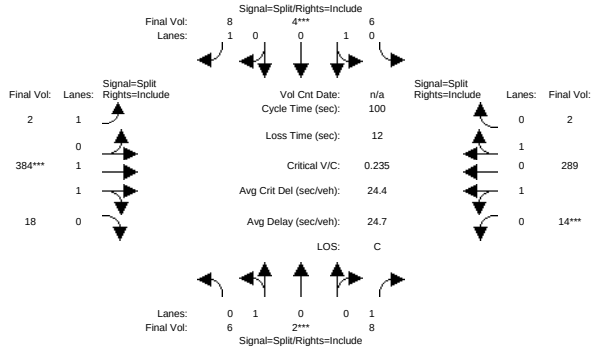
Street Name:	Bell Ln-Mall Access												SR-99 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	6	3	7	9	3	15	2	246	8	14	166	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	3	7	9	3	15	2	246	8	14	166	3
Added Vol:	0	0	0	0	0	0	0	106	0	0	56	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	3	7	9	3	15	2	352	8	14	222	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	3	7	9	3	15	2	352	8	14	222	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	3	7	9	3	15	2	352	8	14	222	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	3	7	9	3	15	2	352	8	14	222	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.96	0.96	0.85	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.67	0.33	1.00	0.75	0.25	1.00	1.00	1.96	0.04	0.12	1.86	0.02
Final Sat.:	1226	613	1615	1374	458	1615	1805	3519	80	210	3336	45
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.10	0.10	0.07	0.07	0.07
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.10	0.10	0.10	0.10	0.10	0.41	0.41	0.41	0.27	0.27	0.27
Volume/Cap:	0.05	0.05	0.04	0.07	0.07	0.09	0.00	0.24	0.24	0.24	0.24	0.24
Delay/Veh:	40.8	40.8	40.8	40.9	40.9	41.1	17.5	19.5	19.5	28.5	28.5	28.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.8	40.8	40.8	40.9	40.9	41.1	17.5	19.5	19.5	28.5	28.5	28.5
LOS by Move:	D	D	D	D	D	D	B	B	B	C	C	C
HCM2kAvgQ:	0	0	0	0	0	0	0	4	4	3	3	3

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #5: Bell Ln-Mall Access / SR-99 SB Ramps



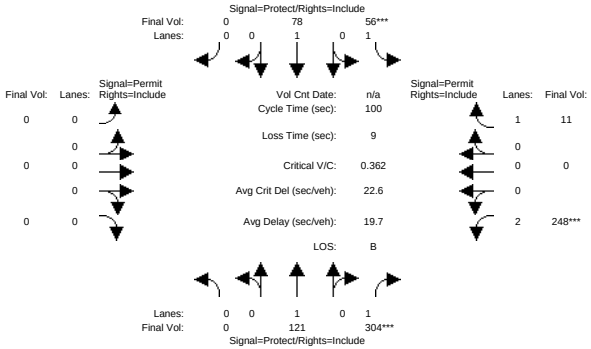
Street Name:	Bell Ln-Mall Access												SR-99 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	6	2	8	6	4	8	2	197	18	14	257	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	2	8	6	4	8	2	197	18	14	257	2
Added Vol:	0	0	0	0	0	0	0	187	0	0	32	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	2	8	6	4	8	2	384	18	14	289	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	2	8	6	4	8	2	384	18	14	289	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	2	8	6	4	8	2	384	18	14	289	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	2	8	6	4	8	2	384	18	14	289	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.96	0.96	0.85	0.97	0.97	0.85	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.75	0.25	1.00	0.60	0.40	1.00	1.00	1.91	0.09	0.09	1.90	0.01
Final Sat.:	1374	458	1615	1107	738	1615	1805	3424	161	165	3410	24
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.11	0.11	0.08	0.08	0.08
Crit Moves:		****			****			****		****		
Green/Cycle:	0.10	0.10	0.10	0.10	0.10	0.10	0.39	0.39	0.39	0.29	0.29	0.29
Volume/Cap:	0.04	0.04	0.05	0.05	0.05	0.05	0.00	0.29	0.29	0.29	0.29	0.29
Delay/Veh:	40.8	40.8	40.8	40.8	40.8	40.8	18.8	21.3	21.3	27.5	27.5	27.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.8	40.8	40.8	40.8	40.8	40.8	18.8	21.3	21.3	27.5	27.5	27.5
LOS by Move:	D	D	D	D	D	D	B	C	C	C	C	C
HCM2kAvgQ:	0	0	0	0	0	0	0	4	4	4	4	4

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #6: Bell Dr/Bell Ln

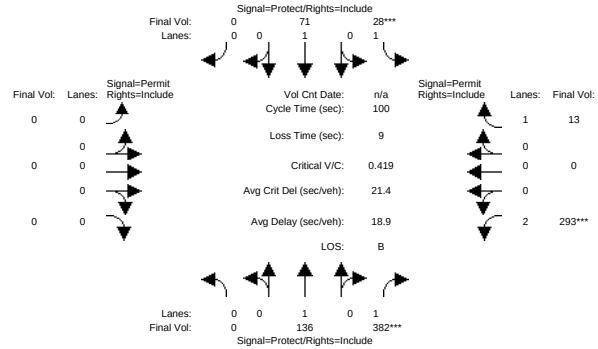



```
Street Name:             Bell Dr                    Bell Ln-SR99 SB Ramp Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  121   198    56   78     0     0    0     0   192    0    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  121   198    56   78     0     0    0     0   192    0    11
Added Vol:      0    0   106     0    0     0     0    0     0    56    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  121   304    56   78     0     0    0     0   248    0    11
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  121   304    56   78     0     0    0     0   248    0    11
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  121   304    56   78     0     0    0     0   248    0    11
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  121   304    56   78     0     0    0     0   248    0    11
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  0.85  0.95 1.00  1.00  1.00 1.00  1.00  0.59 1.00  0.85
Lanes:       0.00 1.00  1.00  1.00 1.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 1900  1615  1805 1900     0     0    0     0  2260    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.06  0.19  0.03 0.04  0.00  0.00 0.00  0.00  0.11 0.00  0.01
Crit Moves:               ****  ****                            ****
Green/Cycle: 0.00 0.52  0.52  0.09 0.61  0.00  0.00 0.00  0.00  0.30 0.00  0.30
Volume/Cap:  0.00 0.12  0.36  0.36 0.07  0.00  0.00 0.00  0.00  0.36 0.00  0.02
Delay/Veh:    0.0 12.3  14.4  44.6  8.1   0.0   0.0  0.0   0.0  27.6  0.0  24.4
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 12.3  14.4  44.6  8.1   0.0   0.0  0.0   0.0  27.6  0.0  24.4
LOS by Move:    A    B     B     D    A     A     A    A     A     C    A     C
HCM2kAvgQ:      0    2     5     2    1     0     0    0     0     3    0     0
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #6: Bell Dr/Bell Ln

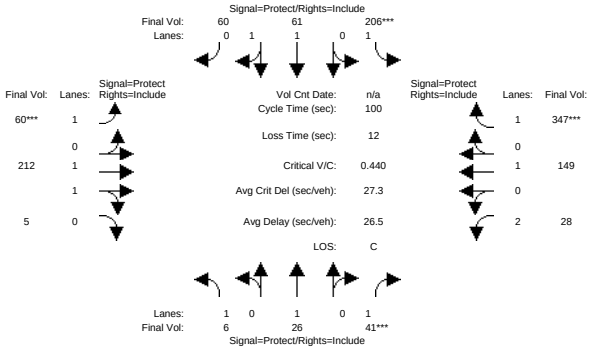



```
Street Name:             Bell Dr                    Bell Ln-SR99 SB Ramp Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  136   195    28   71     0     0    0     0   261    0    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  136   195    28   71     0     0    0     0   261    0    13
Added Vol:      0    0   187     0    0     0     0    0     0    32    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  136   382    28   71     0     0    0     0   293    0    13
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  136   382    28   71     0     0    0     0   293    0    13
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  136   382    28   71     0     0    0     0   293    0    13
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  136   382    28   71     0     0    0     0   293    0    13
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  0.85  0.95 1.00  1.00  1.00 1.00  1.00  0.59 1.00  0.85
Lanes:       0.00 1.00  1.00  1.00 1.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 1900  1615  1805 1900     0     0    0     0  2260    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.07  0.24  0.02 0.04  0.00  0.00 0.00  0.00  0.13 0.00  0.01
Crit Moves:               ****  ****                            ****
Green/Cycle: 0.00 0.54  0.54  0.07 0.61  0.00  0.00 0.00  0.00  0.30 0.00  0.30
Volume/Cap:  0.00 0.13  0.44  0.22 0.06  0.00  0.00 0.00  0.00  0.44 0.00  0.03
Delay/Veh:    0.0 11.3  14.1  44.8  7.8   0.0   0.0  0.0   0.0  28.8  0.0  24.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 11.3  14.1  44.8  7.8   0.0   0.0  0.0   0.0  28.8  0.0  24.9
LOS by Move:    A    B     B     D    A     A     A    A     A     C    A     C
HCM2kAvgQ:      0    2     7     1    1     0     0    0     0     4    0     0
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #7: Bel Dr-Commerce / Applegate Rd



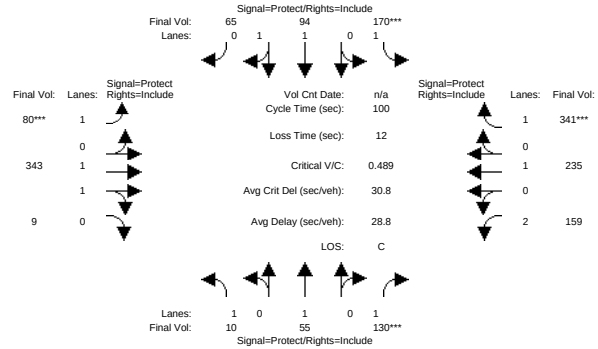
Street Name:	Bell Dr-Commerce						Applegate Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	6	26	41	150	61	60	60	193	5	28	138	241
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	26	41	150	61	60	60	193	5	28	138	241
Added Vol:	0	0	0	56	0	0	0	19	0	0	11	106
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	26	41	206	61	60	60	212	5	28	149	347
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	26	41	206	61	60	60	212	5	28	149	347
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	26	41	206	61	60	60	212	5	28	149	347
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	26	41	206	61	60	60	212	5	28	149	347
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.88	0.88	0.95	0.95	0.95	0.92	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.01	0.99	1.00	1.95	0.05	2.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	1685	1658	1805	3516	83	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.03	0.11	0.04	0.04	0.03	0.06	0.06	0.01	0.08	0.21
Crit Moves:			****	****			****					****
Green/Cycle:	0.14	0.10	0.10	0.25	0.20	0.20	0.07	0.31	0.31	0.22	0.46	0.46
Volume/Cap:	0.02	0.14	0.25	0.46	0.18	0.18	0.46	0.19	0.19	0.04	0.17	0.46
Delay/Veh:	36.9	41.4	42.4	32.9	33.0	33.0	47.2	25.1	25.1	30.7	15.8	18.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.9	41.4	42.4	32.9	33.0	33.0	47.2	25.1	25.1	30.7	15.8	18.8
LOS by Move:	D	D	D	C	C	C	D	C	C	C	B	B
HCM2kAvgQ:	0	1	1	5	2	2	2	3	3	0	3	7

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #7: Bel Dr-Commerce / Applegate Rd



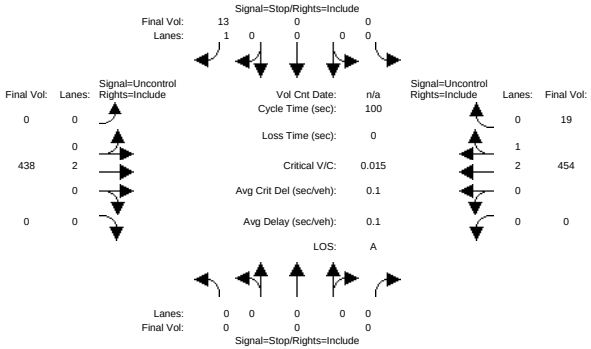
Street Name:	Bell Dr-Commerce						Applegate Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	55	130	138	94	65	80	332	9	159	216	154
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	55	130	138	94	65	80	332	9	159	216	154
Added Vol:	0	0	0	32	0	0	0	11	0	0	19	187
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	55	130	170	94	65	80	343	9	159	235	341
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	55	130	170	94	65	80	343	9	159	235	341
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	55	130	170	94	65	80	343	9	159	235	341
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	55	130	170	94	65	80	343	9	159	235	341
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.89	0.89	0.95	0.95	0.95	0.92	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.18	0.82	1.00	1.95	0.05	2.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	2004	1386	1805	3504	92	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.08	0.09	0.05	0.05	0.04	0.10	0.10	0.05	0.12	0.21
Crit Moves:			****	****			****					****
Green/Cycle:	0.15	0.16	0.16	0.19	0.21	0.21	0.09	0.31	0.31	0.22	0.43	0.43
Volume/Cap:	0.04	0.18	0.49	0.49	0.22	0.22	0.49	0.32	0.32	0.21	0.29	0.49
Delay/Veh:	36.6	36.2	39.4	37.1	32.9	32.9	45.6	26.8	26.8	32.4	18.6	21.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.6	36.2	39.4	37.1	32.9	32.9	45.6	26.8	26.8	32.4	18.6	21.0
LOS by Move:	D	D	D	D	C	C	D	C	C	C	B	C
HCM2kAvgQ:	0	2	4	5	2	2	3	4	4	2	4	7

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #8: Mall Access / Applegate Rd




```
Street Name:            Mall Access                     Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0    13     0  363     0     0  338    19
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0    13     0  363     0     0  338    19
Added Vol:      0    0     0     0    0     0     0   75     0     0  116     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0    13     0  438     0     0  454    19
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0    13     0  438     0     0  454    19
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0    13     0  438     0     0  454    19
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   161  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   862  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   862  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx   9.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     A     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx              9.2           xxxxxx           xxxxxx
ApproachLOS:         *                A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    13     0  438     0     0  454    19
ApproachDel:    xxxxxx              9.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=13]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=924]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

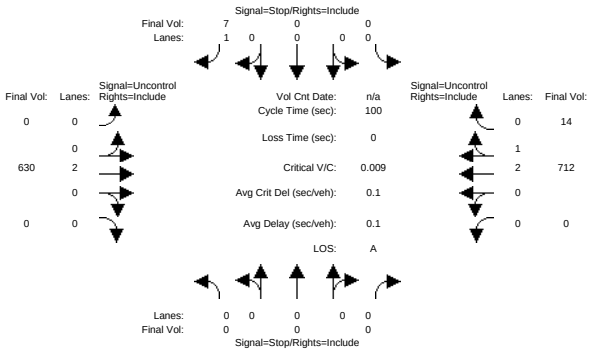
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    13     0  438     0     0  454    19
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             911
Minor Approach Volume:           13
Minor Approach Volume Threshold: 317
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #8: Mall Access / Applegate Rd




```
Street Name:            Mall Access                     Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0     7     0  588     0     0  506    14
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0     7     0  588     0     0  506    14
Added Vol:      0    0     0     0    0     0     0   42     0     0  206     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0     7     0  630     0     0  712    14
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0     7     0  630     0     0  712    14
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0     7     0  630     0     0  712    14
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   244  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   762  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   762  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.01  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx   9.8 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     A     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx              9.8           xxxxxx           xxxxxx
ApproachLOS:         *                A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0     7     0  630     0     0  712    14
ApproachDel:    xxxxxx              9.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=7]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1363]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

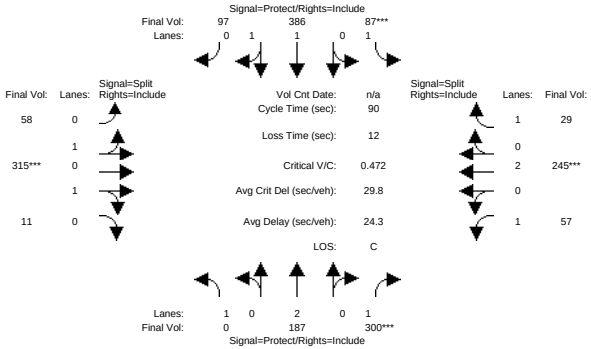
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0     7     0  630     0     0  712    14
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1356
Minor Approach Volume:           7
Minor Approach Volume Threshold: 180
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #9: Santa Fe Dr / Buhach Rd-AirdromeEntry



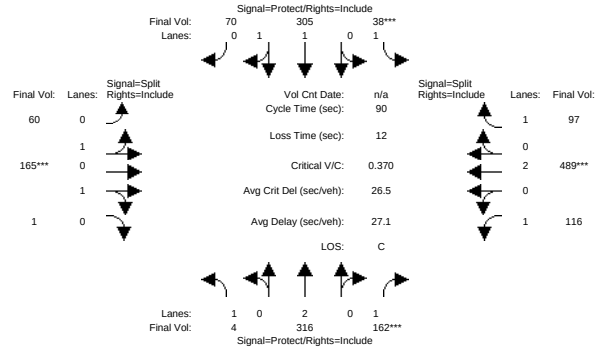
Street Name:	Santa Fe Drive						Buhach Road - Airdrome Entry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	187	43	64	386	97	58	130	11	18	35	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	187	43	64	386	97	58	130	11	18	35	16
Added Vol:	0	0	257	23	0	0	0	185	0	39	210	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	187	300	87	386	97	58	315	11	57	245	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	187	300	87	386	97	58	315	11	57	245	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	187	300	87	386	97	58	315	11	57	245	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	187	300	87	386	97	58	315	11	57	245	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	0.95	0.92	0.92	0.94	0.94	0.94	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	1.60	0.40	0.30	1.64	0.06	1.00	2.00	1.00
Final Sat.:	1900	3610	1615	1805	2798	703	539	2929	102	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.05	0.19	0.05	0.14	0.14	0.11	0.11	0.11	0.03	0.07	0.02
Crit Moves:			****	****				****			****	
Green/Cycle:	0.00	0.39	0.39	0.10	0.50	0.50	0.23	0.23	0.23	0.14	0.14	0.14
Volume/Cap:	0.00	0.13	0.47	0.47	0.28	0.28	0.47	0.47	0.47	0.22	0.47	0.12
Delay/Veh:	0.0	17.5	20.9	40.0	13.4	13.4	30.5	30.5	30.5	34.5	36.1	33.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	17.5	20.9	40.0	13.4	13.4	30.5	30.5	30.5	34.5	36.1	33.8
LOS by Move:	A	B	C	D	B	B	C	C	C	C	D	C
HCM2kAvgQ:	0	2	6	3	4	4	5	5	5	2	4	1

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #9: Santa Fe Dr / Buhach Rd-AirdromeEntry



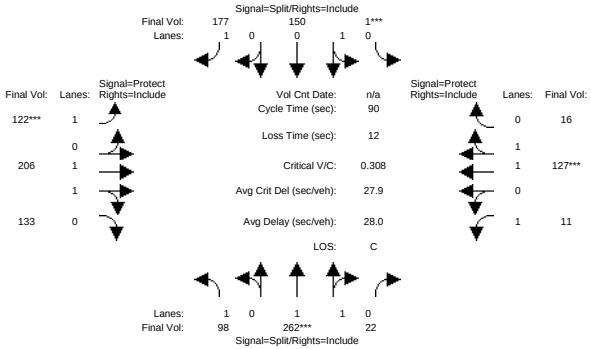
Street Name:	Santa Fe Drive						Buhach Road - Airdrome Entry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	4	316	17	25	305	70	60	60	1	46	116	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	316	17	25	305	70	60	60	1	46	116	74
Added Vol:	0	0	145	13	0	0	0	105	0	70	373	23
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	316	162	38	305	70	60	165	1	116	489	97
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	316	162	38	305	70	60	165	1	116	489	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	316	162	38	305	70	60	165	1	116	489	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	316	162	38	305	70	60	165	1	116	489	97
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.92	0.92	0.94	0.94	0.94	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	1.63	0.37	0.53	1.46	0.01	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	2854	655	945	2599	16	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.10	0.02	0.11	0.11	0.06	0.06	0.06	0.06	0.14	0.06
Crit Moves:			****	****				****			****	
Green/Cycle:	0.14	0.26	0.26	0.08	0.20	0.20	0.17	0.17	0.17	0.36	0.36	0.36
Volume/Cap:	0.02	0.33	0.38	0.27	0.53	0.53	0.38	0.38	0.38	0.18	0.38	0.17
Delay/Veh:	33.3	26.9	27.6	40.1	32.9	32.9	33.7	33.7	33.7	20.0	21.7	19.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.3	26.9	27.6	40.1	32.9	32.9	33.7	33.7	33.7	20.0	21.7	19.9
LOS by Move:	C	C	C	D	C	C	C	C	C	C	C	B
HCM2kAvgQ:	0	4	4	1	5	5	3	3	3	2	5	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #10: Buhach Rd/Bellevue Rd



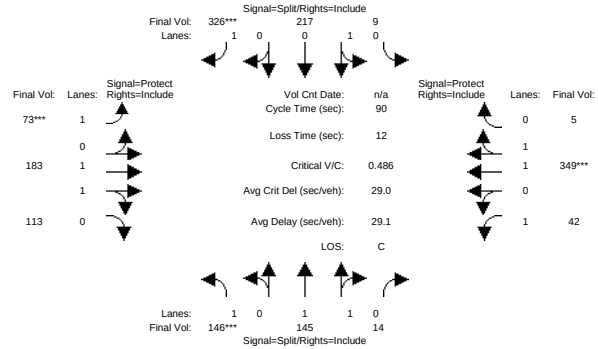
Street Name:	N. Buhach Road						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	98	151	22	1	87	29	47	206	133	11	127	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	151	22	1	87	29	47	206	133	11	127	16
Added Vol:	0	111	0	0	63	148	75	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	262	22	1	150	177	122	206	133	11	127	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	262	22	1	150	177	122	206	133	11	127	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	262	22	1	150	177	122	206	133	11	127	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	262	22	1	150	177	122	206	133	11	127	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	1.00	1.00	0.85	0.95	0.89	0.89	0.95	0.93	0.93
Lanes:	1.00	1.85	0.15	0.01	0.99	1.00	1.00	1.22	0.78	1.00	1.78	0.22
Final Sat.:	1805	3290	276	13	1887	1615	1805	2064	1333	1805	3152	397
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.08	0.08	0.08	0.11	0.07	0.10	0.10	0.01	0.04	0.04
Crit Moves:		****		****			****				****	
Green/Cycle:	0.26	0.26	0.26	0.36	0.36	0.36	0.22	0.21	0.21	0.14	0.13	0.13
Volume/Cap:	0.21	0.31	0.31	0.22	0.22	0.31	0.31	0.48	0.48	0.04	0.31	0.31
Delay/Veh:	26.4	27.1	27.1	20.5	20.5	21.3	29.9	32.0	32.0	33.2	35.8	35.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.4	27.1	27.1	20.5	20.5	21.3	29.9	32.0	32.0	33.2	35.8	35.8
LOS by Move:	C	C	C	C	C	C	C	C	C	C	D	D
HCM2kAvgQ:	2	3	3	3	3	3	3	5	5	0	2	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #10: Buhach Rd/Bellevue Rd



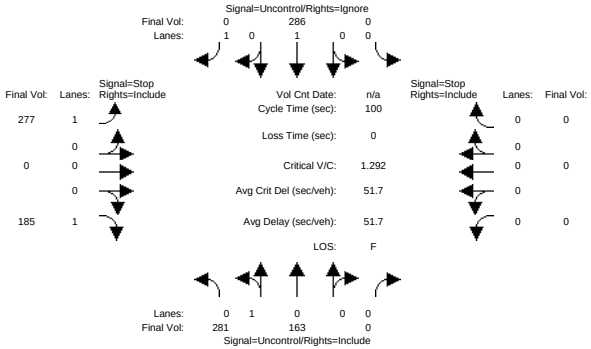
Street Name:	N. Buhach Road						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	146	82	14	9	106	64	31	183	113	42	349	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	146	82	14	9	106	64	31	183	113	42	349	5
Added Vol:	0	63	0	0	111	262	42	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	146	145	14	9	217	326	73	183	113	42	349	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	146	145	14	9	217	326	73	183	113	42	349	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	145	14	9	217	326	73	183	113	42	349	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	145	14	9	217	326	73	183	113	42	349	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	1.00	1.00	0.85	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.82	0.18	0.04	0.96	1.00	1.00	1.24	0.76	1.00	1.97	0.03
Final Sat.:	1805	3249	314	76	1821	1615	1805	2105	1300	1805	3552	51
Capacity Analysis Module:												
Vol/Sat:	0.08	0.04	0.04	0.12	0.12	0.20	0.04	0.09	0.09	0.02	0.10	0.10
Crit Moves:	****					****	****				****	
Green/Cycle:	0.17	0.17	0.17	0.42	0.42	0.42	0.08	0.17	0.17	0.12	0.20	0.20
Volume/Cap:	0.49	0.27	0.27	0.29	0.29	0.49	0.49	0.52	0.52	0.20	0.49	0.49
Delay/Veh:	35.3	33.0	33.0	17.7	17.7	19.8	41.9	35.0	35.0	36.3	32.3	32.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.3	33.0	33.0	17.7	17.7	19.8	41.9	35.0	35.0	36.3	32.3	32.3
LOS by Move:	D	C	C	B	B	B	D	C	C	D	C	C
HCM2kAvgQ:	4	2	2	4	4	6	3	5	5	1	4	4

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #11: Ashby Rd/ Buhach Rd




```
Street Name:      Ashby Road- Buhach Rd                    Buhach Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     281  144     0     0  231   188   185    0   185     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  281  144     0     0  231   188   185    0   185     0    0     0
Added Vol:      0   19     0     0   55     8    92    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  281  163     0     0  286   196   277    0   185     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   281  163     0     0  286     0   277    0   185     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  281  163     0     0  286     0   277    0   185     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  286 xxxx xxxxx  xxxx xxxx xxxxx  1011 xxxx   286  xxxx xxxx xxxxx
Potent Cap.: 1288 xxxx xxxxx  xxxx xxxx xxxxx   268 xxxx   758  xxxx xxxx xxxxx
Move Cap.:   1288 xxxx xxxxx  xxxx xxxx xxxxx   214 xxxx   758  xxxx xxxx xxxxx
Volume/Cap:  0.22 xxxx  xxxx  xxxx xxxx  xxxx  1.29 xxxx  0.24  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.8 xxxx xxxxx  xxxx xxxx xxxxx  14.8 xxxx   1.0  xxxx xxxx xxxxx
Control Del:  8.6 xxxx xxxxx xxxxx xxxx xxxxx 206.3 xxxx  11.3 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            128.2           xxxxxx
ApproachLOS:         *                *                F                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #11 Ashby Rd/ Buhach Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:  281  163     0     0  286   196   277    0   185     0    0     0
ApproachDel:    xxxxxx           xxxxxx            128.2           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=16.5]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=462]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1388]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

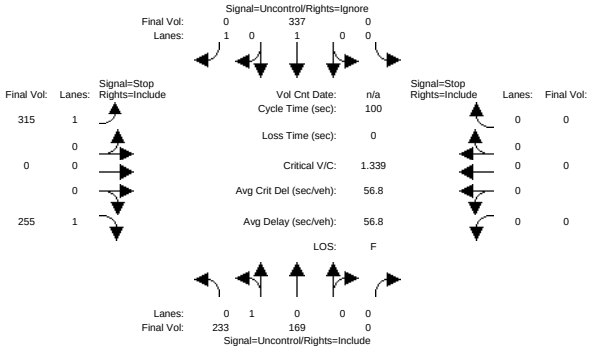
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #11 Ashby Rd/ Buhach Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:  281  163     0     0  286   196   277    0   185     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             926
Minor Approach Volume:           462
Minor Approach Volume Threshold: 407
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #11: Ashby Rd/ Buhach Rd




```
Street Name:      Ashby Road- Buhach Rd                    Buhach Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     233  158     0     0  240   215   263    0   255     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  233  158     0     0  240   215   263    0   255     0    0     0
Added Vol:      0   11     0     0   97    14    52    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  233  169     0     0  337   229   315    0   255     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   233  169     0     0  337     0   315    0   255     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  233  169     0     0  337     0   315    0   255     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  337 xxxx xxxxx  xxxx xxxx xxxxx   972 xxxx   337  xxxx xxxx xxxxx
Potent Cap.: 1234 xxxx xxxxx  xxxx xxxx xxxxx   282 xxxx   710  xxxx xxxx xxxxx
Move Cap.:   1234 xxxx xxxxx  xxxx xxxx xxxxx   235 xxxx   710  xxxx xxxx xxxxx
Volume/Cap:  0.19 xxxx  xxxx  xxxx xxxx  xxxx  1.34 xxxx  0.36  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.7 xxxx xxxxx  xxxx xxxx xxxxx  16.9 xxxx   1.6  xxxx xxxx xxxxx
Control Del:  8.6 xxxx xxxxx xxxxx xxxx xxxxx 219.2 xxxx  12.9 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            126.9           xxxxxx
ApproachLOS:         *                *                F                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #11 Ashby Rd/ Buhach Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:  233  169     0     0  337   229   315    0   255     0    0     0
ApproachDel:    xxxxxx           xxxxxx            126.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=20.1]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=570]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1538]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

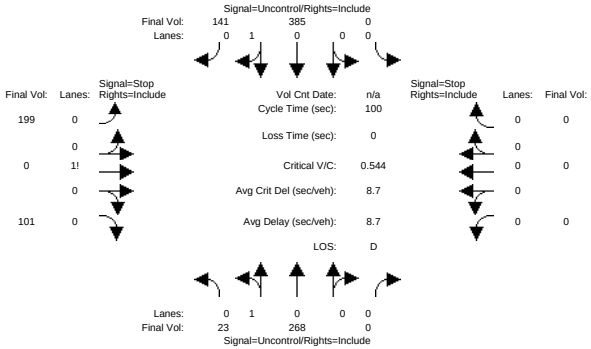
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #11 Ashby Rd/ Buhach Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:  233  169     0     0  337   229   315    0   255     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             968
Minor Approach Volume:           570
Minor Approach Volume Threshold: 388
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #12: Ashby Rd / N 193




```
Street Name:             Ashby Road                          N 193
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      23  254     0     0  333   138   194    0   101     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   23  254     0     0  333   138   194    0   101     0    0     0
Added Vol:      0   14     0     0   52     3     5    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   23  268     0     0  385   141   199    0   101     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    23  268     0     0  385   141   199    0   101     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   23  268     0     0  385   141   199    0   101     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  526 xxxx xxxxx  xxxx xxxx xxxxx   770  770   456  xxxx xxxx xxxxx
Potent Cap.: 1051 xxxx xxxxx  xxxx xxxx xxxxx   372  334   609  xxxx xxxx xxxxx
Move Cap.:   1051 xxxx xxxxx  xxxx xxxx xxxxx   366  326   609  xxxx xxxx xxxxx
Volume/Cap:  0.02 xxxx  xxxx  xxxx xxxx  xxxx  0.54 0.00  0.17  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  422 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  5.4 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 31.8 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    D     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             31.8           xxxxxx
ApproachLOS:         *                *               D                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #12 Ashby Rd / N 193
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   23  268     0     0  385   141   199    0   101     0    0     0
ApproachDel:    xxxxxx           xxxxxx              31.8           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=300]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1117]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

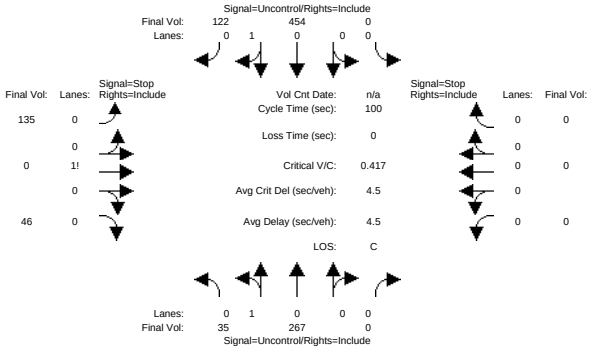
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #12 Ashby Rd / N 193
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   23  268     0     0  385   141   199    0   101     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             817
Minor Approach Volume:           300
Minor Approach Volume Threshold: 273
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #12: Ashby Rd / N 193




```
Street Name:             Ashby Road                          N 193
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      35  259     0     0  362   117   132    0    46     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   35  259     0     0  362   117   132    0    46     0    0     0
Added Vol:      0    8     0     0   92     5     3    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   35  267     0     0  454   122   135    0    46     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    35  267     0     0  454   122   135    0    46     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   35  267     0     0  454   122   135    0    46     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  576 xxxx xxxxx  xxxx xxxx xxxxx   852  852   515  xxxx xxxx xxxxx
Potent Cap.: 1007 xxxx xxxxx  xxxx xxxx xxxxx   333  299   564  xxxx xxxx xxxxx
Move Cap.:   1007 xxxx xxxxx  xxxx xxxx xxxxx   324  288   564  xxxx xxxx xxxxx
Volume/Cap:  0.03 xxxx  xxxx  xxxx xxxx  xxxx  0.42 0.00  0.08  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  363 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  2.7 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 24.4 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    C     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             24.4           xxxxxx
ApproachLOS:         *                *               C                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #12 Ashby Rd / N 193
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   35  267     0     0  454   122   135    0    46     0    0     0
ApproachDel:    xxxxxx           xxxxxx              24.4           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=181]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1059]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

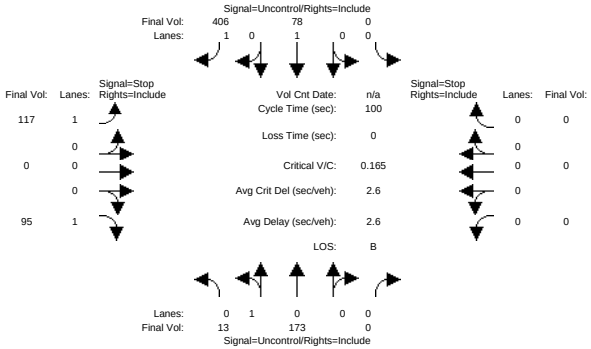
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #12 Ashby Rd / N 193
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   35  267     0     0  454   122   135    0    46     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             878
Minor Approach Volume:           181
Minor Approach Volume Threshold: 254
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #13: Ashby Rd / SR-99 SB Ramps




```
Street Name:             Ashby Road                    SR-99 SB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      13  173     0     0   78   354   103    0    95     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   13  173     0     0   78   354   103    0    95     0    0     0
Added Vol:      0    0     0     0    0    52    14    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   13  173     0     0   78   406   117    0    95     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    13  173     0     0   78   406   117    0    95     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   13  173     0     0   78   406   117    0    95     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  484 xxxx xxxxx  xxxx xxxx xxxxx   277 xxxx    78  xxxx xxxx xxxxx
Potent Cap.: 1089 xxxx xxxxx  xxxx xxxx xxxxx   717 xxxx   988  xxxx xxxx xxxxx
Move Cap.:   1089 xxxx xxxxx  xxxx xxxx xxxxx   710 xxxx   988  xxxx xxxx xxxxx
Volume/Cap:  0.01 xxxx  xxxx  xxxx xxxx  xxxx  0.16 xxxx  0.10  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx   0.3  xxxx xxxx xxxxx
Control Del:  8.3 xxxx xxxxx xxxxx xxxx xxxxx  11.1 xxxx   9.0 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     B    *     A     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             10.2           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #13 Ashby Rd / SR-99 SB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:   13  173     0     0   78   406   117    0    95     0    0     0
ApproachDel:    xxxxxx           xxxxxx             10.2           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=212]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=882]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

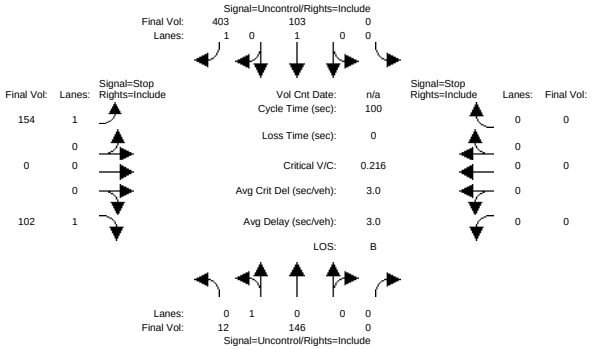
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #13 Ashby Rd / SR-99 SB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:   13  173     0     0   78   406   117    0    95     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             670
Minor Approach Volume:           212
Minor Approach Volume Threshold: 546
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #13: Ashby Rd / SR-99 SB Ramps




```
Street Name:             Ashby Road                    SR-99 SB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      12  146     0     0  103   311   146    0   102     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   12  146     0     0  103   311   146    0   102     0    0     0
Added Vol:      0    0     0     0    0    92     8    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   12  146     0     0  103   403   154    0   102     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    12  146     0     0  103   403   154    0   102     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   12  146     0     0  103   403   154    0   102     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  506 xxxx xxxxx  xxxx xxxx xxxxx   273 xxxx   103  xxxx xxxx xxxxx
Potent Cap.: 1069 xxxx xxxxx  xxxx xxxx xxxxx   721 xxxx   957  xxxx xxxx xxxxx
Move Cap.:   1069 xxxx xxxxx  xxxx xxxx xxxxx   715 xxxx   957  xxxx xxxx xxxxx
Volume/Cap:  0.01 xxxx  xxxx  xxxx xxxx  xxxx  0.22 xxxx  0.11  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx   0.8 xxxx   0.4  xxxx xxxx xxxxx
Control Del:  8.4 xxxx xxxxx xxxxx xxxx xxxxx  11.4 xxxx   9.2 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     B    *     A     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             10.5           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #13 Ashby Rd / SR-99 SB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:   12  146     0     0  103   403   154    0   102     0    0     0
ApproachDel:    xxxxxx           xxxxxx             10.5           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=256]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=920]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

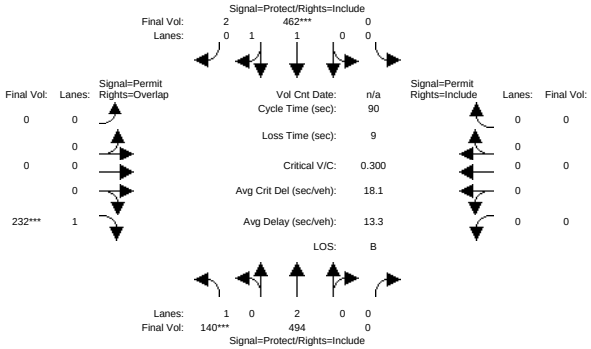
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #13 Ashby Rd / SR-99 SB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    1  0  0  0  1    0  0  0  0  0
Initial Vol:   12  146     0     0  103   403   154    0   102     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             664
Minor Approach Volume:           256
Minor Approach Volume Threshold: 550
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #14: Santa Fe Dr / Bellevue Rd



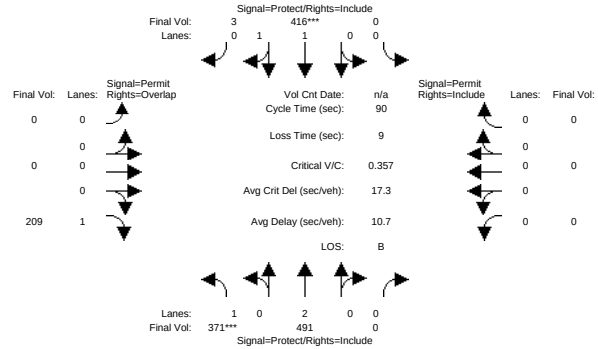
Street Name:	Santa Fe Drive								Bellevue Road							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	0	0		10	10	0		0	10	0		0	0
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	140		237	0	0		423	2	0		0	232	0		0	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	140		237	0	0		423	2	0		0	232	0		0	0
Added Vol:	0		257	0	0		39	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	140		494	0	0		462	2	0		0	232	0		0	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	140		494	0	0		462	2	0		0	232	0		0	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	140		494	0	0		462	2	0		0	232	0		0	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	140		494	0	0		462	2	0		0	232	0		0	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	1.00	1.00		0.95	0.95	1.00		1.00	0.87	1.00		1.00	1.00
Lanes:	1.00		2.00	0.00	0.00		1.99	0.01	0.00		0.00	1.00	0.00		0.00	0.00
Final Sat.:	1805		3610	0	0		3591	16	0		0	1644	0		0	0
Capacity Analysis Module:																
Vol/Sat:	0.08		0.14	0.00	0.00		0.13	0.13	0.00		0.00	0.14	0.00		0.00	0.00
Crit Moves:	****						****					****				
Green/Cycle:	0.26		0.69	0.00	0.00		0.43	0.43	0.00		0.00	0.47	0.00		0.00	0.00
Volume/Cap:	0.30		0.20	0.00	0.00		0.30	0.30	0.00		0.00	0.30	0.00		0.00	0.00
Delay/Veh:	27.2		5.1	0.0	0.0		16.9	16.9	0.0		0.0	14.9	0.0		0.0	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	27.2		5.1	0.0	0.0		16.9	16.9	0.0		0.0	14.9	0.0		0.0	0.0
LOS by Move:	C		A	A	A		B	B	A		A	B	A		A	A
HCM2kAvgQ:	3		3	0	0		4	4	0		0	4	0		0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #14: Santa Fe Dr / Bellevue Rd



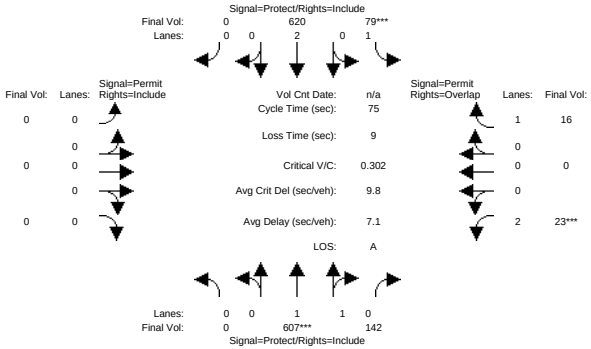
Street Name:	Santa Fe Drive								Bellevue Road							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	0	0		10	10	0		0	10	0		0	0
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	371		346	0	0		346	3	0		0	209	0		0	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	371		346	0	0		346	3	0		0	209	0		0	0
Added Vol:	0		145	0	0		70	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	371		491	0	0		416	3	0		0	209	0		0	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	371		491	0	0		416	3	0		0	209	0		0	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	371		491	0	0		416	3	0		0	209	0		0	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	371		491	0	0		416	3	0		0	209	0		0	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	1.00	1.00		0.95	0.95	1.00		1.00	0.87	1.00		1.00	1.00
Lanes:	1.00		2.00	0.00	0.00		1.99	0.01	0.00		0.00	1.00	0.00		0.00	0.00
Final Sat.:	1805		3610	0	0		3581	26	0		0	1644	0		0	0
Capacity Analysis Module:																
Vol/Sat:	0.21		0.14	0.00	0.00		0.12	0.12	0.00		0.00	0.13	0.00		0.00	0.00
Crit Moves:	****						****									
Green/Cycle:	0.57		0.90	0.00	0.00		0.33	0.33	0.00		0.00	0.57	0.00		0.00	0.00
Volume/Cap:	0.36		0.15	0.00	0.00		0.36	0.36	0.00		0.00	0.22	0.00		0.00	0.00
Delay/Veh:	10.4		0.5	0.0	0.0		23.4	23.4	0.0		0.0	9.4	0.0		0.0	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	10.4		0.5	0.0	0.0		23.4	23.4	0.0		0.0	9.4	0.0		0.0	0.0
LOS by Move:	B		A	A	A		C	C	A		A	A	A		A	A
HCM2kAvgQ:	5		1	0	0		4	4	0		0	3	0		0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #15: Santa Fe Dr / F St



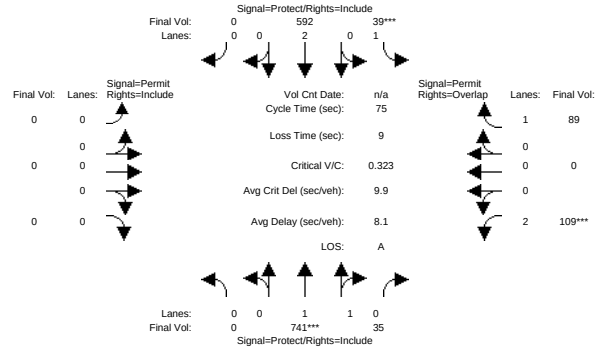
Street Name:	Santa Fe Drive						F Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	350	142	79	581	0	0	0	0	23	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	350	142	79	581	0	0	0	0	23	0	16
Added Vol:	0	257	0	0	39	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	607	142	79	620	0	0	0	0	23	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	607	142	79	620	0	0	0	0	23	0	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	607	142	79	620	0	0	0	0	23	0	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	607	142	79	620	0	0	0	0	23	0	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.92	0.92	0.95	0.95	1.00	1.00	1.00	1.00	0.71	1.00	0.85
Lanes:	0.00	1.62	0.38	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	2844	665	1805	3610	0	0	0	0	2698	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.21	0.21	0.04	0.17	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Crit Moves:		****		****						****		
Green/Cycle:	0.00	0.62	0.62	0.13	0.75	0.00	0.00	0.00	0.00	0.13	0.00	0.26
Volume/Cap:	0.00	0.34	0.34	0.34	0.23	0.00	0.00	0.00	0.00	0.06	0.00	0.04
Delay/Veh:	0.0	7.0	7.0	30.8	2.9	0.0	0.0	0.0	0.0	28.5	0.0	20.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	7.0	7.0	30.8	2.9	0.0	0.0	0.0	0.0	28.5	0.0	20.8
LOS by Move:	A	A	A	C	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	4	4	2	2	0	0	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #15: Santa Fe Dr / F St



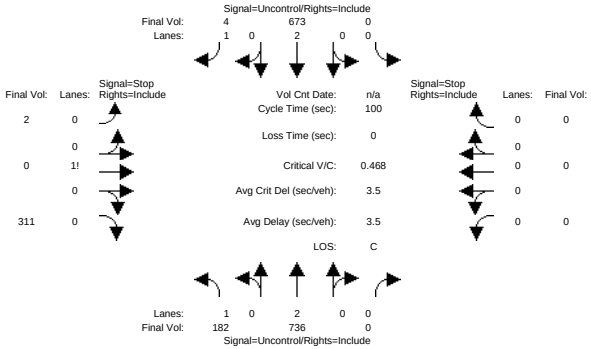
Street Name:	Santa Fe Drive						F Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	596	35	39	522	0	0	0	0	109	0	89
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	596	35	39	522	0	0	0	0	109	0	89
Added Vol:	0	145	0	0	70	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	741	35	39	592	0	0	0	0	109	0	89
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	741	35	39	592	0	0	0	0	109	0	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	741	35	39	592	0	0	0	0	109	0	89
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	741	35	39	592	0	0	0	0	109	0	89
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.94	0.94	0.95	0.95	1.00	1.00	1.00	1.00	0.62	1.00	0.85
Lanes:	0.00	1.91	0.09	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3423	162	1805	3610	0	0	0	0	2370	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.22	0.22	0.02	0.16	0.00	0.00	0.00	0.00	0.05	0.00	0.06
Crit Moves:		****		****						****		
Green/Cycle:	0.00	0.65	0.65	0.09	0.74	0.00	0.00	0.00	0.00	0.14	0.00	0.23
Volume/Cap:	0.00	0.33	0.33	0.23	0.22	0.00	0.00	0.00	0.00	0.33	0.00	0.24
Delay/Veh:	0.0	6.0	6.0	32.2	3.0	0.0	0.0	0.0	0.0	29.8	0.0	23.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	6.0	6.0	32.2	3.0	0.0	0.0	0.0	0.0	29.8	0.0	23.8
LOS by Move:	A	A	A	C	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	4	4	1	2	0	0	0	0	2	0	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #16: Santa Fe Dr / W Ave 2




```
Street Name:           Santa Fe Drive                        W Ave 2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     182  479     0     0  634     4     2    0   311     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  182  479     0     0  634     4     2    0   311     0    0     0
Added Vol:      0  257     0     0   39     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  182  736     0     0  673     4     2    0   311     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   182  736     0     0  673     4     2    0   311     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  182  736     0     0  673     4     2    0   311     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  677 xxxx xxxxx  xxxx xxxx xxxxx  1405 1773   337  xxxx xxxx xxxxx
Potent Cap.:  924 xxxx xxxxx  xxxx xxxx xxxxx   133   84   665  xxxx xxxx xxxxx
Move Cap.:    924 xxxx xxxxx  xxxx xxxx xxxxx   113   67   665  xxxx xxxx xxxxx
Volume/Cap:  0.20 xxxx  xxxx  xxxx xxxx  xxxx  0.02 0.00  0.47  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.7 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  645 xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  2.7 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 15.7 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             15.7           xxxxxx
ApproachLOS:         *                *               C                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  182  736     0     0  673     4     2    0   311     0    0     0
ApproachDel:    xxxxxx           xxxxxx             15.7           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=313]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1908]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

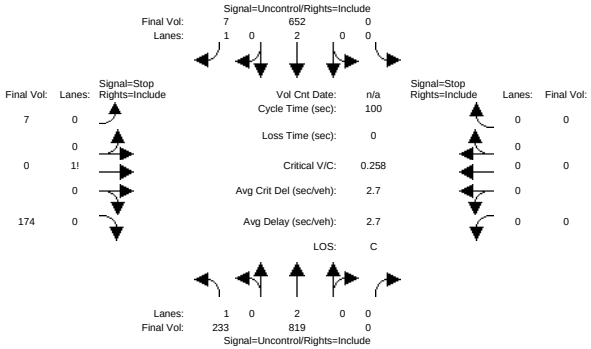
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  182  736     0     0  673     4     2    0   311     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1595
Minor Approach Volume:           313
Minor Approach Volume Threshold: 124
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #16: Santa Fe Dr / W Ave 2




```
Street Name:           Santa Fe Drive                        W Ave 2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     233  674     0     0  582     7     7    0   174     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  233  674     0     0  582     7     7    0   174     0    0     0
Added Vol:      0  145     0     0   70     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  233  819     0     0  652     7     7    0   174     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   233  819     0     0  652     7     7    0   174     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  233  819     0     0  652     7     7    0   174     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  659 xxxx xxxxx  xxxx xxxx xxxxx  1528 1937   326  xxxx xxxx xxxxx
Potent Cap.:  939 xxxx xxxxx  xxxx xxxx xxxxx   110   66   676  xxxx xxxx xxxxx
Move Cap.:    939 xxxx xxxxx  xxxx xxxx xxxxx    89   50   676  xxxx xxxx xxxxx
Volume/Cap:  0.25 xxxx  xxxx  xxxx xxxx  xxxx  0.08 0.00  0.26  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  539 xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  1.5 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 15.0 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             15.0           xxxxxx
ApproachLOS:         *                *                C                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  233  819     0     0  652     7     7    0   174     0    0     0
ApproachDel:    xxxxxx           xxxxxx             15.0           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=181]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1892]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

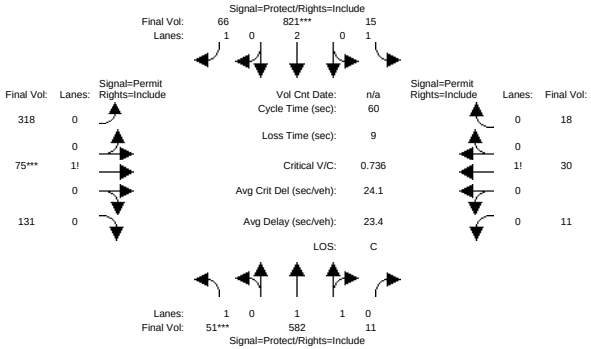
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                   Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  233  819     0     0  652     7     7    0   174     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1711
Minor Approach Volume:           181
Minor Approach Volume Threshold: 100 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #17: Santa Fe Dr / N Franklin Rd

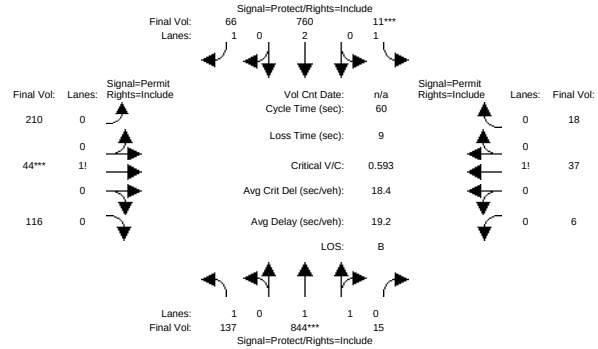



```
Street Name:          Santa Fe Drive                    N Franklin Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10    10   10    10    10   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      51  517    11    12  784    66   131   75   131    11   30    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   51  517    11    12  784    66   131   75   131    11   30    13
Added Vol:      0   65     0     3   37     0   187    0     0     0    0     5
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   51  582    11    15  821    66   318   75   131    11   30    18
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    51  582    11    15  821    66   318   75   131    11   30    18
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   51  582    11    15  821    66   318   75   131    11   30    18
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   51  582    11    15  821    66   318   75   131    11   30    18
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.95  0.95 0.95  0.85  0.74 0.74  0.74  0.88 0.88  0.88
Lanes:       1.00 1.96  0.04  1.00 2.00  1.00  0.61 0.14  0.25  0.19 0.51  0.30
Final Sat.:  1805 3532    67  1805 3610  1615   859  203   354   313  853   512
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.16  0.16  0.01 0.23  0.04  0.37 0.37  0.37  0.04 0.04  0.04
Crit Moves:  ****                 ****             ****
Green/Cycle: 0.12 0.23  0.23  0.16 0.28  0.28  0.45 0.45  0.45  0.45 0.45  0.45
Volume/Cap:  0.24 0.71  0.71  0.05 0.82  0.15  0.82 0.82  0.82  0.08 0.08  0.08
Delay/Veh:   24.7 24.0  24.0  21.3 25.4  16.4  22.1 22.1  22.1   9.3  9.3   9.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.7 24.0  24.0  21.3 25.4  16.4  22.1 22.1  22.1   9.3  9.3   9.3
LOS by Move:    C    C     C     C    C     B     C    C     C     A    A     A
HCM2kAvgQ:      1    7     7     0   10     1    11   11    11     1    1     1
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #17: Santa Fe Dr / N Franklin Rd

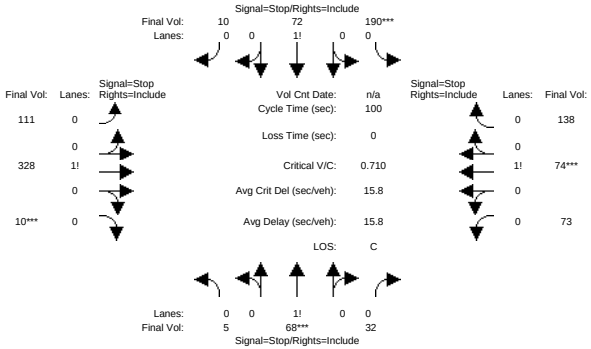



```
Street Name:          Santa Fe Drive                    N Franklin Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10    10   10    10    10   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     137  807    15     6  695    66   104   44   116     6   37    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  137  807    15     6  695    66   104   44   116     6   37    15
Added Vol:      0   37     0     5   65     0   106    0     0     0    0     3
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  137  844    15    11  760    66   210   44   116     6   37    18
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:  137  844    15    11  760    66   210   44   116     6   37    18
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 137  844    15    11  760    66   210   44   116     6   37    18
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume: 137  844    15    11  760    66   210   44   116     6   37    18
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.95  0.95 0.95  0.85  0.75 0.75  0.75  0.93 0.93  0.93
Lanes:       1.00 1.97  0.03  1.00 2.00  1.00  0.57 0.12  0.31  0.10 0.61  0.29
Final Sat.:  1805 3536    63  1805 3610  1615   811  170   448   174 1071   521
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.24  0.24  0.01 0.21  0.04  0.26 0.26  0.26  0.03 0.03  0.03
Crit Moves:       ****        ****             ****
Green/Cycle: 0.17 0.35  0.35  0.12 0.30  0.30  0.38 0.38  0.38  0.38 0.38  0.38
Volume/Cap:  0.45 0.68  0.68  0.05 0.70  0.14  0.68 0.68  0.68  0.09 0.09  0.09
Delay/Veh:   23.6 18.1  18.1  23.7 20.6  15.4  18.9 18.9  18.9  11.9 11.9  11.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  23.6 18.1  18.1  23.7 20.6  15.4  18.9 18.9  18.9  11.9 11.9  11.9
LOS by Move:    C    B     B     C    C     B     B    B     B     B    B     B
HCM2kAvgQ:      3    8     8     0    8     1     7    7     7     1    1     1
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Ext+Prj AM

Intersection #18: Ashby Rd / Franklin Rd




```
Street Name:             Ashby Road                        Franklin Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    68    32   190    72    10   111   141    10    73    74   138
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    5    68    32   190    72    10   111   141    10    73    74   138
Added Vol:      0     0     0     0     0     0     0   187     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    5    68    32   190    72    10   111   328    10    73    74   138
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     5    68    32   190    72    10   111   328    10    73    74   138
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    5    68    32   190    72    10   111   328    10    73    74   138
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    5    68    32   190    72    10   111   328    10    73    74   138
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.05  0.65  0.30  0.70  0.26  0.04  0.25  0.73  0.02  0.26  0.26  0.48
Final Sat.:    23   318   150   381   144    20   156   462    14   157   159   296
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.21  0.21  0.21  0.50  0.50  0.50  0.71  0.71  0.71  0.47  0.47  0.47
Crit Moves:        ****        ****                        ****        ****
Delay/Veh:   10.6  10.6  10.6  14.3  14.3  14.3  19.9  19.9  19.9  12.7  12.7  12.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.6  10.6  10.6  14.3  14.3  14.3  19.9  19.9  19.9  12.7  12.7  12.7
LOS by Move:    B     B     B     B     B     B     C     C     C     B     B     B
ApproachDel:       10.6             14.3             19.9             12.7
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:        10.6             14.3             19.9             12.7
LOS by Appr:          B                B                C                B
AllWayAvgQ:   0.2   0.2   0.2   0.8   0.8   0.8   2.0   2.0   2.0   0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #18 Ashby Rd / Franklin Rd

****

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```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    5   68    32   190   72    10   111  328    10    73   74   138
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             734
Minor Approach Volume:           272
Minor Approach Volume Threshold: 302
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```


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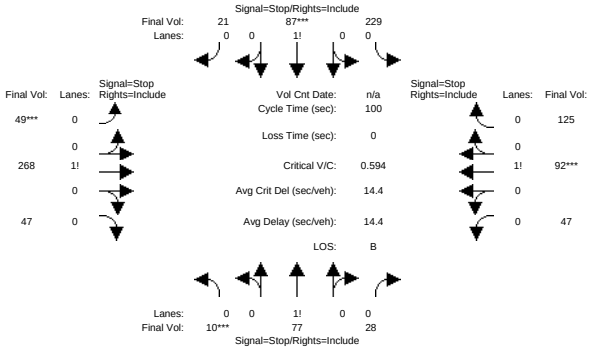
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Ext+Prj PM

Intersection #18: Ashby Rd / Franklin Rd




```
Street Name:             Ashby Road                    Franklin Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10    77    28   229    87    21    49   162    47    47    92   125
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   10    77    28   229    87    21    49   162    47    47    92   125
Added Vol:      0     0     0     0     0     0     0   106     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   10    77    28   229    87    21    49   268    47    47    92   125
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    10    77    28   229    87    21    49   268    47    47    92   125
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   10    77    28   229    87    21    49   268    47    47    92   125
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   10    77    28   229    87    21    49   268    47    47    92   125
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.09  0.67  0.24  0.68  0.26  0.06  0.13  0.74  0.13  0.18  0.35  0.47
Final Sat.:    44   341   124   393   149    36    83   451    79   107   209   284
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23  0.23  0.23  0.58  0.58  0.58  0.59  0.59  0.59  0.44  0.44  0.44
Crit Moves:  ****                  ****        ****                    ****
Delay/Veh:   10.6  10.6  10.6  15.8  15.8  15.8  15.7  15.7  15.7  12.4  12.4  12.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.6  10.6  10.6  15.8  15.8  15.8  15.7  15.7  15.7  12.4  12.4  12.4
LOS by Move:    B     B     B     C     C     C     C     C     C     B     B     B
ApproachDel:      10.6              15.8              15.7              12.4
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       10.6              15.8              15.7              12.4
LOS by Appr:         B                 C                 C                 B
AllWayAvgQ:   0.2  0.2   0.2   1.1   1.1   1.1   1.2   1.2   1.2   0.6   0.6   0.6
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #18 Ashby Rd / Franklin Rd

****

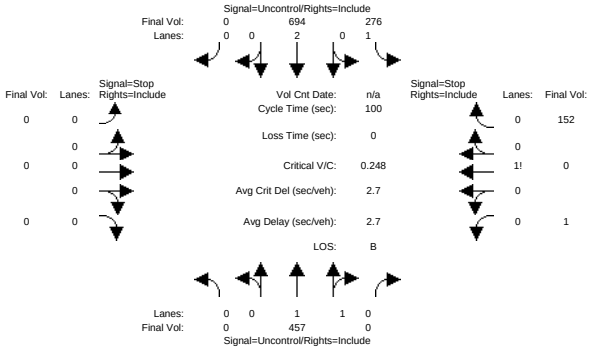

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   10   77    28   229   87    21    49  268    47    47   92   125
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             628
Minor Approach Volume:           337
Minor Approach Volume Threshold: 343
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #19: Santa Fe Dr / Belcher Ave




```
Street Name:           Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  392     0   276  657     0     0    0     0     1    0   152
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  392     0   276  657     0     0    0     0     1    0   152
Added Vol:      0   65     0     0   37     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  457     0   276  694     0     0    0     0     1    0   152
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  457     0   276  694     0     0    0     0     1    0   152
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  457     0   276  694     0     0    0     0     1    0   152
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   457 xxxx xxxxx  xxxx xxxx xxxxx  1356 1703   229
Potent Cap.: xxxx xxxx xxxxx  1114 xxxx xxxxx  xxxx xxxx xxxxx   143   93   780
Move Cap.:   xxxx xxxx xxxxx  1114 xxxx xxxxx  xxxx xxxx xxxxx   116   70   780
Volume/Cap:  xxxx xxxx  xxxx  0.25 xxxx  xxxx  xxxx xxxx  xxxx  0.01 0.00  0.19
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   1.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   9.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  752 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.8 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 11.0 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             11.0
ApproachLOS:         *                *                *                B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  457     0   276  694     0     0    0     0     1    0   152
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             11.0
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=153]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1580]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

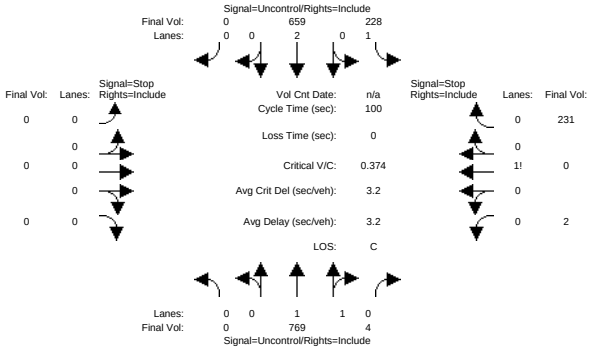
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  457     0   276  694     0     0    0     0     1    0   152
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1427
Minor Approach Volume:           153
Minor Approach Volume Threshold: 162
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #19: Santa Fe Dr / Belcher Ave




```
Street Name:           Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  732     4   228  594     0     0    0     0     2    0   231
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  732     4   228  594     0     0    0     0     2    0   231
Added Vol:      0   37     0     0   65     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  769     4   228  659     0     0    0     0     2    0   231
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  769     4   228  659     0     0    0     0     2    0   231
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  769     4   228  659     0     0    0     0     2    0   231
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   773 xxxx xxxxx  xxxx xxxx xxxxx  1557 1886   387
Potent Cap.: xxxx xxxx xxxxx   851 xxxx xxxxx  xxxx xxxx xxxxx   106   71   618
Move Cap.:   xxxx xxxx xxxxx   851 xxxx xxxxx  xxxx xxxx xxxxx    84   52   618
Volume/Cap:  xxxx xxxx  xxxx  0.27 xxxx  xxxx  xxxx xxxx  xxxx  0.02 0.00  0.37
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   1.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  10.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     B    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  586 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  1.9 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 15.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             15.2
ApproachLOS:         *                *                *                C
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  769     4   228  659     0     0    0     0     2    0   231
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             15.2
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=233]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1893]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

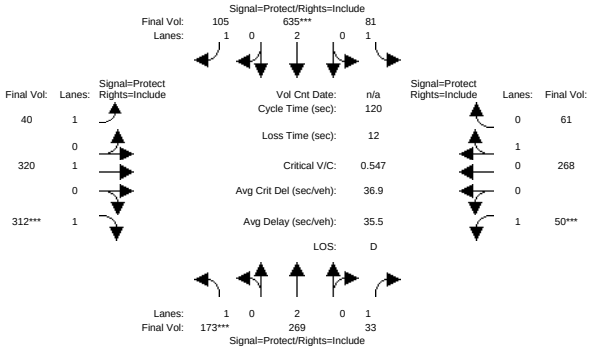
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  769     4   228  659     0     0    0     0     2    0   231
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1660
Minor Approach Volume:           233
Minor Approach Volume Threshold: 110
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

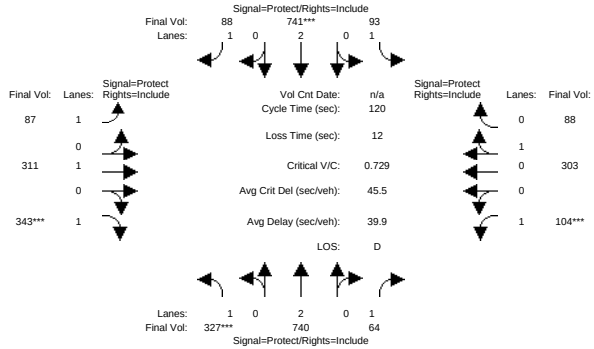



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     173  222    33    70  609   105    40  312   312    50  251    42
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  173  222    33    70  609   105    40  312   312    50  251    42
Added Vol:      0    0     0     0    0     0     0    8     0     0   17     0
Added Vol:      0   47     0    11   26     0     0    0     0     0    0    19
Initial Fut:  173  269    33    81  635   105    40  320   312    50  268    61
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   173  269    33    81  635   105    40  320   312    50  268    61
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  173  269    33    81  635   105    40  320   312    50  268    61
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  173  269    33    81  635   105    40  320   312    50  268    61
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.97  0.97
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.81  0.19
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1504   342
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.07  0.02  0.04 0.18  0.07  0.02 0.17  0.19  0.03 0.18  0.18
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.17 0.29  0.29  0.20 0.32  0.32  0.10 0.35  0.35  0.06 0.31  0.31
Volume/Cap:  0.55 0.26  0.07  0.22 0.55  0.20  0.22 0.48  0.55  0.47 0.58  0.58
Delay/Veh:   47.5 32.9  31.0  40.3 34.4  30.0  50.2 31.1  32.6  58.1 36.5  36.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  47.5 32.9  31.0  40.3 34.4  30.0  50.2 31.1  32.6  58.1 36.5  36.5
LOS by Move:    D    C     C     D    C     C     D    C     C     E    D     D
HCM2kAvgQ:    144   95    21    63  260    70    38  231   239    61  264   264
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

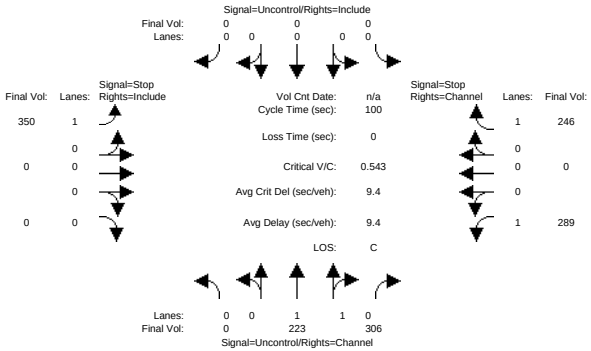



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     327  714    64    74  694    88    87  294   343   104  295    77
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  327  714    64    74  694    88    87  294   343   104  295    77
Added Vol:      0    0     0     0    0     0     0   17     0     0    8     0
Added Vol:      0   26     0    19   47     0     0    0     0     0    0    11
Initial Fut:  327  740    64    93  741    88    87  311   343   104  303    88
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   327  740    64    93  741    88    87  311   343   104  303    88
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  327  740    64    93  741    88    87  311   343   104  303    88
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  327  740    64    93  741    88    87  311   343   104  303    88
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.97  0.97
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.77  0.23
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 1900  1615  1805 1422   413
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.20  0.04  0.05 0.21  0.05  0.05 0.16  0.21  0.06 0.21  0.21
Crit Moves:  ****                 ****                 ****  ****
Green/Cycle: 0.25 0.41  0.41  0.12 0.28  0.28  0.08 0.29  0.29  0.08 0.29  0.29
Volume/Cap:  0.73 0.50  0.10  0.44 0.73  0.19  0.61 0.56  0.73  0.73 0.73  0.73
Delay/Veh:   47.4 26.3  21.6  50.7 41.7  33.0  60.6 37.4  44.0  71.3 43.6  43.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  47.4 26.3  21.6  50.7 41.7  33.0  60.6 37.4  44.0  71.3 43.6  43.6
LOS by Move:    D    C     C     D    D     C     E    D     D     E    D     D
HCM2kAvgQ:    274  253    34    91  353    62   103  250   316   133  354   354
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #25: 16th St / SR-59




```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  194   298     0    0     0   350    0     0   272    0   246
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  194   298     0    0     0   350    0     0   272    0   246
Added Vol:      0   29     8     0    0     0     0    0     0    17    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  223   306     0    0     0   350    0     0   289    0   246
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  223   306     0    0     0   350    0     0   289    0   246
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  223   306     0    0     0   350    0     0   289    0   246
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   112 xxxx xxxxx   376 xxxx   112
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   871 xxxx xxxxx   585 xxxx   947
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   645 xxxx xxxxx   585 xxxx   947
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.54 xxxx  xxxx  0.49 xxxx  0.26
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  81.8 xxxx xxxxx  68.2 xxxx  26.0
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  17.0 xxxx xxxxx  17.0 xxxx  10.1
LOS by Move:    *    *     *     *    *     *     C    *     *     C    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             17.0            13.8
ApproachLOS:         *                *                C               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  223   306     0    0     0   350    0     0   289    0   246
ApproachDel:    xxxxxx           xxxxxx             17.0            13.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=350]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1414]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=535]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1414]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

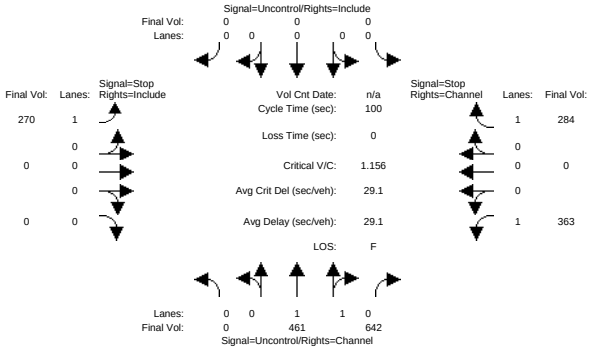
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  223   306     0    0     0   350    0     0   289    0   246
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             529
Minor Approach Volume:           535
Minor Approach Volume Threshold: 648
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #25: 16th St / SR-59




```
Street Name:            16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  427   625     0    0     0   270    0     0   355    0   284
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  427   625     0    0     0   270    0     0   355    0   284
Added Vol:      0   34    17     0    0     0     0    0     0     8    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  461   642     0    0     0   270    0     0   363    0   284
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  461   642     0    0     0   270    0     0   363    0   284
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  461   642     0    0     0   270    0     0   363    0   284
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   231 xxxx xxxxx   782 xxxx   231
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   729 xxxx xxxxx   314 xxxx   814
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   474 xxxx xxxxx   314 xxxx   814
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.57 xxxx  xxxx  1.16 xxxx  0.35
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  87.2 xxxx xxxxx   378 xxxx  39.3
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  22.1 xxxx xxxxx 136.2 xxxx  11.8
LOS by Move:    *    *     *     *    *     *     C    *     *     F    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             22.1            81.6
ApproachLOS:         *                *                C               F
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  461   642     0    0     0   270    0     0   363    0   284
ApproachDel:    xxxxxx           xxxxxx             22.1            81.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=270]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2020]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=14.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=647]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2020]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

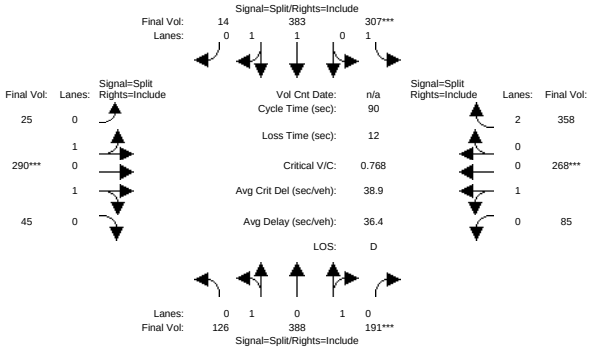
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  461   642     0    0     0   270    0     0   363    0   284
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1103
Minor Approach Volume:           647
Minor Approach Volume Threshold: 332
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

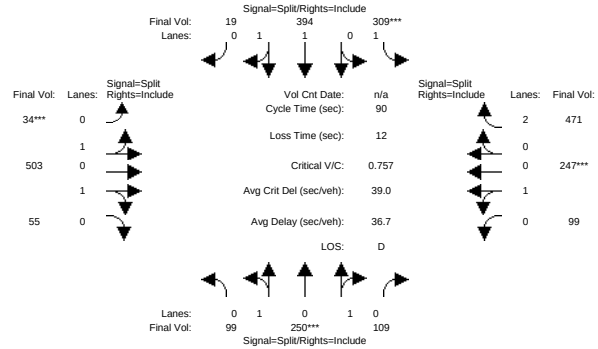



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71  144   146  304  367    12   24  274    45   85  260   348
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   71  144   146  304  367    12   24  274    45   85  260   348
Added Vol:     55  244    45    3   16     2    1   16     0    0    8    10
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  126  388   191  307  383    14   25  290    45   85  268   358
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  126  388   191  307  383    14   25  290    45   85  268   358
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol: 126  388   191  307  383    14   25  290    45   85  268   358
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume: 126  388   191  307  383    14   25  290    45   85  268   358
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment: 0.90 0.90  0.90 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:      0.36 1.10  0.54 1.00 1.93  0.07 0.14 1.61  0.25 0.24 0.76  2.00
Final Sat.:  613 1888   929 1805 3465   127  245 2844   441  452 1425  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.21 0.21  0.21 0.17 0.11  0.11 0.10 0.10  0.10 0.19 0.19  0.13
Crit Moves:             ****  ****            ****             ****
Green/Cycle: 0.27 0.27  0.27 0.22 0.22  0.22 0.13 0.13  0.13 0.24 0.24  0.24
Volume/Cap:  0.77 0.77  0.77 0.77 0.50  0.50 0.77 0.77  0.77 0.77 0.77  0.51
Delay/Veh:   34.4 34.4  34.4 41.6 31.2  31.2 45.2 45.2  45.2 39.3 39.3  30.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  34.4 34.4  34.4 41.6 31.2  31.2 45.2 45.2  45.2 39.3 39.3  30.0
LOS by Move:    C    C     C    D    C     C    D    D     D    D    D     C
HCM2kAvgQ:    283  283   283  247  138   138  176  176   176  274  274   135
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

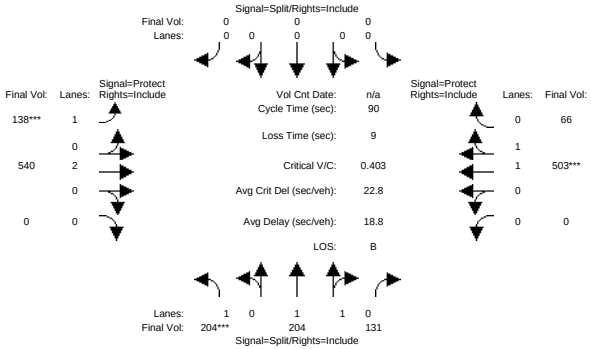



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      65  108    98  307  386    18   32  450    55   99  242   451
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   65  108    98  307  386    18   32  450    55   99  242   451
Added Vol:     34  142    11    2    8     1    2   53     0    0    5    20
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   99  250   109  309  394    19   34  503    55   99  247   471
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   99  250   109  309  394    19   34  503    55   99  247   471
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  99  250   109  309  394    19   34  503    55   99  247   471
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  99  250   109  309  394    19   34  503    55   99  247   471
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment: 0.91 0.91  0.91 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:      0.43 1.09  0.48 1.00 1.91  0.09 0.11 1.70  0.19 0.29 0.71  2.00
Final Sat.:  744 1879   819 1805 3420   165  204 3015   330  536 1337  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.13 0.13  0.13 0.17 0.12  0.12 0.17 0.17  0.17 0.18 0.18  0.17
Crit Moves:         ****        ****            ****             ****
Green/Cycle: 0.18 0.18  0.18 0.23 0.23  0.23 0.22 0.22  0.22 0.24 0.24  0.24
Volume/Cap:  0.76 0.76  0.76 0.76 0.51  0.51 0.76 0.76  0.76 0.76 0.76  0.68
Delay/Veh:   40.7 40.7  40.7 40.4 31.0  31.0 37.1 37.1  37.1 38.7 38.7  33.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  40.7 40.7  40.7 40.4 31.0  31.0 37.1 37.1  37.1 38.7 38.7  33.5
LOS by Move:    D    D     D    D    C     C    D    D     D    D    D     C
HCM2kAvgQ:    205  205   205  245  144   144  247  247   247  266  266   199
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #27: 14th St - SR-99 NB Onramp / V St

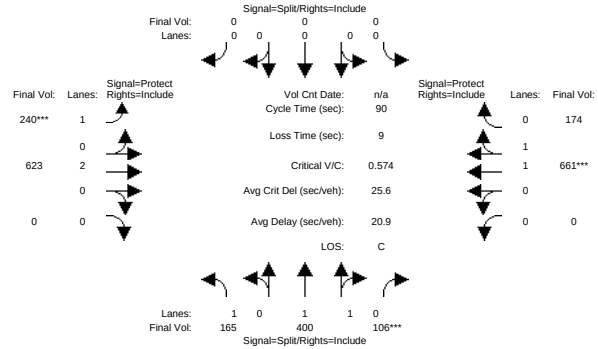



```
Street Name:    14th St - SR-99 NB Onramp                 V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     202   77   131     0    0     0   127  476     0     0  486    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  202   77   131     0    0     0   127  476     0     0  486    46
Added Vol:      2  127     0     0    0     0    11   64     0     0   17    20
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  204  204   131     0    0     0   138  540     0     0  503    66
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   204  204   131     0    0     0   138  540     0     0  503    66
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  204  204   131     0    0     0   138  540     0     0  503    66
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  204  204   131     0    0     0   138  540     0     0  503    66
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.89  0.89  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.93  0.93
Lanes:       1.00 1.22  0.78  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.77  0.23
Final Sat.:  1615 2069  1328     0    0     0  1805 3610     0     0 3137   412
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.10  0.10  0.00 0.00  0.00  0.08 0.15  0.00  0.00 0.16  0.16
Crit Moves:  ****                             ****                    ****
Green/Cycle: 0.31 0.31  0.31  0.00 0.00  0.00  0.19 0.59  0.00  0.00 0.40  0.40
Volume/Cap:  0.40 0.31  0.31  0.00 0.00  0.00  0.40 0.25  0.00  0.00 0.40  0.40
Delay/Veh:   24.8 23.7  23.7   0.0  0.0   0.0  32.8  9.1   0.0   0.0 19.6  19.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.8 23.7  23.7   0.0  0.0   0.0  32.8  9.1   0.0   0.0 19.6  19.6
LOS by Move:    C    C     C     A    A     A     C    A     A     A    B     B
HCM2kAvgQ:    117   95    95     0    0     0    92   95     0     0  144   144
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #27: 14th St - SR-99 NB Onramp / V St

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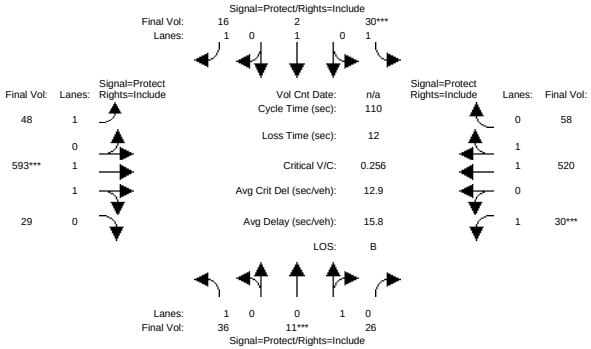
Street Name:    14th St - SR-99 NB Onramp                 V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156  173   106     0    0     0   195  579     0     0  645   136
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  156  173   106     0    0     0   195  579     0     0  645   136
Added Vol:      9  227     0     0    0     0    45   44     0     0   16    38
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  165  400   106     0    0     0   240  623     0     0  661   174
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   165  400   106     0    0     0   240  623     0     0  661   174
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  165  400   106     0    0     0   240  623     0     0  661   174
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  165  400   106     0    0     0   240  623     0     0  661   174
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.92  0.92  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.92  0.92
Lanes:       1.00 1.58  0.42  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.58  0.42
Final Sat.:  1615 2765   733     0    0     0  1805 3610     0     0 2769   729
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.14  0.14  0.00 0.00  0.00  0.13 0.17  0.00  0.00 0.24  0.24
Crit Moves:             ****                    ****                    ****
Green/Cycle: 0.25 0.25  0.25  0.00 0.00  0.00  0.23 0.65  0.00  0.00 0.42  0.42
Volume/Cap:  0.41 0.57  0.57  0.00 0.00  0.00  0.57 0.27  0.00  0.00 0.57  0.57
Delay/Veh:   28.7 30.3  30.3   0.0  0.0   0.0  32.6  6.8   0.0   0.0 20.7  20.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  28.7 30.3  30.3   0.0  0.0   0.0  32.6  6.8   0.0   0.0 20.7  20.7
LOS by Move:    C    C     C     A    A     A     C    A     A     A    C     C
HCM2kAvgQ:    103  178   178     0    0     0   165   96     0     0  228   228
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #28: 15th St / V St



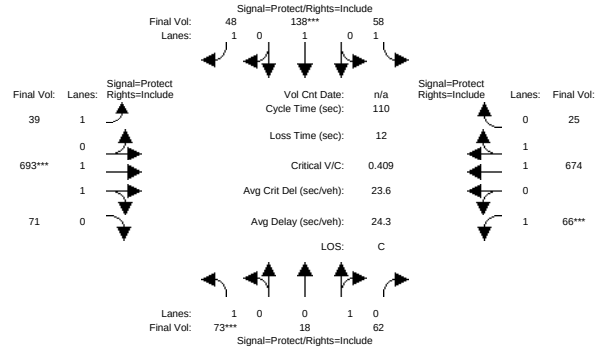
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	36	11	26	30	2	16	48	529	29	30	484	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	11	26	30	2	16	48	529	29	30	484	58
Added Vol:	0	0	0	0	0	0	0	64	0	0	36	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	11	26	30	2	16	48	593	29	30	520	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	11	26	30	2	16	48	593	29	30	520	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	11	26	30	2	16	48	593	29	30	520	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	11	26	30	2	16	48	593	29	30	520	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.91	0.09	1.00	1.80	0.20
Final Sat.:	1805	506	1195	1805	1900	1615	1805	3418	167	1805	3199	357
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.02	0.00	0.01	0.03	0.17	0.17	0.02	0.16	0.16
Crit Moves:		****		****				****		****		
Green/Cycle:	0.06	0.09	0.09	0.06	0.09	0.09	0.21	0.67	0.67	0.06	0.53	0.53
Volume/Cap:	0.31	0.24	0.24	0.26	0.01	0.11	0.13	0.26	0.26	0.26	0.31	0.31
Delay/Veh:	50.7	47.3	47.3	50.2	45.5	46.2	35.7	7.2	7.2	50.2	14.7	14.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.7	47.3	47.3	50.2	45.5	46.2	35.7	7.2	7.2	50.2	14.7	14.7
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	37	34	34	30	2	14	31	107	107	23	137	137

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #28: 15th St / V St



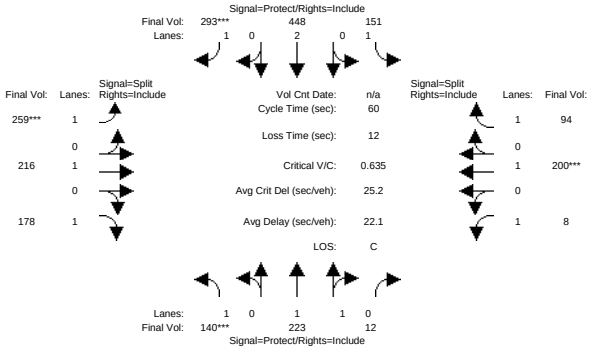
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	73	18	62	58	138	48	39	649	71	66	620	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	18	62	58	138	48	39	649	71	66	620	25
Added Vol:	0	0	0	0	0	0	0	44	0	0	54	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	18	62	58	138	48	39	693	71	66	674	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	18	62	58	138	48	39	693	71	66	674	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	18	62	58	138	48	39	693	71	66	674	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	18	62	58	138	48	39	693	71	66	674	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	1.00	0.23	0.77	1.00	1.00	1.00	1.00	1.81	0.19	1.00	1.93	0.07
Final Sat.:	1805	378	1302	1805	1900	1615	1805	3229	331	1805	3463	128
Capacity Analysis Module:												
Vol/Sat:	0.04	0.05	0.05	0.03	0.07	0.03	0.02	0.21	0.21	0.04	0.19	0.19
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.16	0.16	0.11	0.18	0.18	0.15	0.52	0.52	0.09	0.46	0.46
Volume/Cap:	0.41	0.29	0.29	0.28	0.41	0.17	0.14	0.41	0.41	0.41	0.42	0.42
Delay/Veh:	48.1	41.1	41.1	45.4	40.9	38.6	40.7	16.0	16.0	49.0	19.9	19.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.1	41.1	41.1	45.4	40.9	38.6	40.7	16.0	16.0	49.0	19.9	19.9
LOS by Move:	D	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	69	64	64	50	110	36	27	199	199	50	196	196

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #29: 16th St / V St



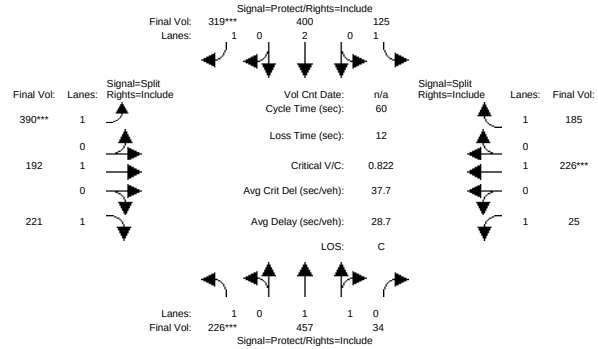
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	111	187	9	150	434	291	259	194	137	7	194	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	111	187	9	150	434	291	259	194	137	7	194	94
Added Vol:	29	36	3	1	14	2	0	22	41	1	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	223	12	151	448	293	259	216	178	8	200	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	223	12	151	448	293	259	216	178	8	200	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	223	12	151	448	293	259	216	178	8	200	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	223	12	151	448	293	259	216	178	8	200	94
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.90	0.10	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3398	183	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.07	0.07	0.08	0.12	0.18	0.14	0.11	0.11	0.00	0.11	0.06
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.24	0.24	0.17	0.29	0.29	0.23	0.23	0.23	0.17	0.17	0.17
Volume/Cap:	0.64	0.27	0.27	0.50	0.43	0.64	0.64	0.50	0.49	0.03	0.63	0.35
Delay/Veh:	31.1	18.7	18.7	24.0	17.8	21.6	24.3	21.2	21.2	21.0	27.4	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.1	18.7	18.7	24.0	17.8	21.6	24.3	21.2	21.2	21.0	27.4	22.9
LOS by Move:	C	B	B	C	B	C	C	C	C	C	C	C
HCM2kAvgQ:	64	45	45	81	99	147	111	87	71	3	116	48

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #29: 16th St / V St



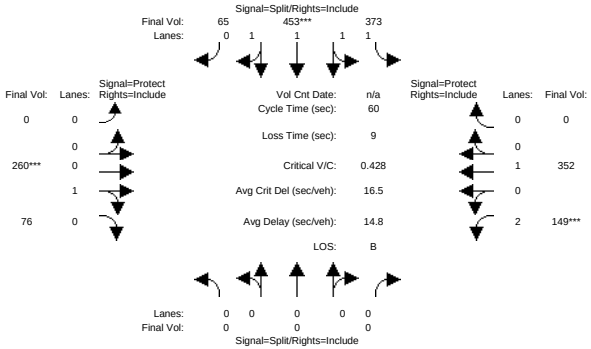
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	194	409	33	125	392	319	388	186	184	22	204	184
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	409	33	125	392	319	388	186	184	22	204	184
Added Vol:	32	48	1	0	8	0	2	6	37	3	22	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	226	457	34	125	400	319	390	192	221	25	226	185
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	226	457	34	125	400	319	390	192	221	25	226	185
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	226	457	34	125	400	319	390	192	221	25	226	185
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	226	457	34	125	400	319	390	192	221	25	226	185
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.86	0.14	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3326	247	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.14	0.14	0.07	0.11	0.20	0.22	0.10	0.14	0.01	0.12	0.11
Crit Moves:	****					****	****				****	
Green/Cycle:	0.15	0.22	0.22	0.16	0.23	0.23	0.25	0.25	0.25	0.17	0.17	0.17
Volume/Cap:	0.85	0.62	0.62	0.44	0.48	0.85	0.85	0.40	0.54	0.08	0.71	0.69
Delay/Veh:	47.1	22.4	22.4	24.1	20.3	38.7	35.4	19.1	20.8	21.2	31.1	30.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.1	22.4	22.4	24.1	20.3	38.7	35.4	19.1	20.8	21.2	31.1	30.8
LOS by Move:	D	C	C	C	C	D	D	B	C	C	C	C
HCM2kAvgQ:	117	108	108	66	98	220	192	72	88	11	142	119

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #30: 13th St / R St



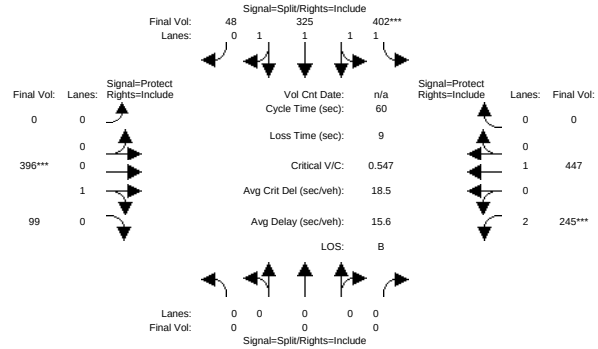
Street Name:	13th Street									R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	337	229	65	0	260	76	147	352	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	337	229	65	0	260	76	147	352	0
Added Vol:	0	0	0	36	224	0	0	0	0	2	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	373	453	65	0	260	76	149	352	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	373	453	65	0	260	76	149	352	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	373	453	65	0	260	76	149	352	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	373	453	65	0	260	76	149	352	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.84	0.84	0.84	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	1.67	2.04	0.29	0.00	0.77	0.23	2.00	1.00	0.00
Final Sat.:	0	0	0	2683	3258	468	0	1425	416	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.14	0.14	0.14	0.00	0.18	0.18	0.04	0.19	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.32	0.32	0.32	0.00	0.42	0.42	0.12	0.53	0.00
Volume/Cap:	0.00	0.00	0.00	0.44	0.44	0.44	0.00	0.44	0.44	0.36	0.35	0.00
Delay/Veh:	0.0	0.0	0.0	16.4	16.4	16.4	0.0	12.9	12.9	25.0	8.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.4	16.4	16.4	0.0	12.9	12.9	25.0	8.2	0.0
LOS by Move:	A	A	A	B	B	B	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	100	100	100	0	119	119	32	91	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #30: 13th St / R St



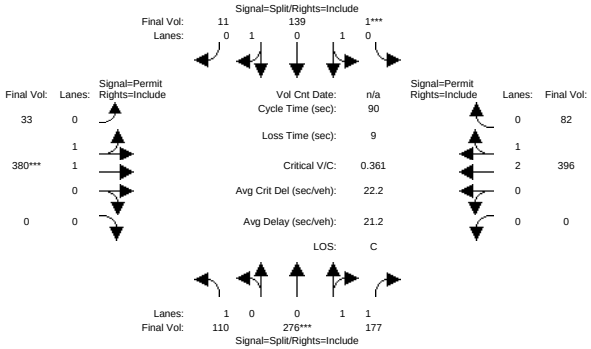
Street Name:	13th Street									R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	371	206	48	0	396	99	244	447	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	371	206	48	0	396	99	244	447	0
Added Vol:	0	0	0	31	119	0	0	0	0	1	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	402	325	48	0	396	99	245	447	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	402	325	48	0	396	99	245	447	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	402	325	48	0	396	99	245	447	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	402	325	48	0	396	99	245	447	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.83	0.83	0.83	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.74	0.26	0.00	0.80	0.20	2.00	1.00	0.00
Final Sat.:	0	0	0	3160	2753	407	0	1479	370	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.12	0.12	0.00	0.27	0.27	0.07	0.24	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.23	0.23	0.23	0.00	0.49	0.49	0.13	0.62	0.00
Volume/Cap:	0.00	0.00	0.00	0.55	0.51	0.51	0.00	0.55	0.55	0.55	0.38	0.00
Delay/Veh:	0.0	0.0	0.0	20.7	20.3	20.3	0.0	11.4	11.4	26.0	6.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	20.7	20.3	20.3	0.0	11.4	11.4	26.0	6.0	0.0
LOS by Move:	A	A	A	C	C	C	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	110	99	99	0	173	173	56	102	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #31: SR-99 NB Off-Ramp - 14th St / R Street

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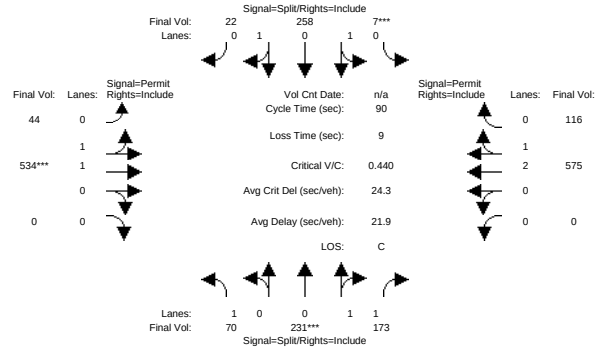
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     110  276   176    1   36    11   33  344     0    0  394    68
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  110  276   176    1   36    11   33  344     0    0  394    68
Added Vol:      0    0     1    0  103     0    0   36     0    0    2    14
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  110  276   177    1  139    11   33  380     0    0  396    82
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   110  276   177    1  139    11   33  380     0    0  396    82
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  110  276   177    1  139    11   33  380     0    0  396    82
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  110  276   177    1  139    11   33  380     0    0  396    82
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.85 0.85  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.01 1.84  0.15 0.16 1.84  0.00 0.00 2.49  0.51
Final Sat.:  1805 1788  1788   24 3287   260  258 2969     0    0 4185   867
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.15  0.10 0.04 0.04  0.04 0.13 0.13  0.00 0.00 0.09  0.09
Crit Moves:        ****        ****            ****
Green/Cycle: 0.43 0.43  0.43 0.12 0.12  0.12 0.35 0.35  0.00 0.00 0.35  0.35
Volume/Cap:  0.14 0.36  0.23 0.36 0.36  0.36 0.36 0.36  0.00 0.00 0.27  0.27
Delay/Veh:   15.8 17.6  16.4 37.1 37.1  37.1 21.7 21.7   0.0  0.0 20.8  20.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  15.8 17.6  16.4 37.1 37.1  37.1 21.7 21.7   0.0  0.0 20.8  20.8
LOS by Move:    B    B     B    D    D     D    C    C     A    A    C     C
HCM2kAvgQ:     46  131    78   59   59    59  107  107     0    0   83    83
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #31: SR-99 NB Off-Ramp - 14th St / R Street

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Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      70  231   173    7   86    22   44  503     0    0  574    99
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   70  231   173    7   86    22   44  503     0    0  574    99
Added Vol:      0    0     0    0  172     0    0   31     0    0    1    17
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   70  231   173    7  258    22   44  534     0    0  575   116
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   70  231   173    7  258    22   44  534     0    0  575   116
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   70  231   173    7  258    22   44  534     0    0  575   116
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   70  231   173    7  258    22   44  534     0    0  575   116
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.82 0.82  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.05 1.80  0.15 0.15 1.85  0.00 0.00 2.50  0.50
Final Sat.:  1805 1778  1778   87 3203   273  237 2878     0    0 4208   849
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.13  0.10 0.08 0.08  0.08 0.19 0.19  0.00 0.00 0.14  0.14
Crit Moves:        ****        ****            ****
Green/Cycle: 0.30 0.30  0.30 0.18 0.18  0.18 0.42 0.42  0.00 0.00 0.42  0.42
Volume/Cap:  0.13 0.44  0.33 0.44 0.44  0.44 0.44 0.44  0.00 0.00 0.32  0.32
Delay/Veh:   23.4 26.0  24.9 33.1 33.1  33.1 18.7 18.7   0.0  0.0 17.5  17.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  23.4 26.0  24.9 33.1 33.1  33.1 18.7 18.7   0.0  0.0 17.5  17.5
LOS by Move:    C    C     C    C    C     C    B    B     A    A    B     B
HCM2kAvgQ:     36  136    97  103  103   103  144  144     0    0  112   112
Note: Queue reported is the distance per lane in feet.
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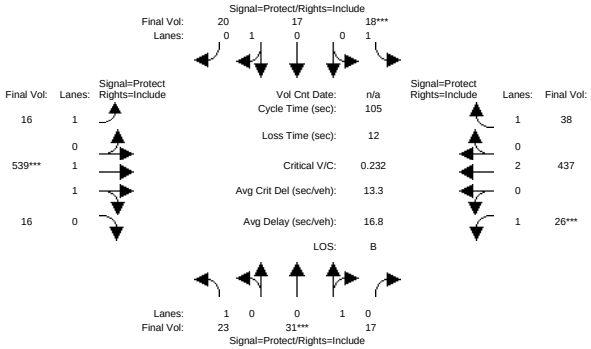
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #32: 15th St / R St



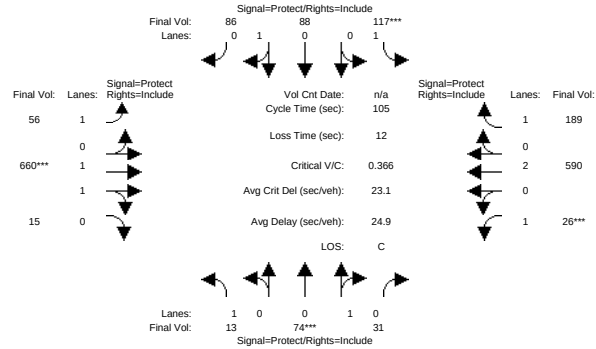
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	23	31	16	18	17	20	16	502	16	23	421	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	31	16	18	17	20	16	502	16	23	421	38
Added Vol:	0	0	1	0	0	0	0	37	0	3	16	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	23	31	17	18	17	20	16	539	16	26	437	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	31	17	18	17	20	16	539	16	26	437	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	31	17	18	17	20	16	539	16	26	437	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	31	17	18	17	20	16	539	16	26	437	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.65	0.35	1.00	0.46	0.54	1.00	1.94	0.06	1.00	2.00	1.00
Final Sat.:	1805	1162	637	1805	802	944	1805	3492	104	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.01	0.02	0.02	0.01	0.15	0.15	0.01	0.12	0.02
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.11	0.11	0.07	0.10	0.10	0.25	0.64	0.64	0.07	0.46	0.46
Volume/Cap:	0.17	0.24	0.24	0.15	0.20	0.20	0.04	0.24	0.24	0.22	0.27	0.05
Delay/Veh:	46.3	43.3	43.3	46.8	43.6	43.6	29.7	8.0	8.0	47.3	17.7	15.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.3	43.3	43.3	46.8	43.6	43.6	29.7	8.0	8.0	47.3	17.7	15.9
LOS by Move:	D	D	D	D	D	D	C	A	A	D	B	B
HCM2kAvgQ:	21	40	40	17	31	31	9	97	97	19	109	16

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #32: 15th St / R St



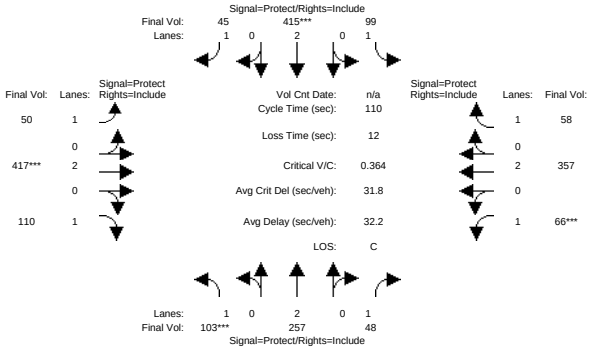
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	13	74	28	117	88	86	56	629	15	25	572	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	74	28	117	88	86	56	629	15	25	572	189
Added Vol:	0	0	3	0	0	0	0	31	0	1	18	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	74	31	117	88	86	56	660	15	26	590	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	74	31	117	88	86	56	660	15	26	590	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	74	31	117	88	86	56	660	15	26	590	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	74	31	117	88	86	56	660	15	26	590	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.70	0.30	1.00	0.51	0.49	1.00	1.96	0.04	1.00	2.00	1.00
Final Sat.:	1805	1280	536	1805	890	870	1805	3519	80	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.06	0.06	0.10	0.10	0.03	0.19	0.19	0.01	0.16	0.12
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.15	0.15	0.17	0.19	0.19	0.16	0.50	0.50	0.07	0.40	0.40
Volume/Cap:	0.06	0.38	0.38	0.38	0.51	0.51	0.19	0.38	0.38	0.22	0.41	0.29
Delay/Veh:	40.1	40.9	40.9	39.3	39.2	39.2	38.3	16.6	16.6	47.3	22.9	21.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.1	40.9	40.9	39.3	39.2	39.2	38.3	16.6	16.6	47.3	22.9	21.7
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	C
HCM2kAvgQ:	10	84	84	90	139	139	37	171	171	19	172	99

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #33: 16th St / R St



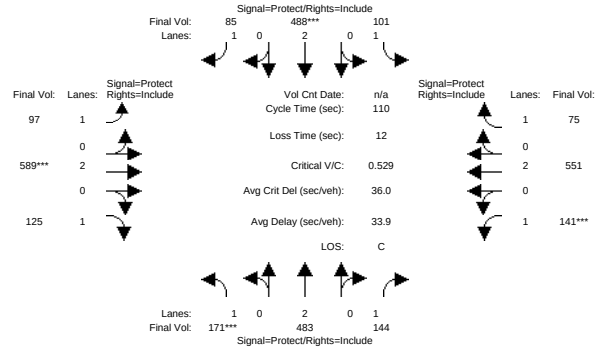
Street Name:	16th Street									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	89		191	44	99		360	45	49		416	74	61		353	57
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	89		191	44	99		360	45	49		416	74	61		353	57
Added Vol:	14		66	4	0		55	0	1		1	36	5		4	1
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	103		257	48	99		415	45	50		417	110	66		357	58
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	103		257	48	99		415	45	50		417	110	66		357	58
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	103		257	48	99		415	45	50		417	110	66		357	58
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	103		257	48	99		415	45	50		417	110	66		357	58
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	0.85	0.95		0.95	0.85	0.95		0.95	0.85	0.95		0.95	0.85
Lanes:	1.00		2.00	1.00	1.00		2.00	1.00	1.00		2.00	1.00	1.00		2.00	1.00
Final Sat.:	1805		3610	1615	1805		3610	1615	1805		3610	1615	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.06		0.07	0.03	0.05		0.11	0.03	0.03		0.12	0.07	0.04		0.10	0.04
Crit Moves:	****						****				****		****			
Green/Cycle:	0.16		0.28	0.28	0.19		0.32	0.32	0.16		0.32	0.32	0.10		0.25	0.25
Volume/Cap:	0.36		0.26	0.11	0.28		0.36	0.09	0.17		0.36	0.21	0.36		0.39	0.14
Delay/Veh:	42.3		31.0	29.6	38.2		29.3	26.5	39.8		29.2	27.7	47.4		34.2	31.9
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	42.3		31.0	29.6	38.2		29.3	26.5	39.8		29.2	27.7	47.4		34.2	31.9
LOS by Move:	D		C	C	D		C	C	D		C	C	D		C	C
HCM2kAvgQ:	84		89	30	68		136	25	35		137	65	51		127	36

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #33: 16th St / R St



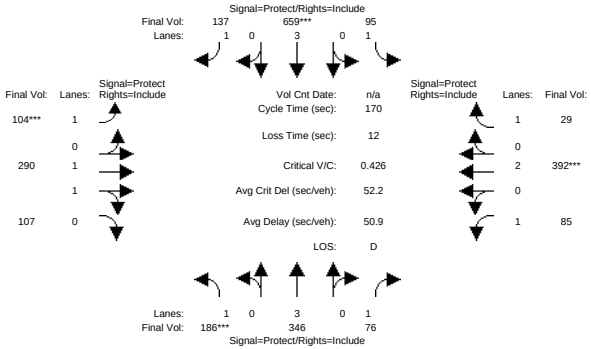
Street Name:	16th Street									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	154		403	138	100		443	84	97		586	94	137		550	75
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	154		403	138	100		443	84	97		586	94	137		550	75
Added Vol:	17		80	6	1		45	1	0		3	31	4		1	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	171		483	144	101		488	85	97		589	125	141		551	75
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	171		483	144	101		488	85	97		589	125	141		551	75
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	171		483	144	101		488	85	97		589	125	141		551	75
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	171		483	144	101		488	85	97		589	125	141		551	75
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	0.85	0.95		0.95	0.85	0.95		0.95	0.85	0.95		0.95	0.85
Lanes:	1.00		2.00	1.00	1.00		2.00	1.00	1.00		2.00	1.00	1.00		2.00	1.00
Final Sat.:	1805		3610	1615	1805		3610	1615	1805		3610	1615	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.09		0.13	0.09	0.06		0.14	0.05	0.05		0.16	0.08	0.08		0.15	0.05
Crit Moves:	****						****				****		****			
Green/Cycle:	0.18		0.29	0.29	0.14		0.26	0.26	0.13		0.31	0.31	0.15		0.32	0.32
Volume/Cap:	0.53		0.45	0.30	0.40		0.53	0.21	0.40		0.53	0.25	0.53		0.47	0.14
Delay/Veh:	42.6		31.9	30.4	44.1		35.8	32.4	44.7		31.9	28.8	45.3		30.1	26.6
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	42.6		31.9	30.4	44.1		35.8	32.4	44.7		31.9	28.8	45.3		30.1	26.6
LOS by Move:	D		C	C	D		D	C	D		C	C	D		C	C
HCM2kAvgQ:	145		179	96	75		181	54	73		210	76	109		190	43

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #34: Olive Ave / R St



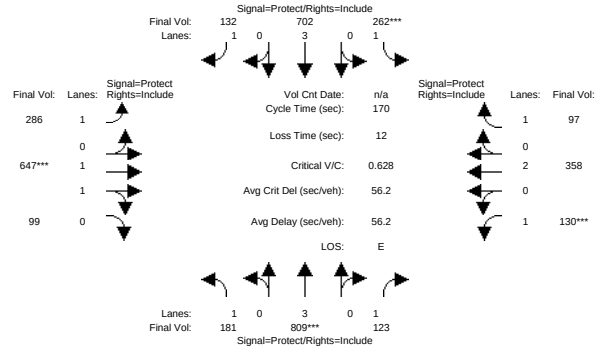
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	186		346		76	95		659		137	104		285		107	85		381		29
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	186		346		76	95		659		137	104		285		107	85		381		29
Added Vol:	0		0		0	0		0		0	0		5		0	0		11		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	186		346		76	95		659		137	104		290		107	85		392		29
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	186		346		76	95		659		137	104		290		107	85		392		29
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	186		346		76	95		659		137	104		290		107	85		392		29
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	186		346		76	95		659		137	104		290		107	85		392		29
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.91		0.91	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.46		0.54	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		2532		934	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.10		0.07		0.05	0.05		0.13		0.08	0.06		0.11		0.11	0.05		0.11		0.02
Crit Moves:	****							****			****							****		
Green/Cycle:	0.24		0.30		0.30	0.24		0.30		0.30	0.14		0.28		0.28	0.11		0.25		0.25
Volume/Cap:	0.43		0.22		0.16	0.22		0.43		0.28	0.43		0.41		0.41	0.41		0.43		0.07
Delay/Veh:	55.2		44.5		43.7	52.4		48.2		46.1	68.7		50.6		50.6	71.5		53.3		48.2
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	55.2		44.5		43.7	52.4		48.2		46.1	68.7		50.6		50.6	71.5		53.3		48.2
LOS by Move:	E		D		D	D		D		D	E		D		D	E		D		D
HCM2kAvgQ:	196		117		68	94		240		129	131		219		219	110		222		28

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #34: Olive Ave / R St



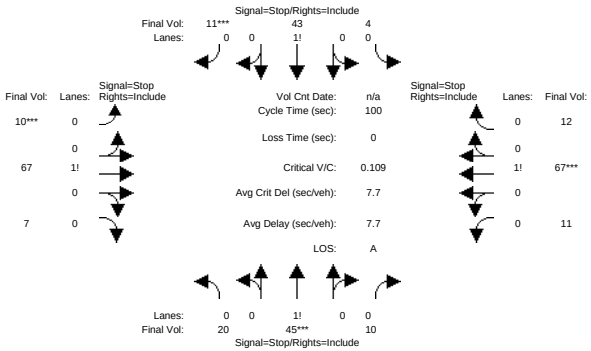
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	181		809		123	262		702		132	286		636		99	130		353		97
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	181		809		123	262		702		132	286		636		99	130		353		97
Added Vol:	0		0		0	0		0		0	0		11		0	0		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	181		809		123	262		702		132	286		647		99	130		358		97
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	181		809		123	262		702		132	286		647		99	130		358		97
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	181		809		123	262		702		132	286		647		99	130		358		97
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	181		809		123	262		702		132	286		647		99	130		358		97
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.93		0.93	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.73		0.27	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		3068		469	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.10		0.16		0.08	0.15		0.14		0.08	0.16		0.21		0.21	0.07		0.10		0.06
Crit Moves:			****			****							****			****				
Green/Cycle:	0.20		0.25		0.25	0.23		0.28		0.28	0.28		0.34		0.34	0.11		0.17		0.17
Volume/Cap:	0.49		0.63		0.31	0.63		0.49		0.30	0.57		0.63		0.63	0.63		0.57		0.35
Delay/Veh:	60.9		57.9		52.4	61.8		51.9		49.0	54.4		48.6		48.6	77.8		65.8		62.6
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	60.9		57.9		52.4	61.8		51.9		49.0	54.4		48.6		48.6	77.8		65.8		62.6
LOS by Move:	E		E		D	E		D		D	D		D		D	E		E		E
HCM2kAvgQ:	199		331		123	293		264		127	322		430		430	183		235		114

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #35: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8    44    10     4    40    11    10    67     7    11    67    12
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    8    44    10     4    40    11    10    67     7    11    67    12
Added Vol:     12     1     0     0     3     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   20    45    10     4    43    11    10    67     7    11    67    12
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    20    45    10     4    43    11    10    67     7    11    67    12
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   20    45    10     4    43    11    10    67     7    11    67    12
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   20    45    10     4    43    11    10    67     7    11    67    12
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.27  0.60  0.13  0.07  0.74  0.19  0.12  0.80  0.08  0.12  0.75  0.13
Final Sat.:   215   483   107    56   604   155    98   655    68   101   617   110
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09  0.09  0.09  0.07  0.07  0.07  0.10  0.10  0.10  0.11  0.11  0.11
Crit Moves:        ****                      ****  ****                      ****
Delay/Veh:    7.7   7.7   7.7   7.6   7.6   7.6   7.7   7.7   7.7   7.7   7.7   7.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.7   7.7   7.7   7.6   7.6   7.6   7.7   7.7   7.7   7.7   7.7   7.7
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        7.7               7.6               7.7               7.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.7               7.6               7.7               7.7
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   2.4   2.4   2.4   1.8   1.8   1.8   2.7   2.7   2.7   2.9   2.9   2.9
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #35 15th St / O St
*******************************************************************************
```



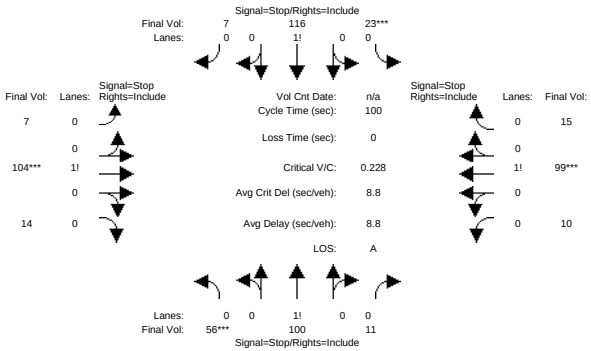
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   20   45    10     4   43    11    10   67     7    11   67    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             174
Minor Approach Volume:           75
Minor Approach Volume Threshold: 686
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #35: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9    97    11    23   115     7     7   104    14    10    99    15
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    9    97    11    23   115     7     7   104    14    10    99    15
Added Vol:     47     3     0     0     1     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   56   100    11    23   116     7     7   104    14    10    99    15
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    56   100    11    23   116     7     7   104    14    10    99    15
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   56   100    11    23   116     7     7   104    14    10    99    15
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   56   100    11    23   116     7     7   104    14    10    99    15
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.33  0.60  0.07  0.16  0.79  0.05  0.06  0.83  0.11  0.08  0.80  0.12
Final Sat.:   246   439    48   115   581    35    40   597    80    58   573    87
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23  0.23  0.23  0.20  0.20  0.20  0.17  0.17  0.17  0.17  0.17  0.17
Crit Moves:  ****              ****                    ****              ****
Delay/Veh:    9.0   9.0   9.0   8.8   8.8   8.8   8.6   8.6   8.6   8.6   8.6   8.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.0   9.0   9.0   8.8   8.8   8.8   8.6   8.6   8.6   8.6   8.6   8.6
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        9.0              8.8              8.6              8.6
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:         9.0              8.8              8.6              8.6
LOS by Appr:          A                A                A                A
AllWayAvgQ:   6.6   6.6   6.6   5.6   5.6   5.6   4.6   4.6   4.6   4.6   4.6   4.6
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #35 15th St / O St
*******************************************************************************
```



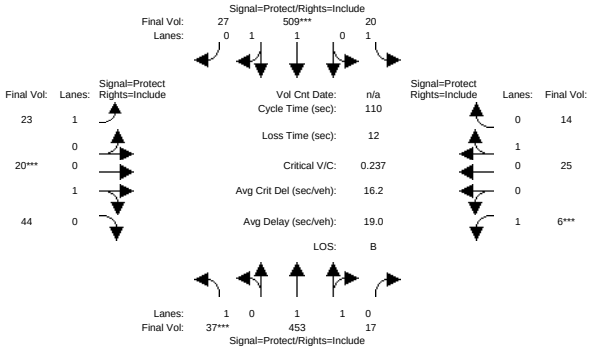
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   56  100    11    23  116     7     7  104    14    10   99    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             313
Minor Approach Volume:           125
Minor Approach Volume Threshold: 529
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #36: 16th St / O St



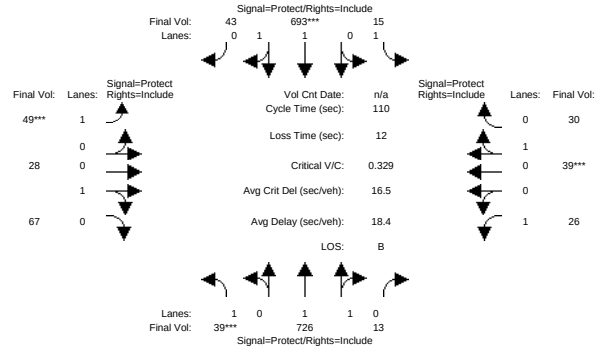
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	37	369	17	20	413	27	23	20	44	6	25	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	369	17	20	413	27	23	20	44	6	25	14
Added Vol:	0	84	0	0	96	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	37	453	17	20	509	27	23	20	44	6	25	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	453	17	20	509	27	23	20	44	6	25	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	453	17	20	509	27	23	20	44	6	25	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	453	17	20	509	27	23	20	44	6	25	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.93	0.07	1.00	1.90	0.10	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3462	130	1805	3404	181	1805	533	1172	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.01	0.15	0.15	0.01	0.04	0.04	0.00	0.02	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.08	0.46	0.46	0.22	0.60	0.60	0.09	0.15	0.15	0.06	0.13	0.13
Volume/Cap:	0.25	0.29	0.29	0.05	0.25	0.25	0.15	0.25	0.25	0.05	0.17	0.17
Delay/Veh:	48.2	18.8	18.8	33.7	10.6	10.6	46.8	41.8	41.8	48.6	43.4	43.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.2	18.8	18.8	33.7	10.6	10.6	46.8	41.8	41.8	48.6	43.4	43.4
LOS by Move:	D	B	B	C	B	B	D	D	D	D	D	D
HCM2kAvgQ:	35	128	128	13	111	111	20	51	51	6	32	32

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #36: 16th St / O St



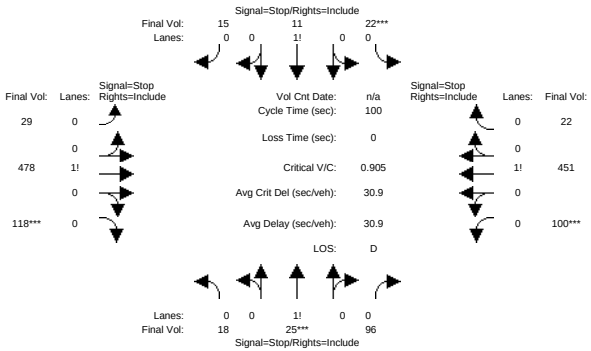
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	39	623	13	15	613	43	49	28	67	26	39	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	623	13	15	613	43	49	28	67	26	39	30
Added Vol:	0	103	0	0	80	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	726	13	15	693	43	49	28	67	26	39	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	726	13	15	693	43	49	28	67	26	39	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	726	13	15	693	43	49	28	67	26	39	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	726	13	15	693	43	49	28	67	26	39	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.88	0.12	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3536	63	1805	3368	209	1805	501	1198	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.02	0.21	0.21	0.01	0.21	0.21	0.03	0.06	0.06	0.01	0.04	0.04
Crit Moves:	****				****		****				****	
Green/Cycle:	0.07	0.53	0.53	0.16	0.62	0.62	0.08	0.12	0.12	0.08	0.12	0.12
Volume/Cap:	0.33	0.39	0.39	0.05	0.33	0.33	0.33	0.47	0.47	0.17	0.33	0.33
Delay/Veh:	50.7	15.6	15.6	38.9	9.8	9.8	48.9	47.1	47.1	47.5	45.4	45.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.7	15.6	15.6	38.9	9.8	9.8	48.9	47.1	47.1	47.5	45.4	45.4
LOS by Move:	D	B	B	D	A	A	D	D	D	D	D	D
HCM2kAvgQ:	40	193	193	11	152	152	47	89	89	24	60	60

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #37: 15th St / M St



Street Name:	15th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Volume Module:																
Base Vol:	2	13	92		22	8	15		29	337	6		85	343	22	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	2	13	92		22	8	15		29	337	6		85	343	22	
Added Vol:	16	12	4		0	3	0		0	141	112		15	108	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	18	25	96		22	11	15		29	478	118		100	451	22	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	18	25	96		22	11	15		29	478	118		100	451	22	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	18	25	96		22	11	15		29	478	118		100	451	22	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	18	25	96		22	11	15		29	478	118		100	451	22	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.13	0.18	0.69		0.46	0.23	0.31		0.05	0.76	0.19		0.17	0.79	0.04	
Final Sat.:	69	96	369		220	110	150		32	528	130		117	525	26	
Capacity Analysis Module:																
Vol/Sat:	0.26	0.26	0.26		0.10	0.10	0.10		0.91	0.91	0.91		0.86	0.86	0.86	
Crit Moves:		****			****						****		****			
Delay/Veh:	11.4	11.4	11.4		10.7	10.7	10.7		36.7	36.7	36.7		31.0	31.0	31.0	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	11.4	11.4	11.4		10.7	10.7	10.7		36.7	36.7	36.7		31.0	31.0	31.0	
LOS by Move:	B	B	B		B	B	B		E	E	E		D	D	D	
ApproachDel:		11.4				10.7				36.7				31.0		
Delay Adj:		1.00				1.00				1.00				1.00		
ApprAdjDel:		11.4				10.7				36.7				31.0		
LOS by Appr:		B				B				E				D		
AllWayAvgQ:	7.6	7.6	7.6		2.4	2.4	2.4		137	137	136.5		105	105	105.2	

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #37 15th St / M St

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0
Initial Vol:	18	25		96	22	11		15	29	478		118	100	451		22

Major Street Volume: 1198
Minor Approach Volume: 139
Minor Approach Volume Threshold: 171

SIGNAL WARRANT DISCLAIMER

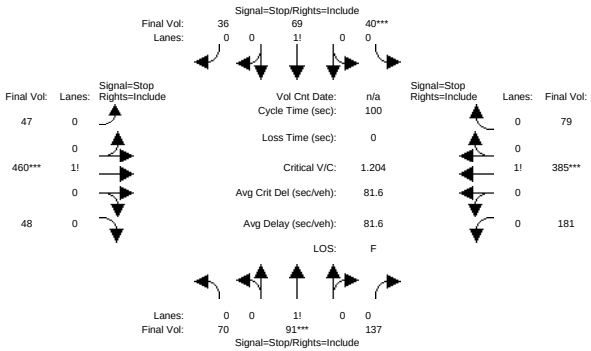
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #37: 15th St / M St

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Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    41   123    40    68    36    47   346    20   177   250    79
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    5    41   123    40    68    36    47   346    20   177   250    79
Added Vol:     65    50    14     0     1     0     0   114    28     4   135     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   70    91   137    40    69    36    47   460    48   181   385    79
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    70    91   137    40    69    36    47   460    48   181   385    79
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   70    91   137    40    69    36    47   460    48   181   385    79
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   70    91   137    40    69    36    47   460    48   181   385    79
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.23  0.31  0.46  0.27  0.48  0.25  0.08  0.83  0.09  0.28  0.60  0.12
Final Sat.:   114   148   222   118   203   106    45   445    46   150   320    66
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.62  0.62  0.62  0.34  0.34  0.34  1.03  1.03  1.03  1.20  1.20  1.20
Crit Moves:        ****        ****                  ****                ****
Delay/Veh:   21.2  21.2  21.2  15.1  15.1  15.1  73.5  73.5  73.5 131.4   131 131.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  21.2  21.2  21.2  15.1  15.1  15.1  73.5  73.5  73.5 131.4   131 131.4
LOS by Move:    C     C     C     C     C     C     F     F     F     F     F     F
ApproachDel:       21.2              15.1              73.5             131.4
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        21.2              15.1              73.5             131.4
LOS by Appr:          C                 C                 F                 F
AllWayAvgQ:  36.4  36.4  36.4  11.6  11.6  11.6   238   238 238.0   453   453 452.7
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #37 15th St / M St
*******************************************************************************
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Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   70   91   137    40   69    36    47  460    48   181  385    79
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1200
Minor Approach Volume:           298
Minor Approach Volume Threshold: 171
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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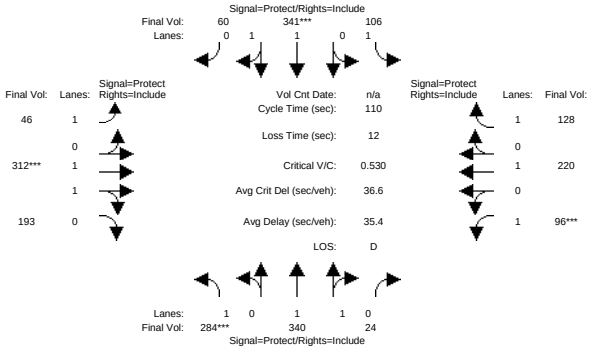
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #38: 16th St / M St



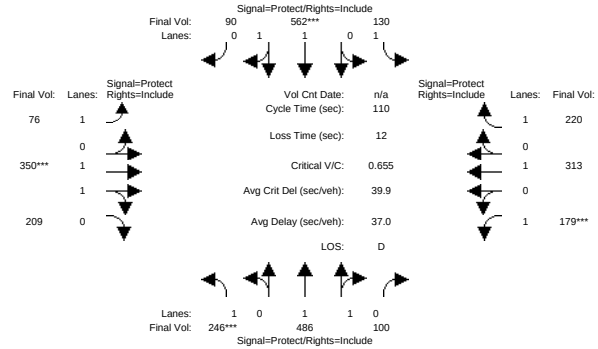
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	177	261	20	105	253	53	42	296	69	91	211	126
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	177	261	20	105	253	53	42	296	69	91	211	126
Added Vol:	107	79	4	1	88	7	4	16	124	5	9	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	284	340	24	106	341	60	46	312	193	96	220	128
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	284	340	24	106	341	60	46	312	193	96	220	128
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	284	340	24	106	341	60	46	312	193	96	220	128
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	284	340	24	106	341	60	46	312	193	96	220	128
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.93	0.93	0.95	0.90	0.90	0.95	1.00	0.85
Lanes:	1.00	1.87	0.13	1.00	1.70	0.30	1.00	1.24	0.76	1.00	1.00	1.00
Final Sat.:	1805	3338	236	1805	3002	528	1805	2103	1301	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.16	0.10	0.10	0.06	0.11	0.11	0.03	0.15	0.15	0.05	0.12	0.08
Crit Moves:	****				****			****		****		
Green/Cycle:	0.30	0.31	0.31	0.20	0.21	0.21	0.13	0.28	0.28	0.10	0.25	0.25
Volume/Cap:	0.53	0.32	0.32	0.30	0.53	0.53	0.19	0.53	0.53	0.53	0.47	0.32
Delay/Veh:	33.3	29.0	29.0	38.2	39.0	39.0	42.6	34.1	34.1	50.0	36.2	34.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.3	29.0	29.0	38.2	39.0	39.0	42.6	34.1	34.1	50.0	36.2	34.5
LOS by Move:	C	C	C	D	D	D	D	C	C	D	D	C
HCM2kAvgQ:	193	117	117	80	170	170	37	199	199	77	154	85

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #38: 16th St / M St



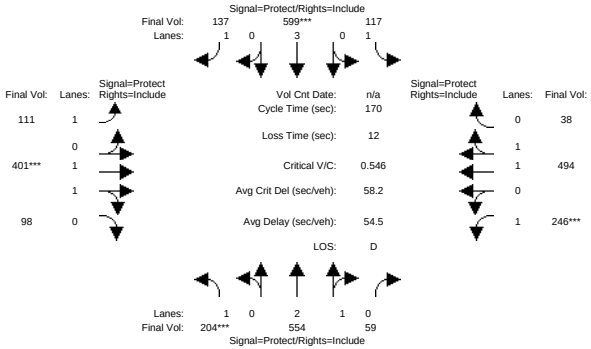
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	126	393	95	129	487	86	67	341	99	175	297	218
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	126	393	95	129	487	86	67	341	99	175	297	218
Added Vol:	120	93	5	1	75	4	9	9	110	4	16	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	246	486	100	130	562	90	76	350	209	179	313	220
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	246	486	100	130	562	90	76	350	209	179	313	220
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	246	486	100	130	562	90	76	350	209	179	313	220
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	246	486	100	130	562	90	76	350	209	179	313	220
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	0.95	0.93	0.93	0.95	0.90	0.90	0.95	1.00	0.85
Lanes:	1.00	1.66	0.34	1.00	1.72	0.28	1.00	1.25	0.75	1.00	1.00	1.00
Final Sat.:	1805	2916	600	1805	3046	488	1805	2134	1274	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.14	0.17	0.17	0.07	0.18	0.18	0.04	0.16	0.16	0.10	0.16	0.14
Crit Moves:	****				****			****		****		
Green/Cycle:	0.21	0.34	0.34	0.15	0.28	0.28	0.11	0.25	0.25	0.15	0.29	0.29
Volume/Cap:	0.66	0.49	0.49	0.49	0.66	0.66	0.38	0.66	0.66	0.66	0.57	0.47
Delay/Veh:	44.1	28.9	28.9	44.5	36.4	36.4	46.5	38.8	38.8	49.6	34.6	32.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.1	28.9	28.9	44.5	36.4	36.4	46.5	38.8	38.8	49.6	34.6	32.9
LOS by Move:	D	C	C	D	D	D	D	D	D	D	C	C
HCM2kAvgQ:	184	194	194	114	275	275	68	245	245	144	220	148

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #39: Olive Ave / M St



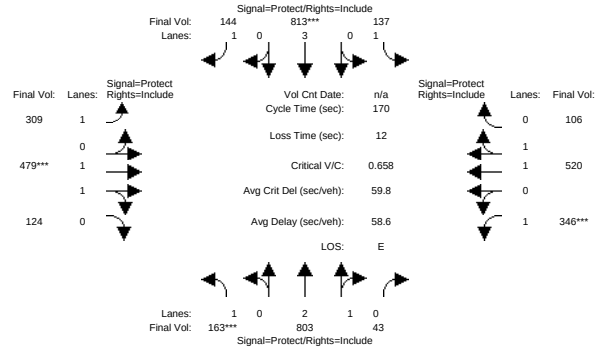
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	204		554	59	117		599	137	111		396	98	246		483	38
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	204		554	59	117		599	137	111		396	98	246		483	38
Added Vol:	0		0	0	0		0	0	0		5	0	0		11	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	204		554	59	117		599	137	111		401	98	246		494	38
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	204		554	59	117		599	137	111		401	98	246		494	38
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	204		554	59	117		599	137	111		401	98	246		494	38
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	204		554	59	117		599	137	111		401	98	246		494	38
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.91	0.85	0.95		0.92	0.92	0.95		0.94	0.94
Lanes:	1.00		2.71	0.29	1.00		3.00	1.00	1.00		1.61	0.39	1.00		1.86	0.14
Final Sat.:	1805		4622	492	1805		5187	1615	1805		2817	688	1805		3315	255
Capacity Analysis Module:																
Vol/Sat:	0.11		0.12	0.12	0.06		0.12	0.08	0.06		0.14	0.14	0.14		0.15	0.15
Crit Moves:	****						****				****		****			
Green/Cycle:	0.21		0.27	0.27	0.15		0.21	0.21	0.15		0.26	0.26	0.25		0.36	0.36
Volume/Cap:	0.55		0.44	0.44	0.44		0.55	0.40	0.41		0.55	0.55	0.55		0.41	0.41
Delay/Veh:	61.9		51.4	51.4	67.3		60.3	58.5	66.6		54.8	54.8	56.8		40.9	40.9
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	61.9		51.4	51.4	67.3		60.3	58.5	66.6		54.8	54.8	56.8		40.9	40.9
LOS by Move:	E		D	D	E		E	E	E		D	D	E		D	D
HCM2kAvgQ:	228		230	230	134		246	147	136		296	296	281		265	265

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #39: Olive Ave / M St



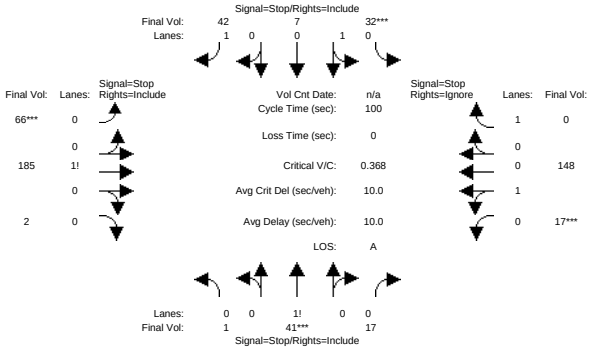
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	163		803	43	137		813	144	309		468	124	346		515	106
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	163		803	43	137		813	144	309		468	124	346		515	106
Added Vol:	0		0	0	0		0	0	0		11	0	0		5	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	163		803	43	137		813	144	309		479	124	346		520	106
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	163		803	43	137		813	144	309		479	124	346		520	106
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	163		803	43	137		813	144	309		479	124	346		520	106
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	163		803	43	137		813	144	309		479	124	346		520	106
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.91	0.85	0.95		0.92	0.92	0.95		0.93	0.93
Lanes:	1.00		2.85	0.15	1.00		3.00	1.00	1.00		1.59	0.41	1.00		1.66	0.34
Final Sat.:	1805		4884	262	1805		5187	1615	1805		2779	719	1805		2924	596
Capacity Analysis Module:																
Vol/Sat:	0.09		0.16	0.16	0.08		0.16	0.09	0.17		0.17	0.17	0.19		0.18	0.18
Crit Moves:	****						****				****		****			
Green/Cycle:	0.14		0.26	0.26	0.12		0.24	0.24	0.27		0.26	0.26	0.29		0.28	0.28
Volume/Cap:	0.66		0.64	0.64	0.64		0.66	0.37	0.63		0.66	0.66	0.66		0.63	0.63
Delay/Veh:	75.9		57.2	57.2	77.8		59.8	54.7	57.1		57.7	57.7	55.8		54.6	54.6
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	75.9		57.2	57.2	77.8		59.8	54.7	57.1		57.7	57.7	55.8		54.6	54.6
LOS by Move:	E		E	E	E		E	D	E		E	E	E		D	D
HCM2kAvgQ:	197		346	346	169		342	149	360		378	378	403		380	380

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #40: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   41    17    15    7    40    56  185     2    17  148    52
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   41    17    15    7    40    56  185     2    17  148    52
Added Vol:      0    0     0    17    0     2    10    0     0     0    0    56
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   41    17    32    7    42    66  185     2    17  148   108
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     1   41    17    32    7    42    66  185     2    17  148     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1   41    17    32    7    42    66  185     2    17  148     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    1   41    17    32    7    42    66  185     2    17  148     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.69  0.29  0.82 0.18  1.00  0.26 0.73  0.01  0.10 0.90  1.00
Final Sat.:    10  425   176   462  101   680   179  503     5    70  611   792
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.10  0.07 0.07  0.06  0.37 0.37  0.37  0.24 0.24  0.00
Crit Moves:        ****        ****              ****              ****
Delay/Veh:    9.0  9.0   9.0   9.1  9.1   7.9  11.0 11.0  11.0   9.4  9.4   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.0  9.0   9.0   9.1  9.1   7.9  11.0 11.0  11.0   9.4  9.4   0.0
LOS by Move:    A    A     A     A    A     A     B    B     B     A    A     *
ApproachDel:       9.0              8.5             11.0              9.4
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        9.0              8.5             11.0              9.4
LOS by Appr:         A                A                B                A
AllWayAvgQ:   2.3  2.3   2.3   1.6  1.6   1.4  13.7 13.7  13.7   7.5  7.5   0.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #40 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



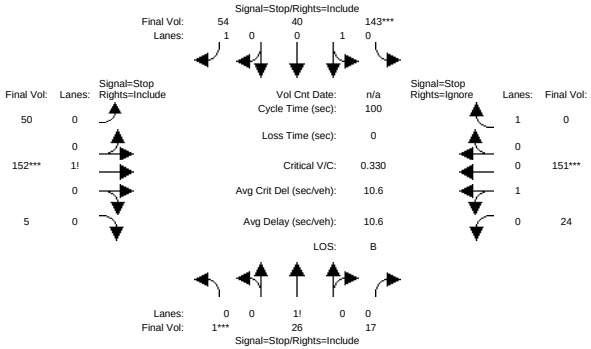
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   41    17    32    7    42    66  185     2    17  148   108
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             526
Minor Approach Volume:           81
Minor Approach Volume Threshold: 650
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #40: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   26    17    87   40    44    48  152     5    24  151    45
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   26    17    87   40    44    48  152     5    24  151    45
Added Vol:      0    0     0    56    0    10     2    0     0     0    0    17
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   26    17   143   40    54    50  152     5    24  151    62
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     1   26    17   143   40    54    50  152     5    24  151     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1   26    17   143   40    54    50  152     5    24  151     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    1   26    17   143   40    54    50  152     5    24  151     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.78 0.22  1.00  0.24 0.74  0.02  0.14 0.86  1.00
Final Sat.:    13  348   227   452  126   700   151  460    15    85  535   712
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.07  0.32 0.32  0.08  0.33 0.33  0.33  0.28 0.28  0.00
Crit Moves:  ****             ****                  ****              ****
Delay/Veh:    9.1  9.1   9.1  11.3 11.3   8.0  11.1 11.1  11.1  10.4 10.4   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.1  9.1   9.1  11.3 11.3   8.0  11.1 11.1  11.1  10.4 10.4   0.0
LOS by Move:    A    A     A     B    B     A     B    B     B     B    B     *
ApproachDel:       9.1             10.5             11.1             10.4
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        9.1             10.5             11.1             10.4
LOS by Appr:         A                B                B                B
AllWayAvgQ:   1.7  1.7   1.7  10.4 10.4   1.9  11.3 11.3  11.3   8.9  8.9   0.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #40 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
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```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    1   26    17   143   40    54    50  152     5    24  151    62
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             444
Minor Approach Volume:           237
Minor Approach Volume Threshold: 723
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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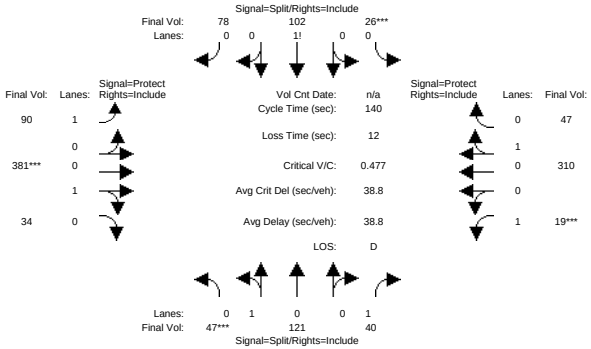
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #41: Childs Ave / Martin Luther King Wy



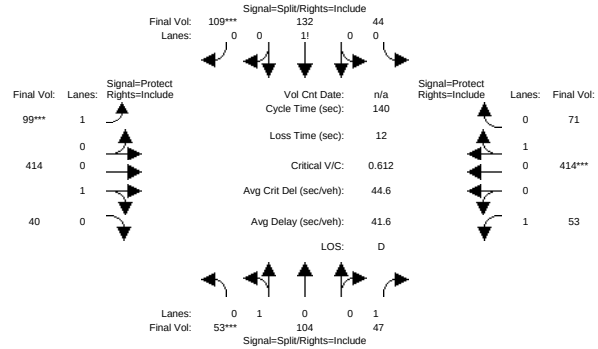
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	45	117	40	26	101	77	86	354	27	19	294	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	117	40	26	101	77	86	354	27	19	294	45
Added Vol:	2	4	0	0	1	1	4	27	7	0	16	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	121	40	26	102	78	90	381	34	19	310	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	121	40	26	102	78	90	381	34	19	310	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	121	40	26	102	78	90	381	34	19	310	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	121	40	26	102	78	90	381	34	19	310	47
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.13	0.49	0.38	1.00	0.92	0.08	1.00	0.87	0.13
Final Sat.:	524	1349	1615	226	887	679	1805	1723	154	1805	1617	245
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.02	0.11	0.11	0.11	0.05	0.22	0.22	0.01	0.19	0.19
Crit Moves:	****			****				****		****		
Green/Cycle:	0.18	0.18	0.18	0.23	0.23	0.23	0.10	0.45	0.45	0.05	0.40	0.40
Volume/Cap:	0.49	0.49	0.14	0.49	0.49	0.49	0.48	0.49	0.49	0.21	0.48	0.48
Delay/Veh:	52.6	52.6	48.2	47.4	47.4	47.4	61.2	27.8	27.8	65.0	32.1	32.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.6	52.6	48.2	47.4	47.4	47.4	61.2	27.8	27.8	65.0	32.1	32.1
LOS by Move:	D	D	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	170	170	37	197	197	197	104	309	309	19	276	276

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #41: Childs Ave / Martin Luther King Wy



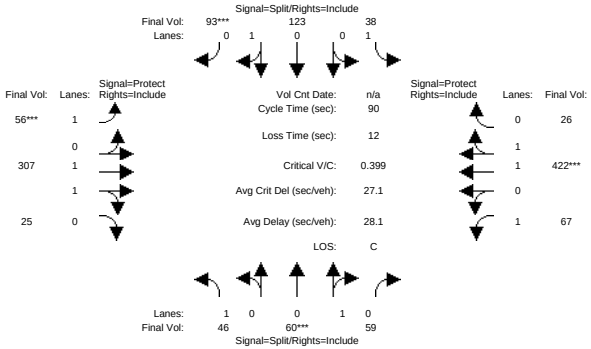
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	46	103	47	42	128	105	98	398	38	53	387	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	103	47	42	128	105	98	398	38	53	387	71
Added Vol:	7	1	0	2	4	4	1	16	2	0	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	104	47	44	132	109	99	414	40	53	414	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	104	47	44	132	109	99	414	40	53	414	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	104	47	44	132	109	99	414	40	53	414	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	104	47	44	132	109	99	414	40	53	414	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.34	0.66	1.00	0.15	0.47	0.38	1.00	0.91	0.09	1.00	0.85	0.15
Final Sat.:	630	1237	1615	276	828	683	1805	1710	165	1805	1586	272
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.03	0.16	0.16	0.16	0.05	0.24	0.24	0.03	0.26	0.26
Crit Moves:	****					****	****				****	
Green/Cycle:	0.14	0.14	0.14	0.26	0.26	0.26	0.09	0.43	0.43	0.09	0.43	0.43
Volume/Cap:	0.61	0.61	0.21	0.61	0.61	0.61	0.61	0.57	0.57	0.33	0.61	0.61
Delay/Veh:	61.2	61.2	54.1	47.9	47.9	47.9	68.1	31.2	31.2	61.2	32.6	32.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.2	61.2	54.1	47.9	47.9	47.9	68.1	31.2	31.2	61.2	32.6	32.6
LOS by Move:	E	E	D	D	D	D	E	C	C	E	C	C
HCM2kAvgQ:	179	179	47	281	281	281	126	365	365	51	390	390

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #42: 13th St / Martin Luther King Wy

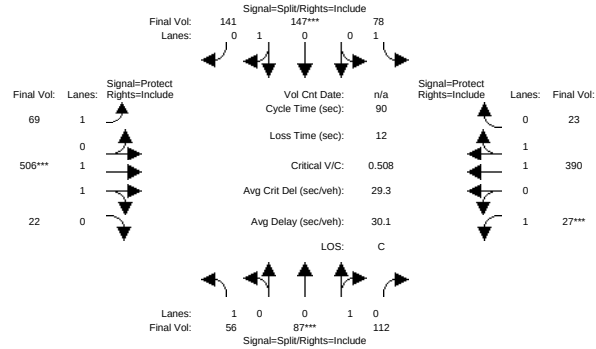



```
Street Name:           13th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      46   60    59   37  119    83   47  291    25   67  359    26
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   46   60    59   37  119    83   47  291    25   67  359    26
Added Vol:      0    0     0    1    4    10    9   16     0    0   63     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   46   60    59   38  123    93   56  307    25   67  422    26
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    46   60    59   38  123    93   56  307    25   67  422    26
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   46   60    59   38  123    93   56  307    25   67  422    26
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   46   60    59   38  123    93   56  307    25   67  422    26
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.93  0.93 0.95 0.94  0.94 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.50  0.50 1.00 0.57  0.43 1.00 1.85  0.15 1.00 1.88  0.12
Final Sat.:  1805  887   872 1805 1012   765 1805 3301   269 1805 3370   208
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.07  0.07 0.02 0.12  0.12 0.03 0.09  0.09 0.04 0.13  0.13
Crit Moves:        ****                ****  ****                ****
Green/Cycle: 0.17 0.17  0.17 0.31 0.31  0.31 0.08 0.23  0.23 0.16 0.31  0.31
Volume/Cap:  0.15 0.40  0.40 0.07 0.40  0.40 0.40 0.40  0.40 0.23 0.40  0.40
Delay/Veh:   32.1 34.2  34.2 22.3 25.2  25.2 41.3 29.7  29.7 33.3 24.4  24.4
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  32.1 34.2  34.2 22.3 25.2  25.2 41.3 29.7  29.7 33.3 24.4  24.4
LOS by Move:    C    C     C    C    C     C    D    C     C    C    C     C
HCM2kAvgQ:     29   82    82   19  123   123   36   99    99   39  124   124
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #42: 13th St / Martin Luther King Wy

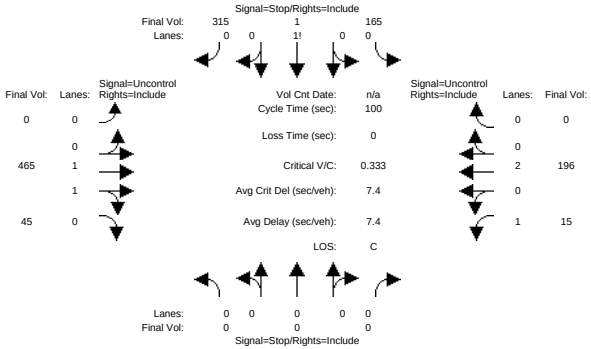



```
Street Name:           13th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      56   87   112   75  145   132   59  443    22   27  374    23
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   56   87   112   75  145   132   59  443    22   27  374    23
Added Vol:      0    0     0    3    2     9   10   63     0    0   16     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   56   87   112   78  147   141   69  506    22   27  390    23
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    56   87   112   78  147   141   69  506    22   27  390    23
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   56   87   112   78  147   141   69  506    22   27  390    23
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   56   87   112   78  147   141   69  506    22   27  390    23
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.92  0.92 0.95 0.93  0.93 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.44  0.56 1.00 0.51  0.49 1.00 1.92  0.08 1.00 1.89  0.11
Final Sat.:  1805  761   980 1805  899   862 1805 3439   150 1805 3382   199
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.11  0.11 0.04 0.16  0.16 0.04 0.15  0.15 0.01 0.12  0.12
Crit Moves:        ****                ****                ****        ****
Green/Cycle: 0.21 0.21  0.21 0.30 0.30  0.30 0.14 0.27  0.27 0.08 0.21  0.21
Volume/Cap:  0.15 0.54  0.54 0.14 0.54  0.54 0.27 0.54  0.54 0.19 0.55  0.55
Delay/Veh:   29.0 33.1  33.1 22.9 27.2  27.2 35.1 28.5  28.5 39.5 32.7  32.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  29.0 33.1  33.1 22.9 27.2  27.2 35.1 28.5  28.5 39.5 32.7  32.7
LOS by Move:    C    C     C    C    C     C    D    C     C    D    C     C
HCM2kAvgQ:     33  138   138   40  178   178   41  159   159   17  133   133
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   165    1   254     0  450    44    15  194     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   165    1   254     0  450    44    15  194     0
Added Vol:      0    0     0     0    0    61     0   15     1     0    2     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   165    1   315     0  465    45    15  196     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   165    1   315     0  465    45    15  196     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   165    1   315     0  465    45    15  196     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   459  736    98  xxxx xxxx xxxxx   510 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   536  349   945  xxxx xxxx xxxxx  1065 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   530  344   945  xxxx xxxx xxxxx  1065 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.31 0.00  0.33  xxxx xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  743 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  4.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 18.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             18.3           xxxxxx           xxxxxx
ApproachLOS:         *                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   165    1   315     0  465    45    15  196     0
ApproachDel:    xxxxxx              18.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=481]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1202]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

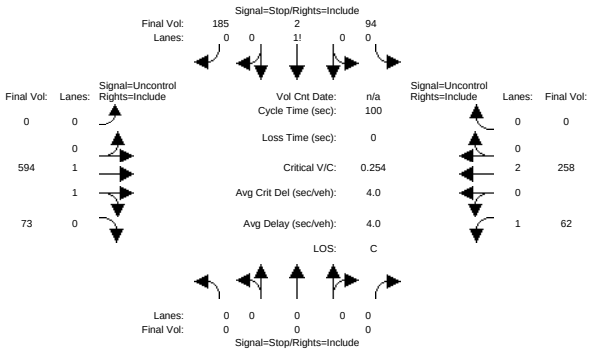
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   165    1   315     0  465    45    15  196     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             721
Minor Approach Volume:           481
Minor Approach Volume Threshold: 398
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    94    2   170     0  533    68    62  258     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    94    2   170     0  533    68    62  258     0
Added Vol:      0    0     0     0    0    15     0   61     5     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    94    2   185     0  594    73    62  258     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    94    2   185     0  594    73    62  258     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    94    2   185     0  594    73    62  258     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   679 1049   129  xxxx xxxx xxxxx   667 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   390  229   903  xxxx xxxx xxxxx   932 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   370  214   903  xxxx xxxx xxxxx   932 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.25 0.01  0.20  xxxx xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  600 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 16.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             16.2           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0    94    2   185     0  594    73    62  258     0
ApproachDel:    xxxxxx              16.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=281]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1268]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

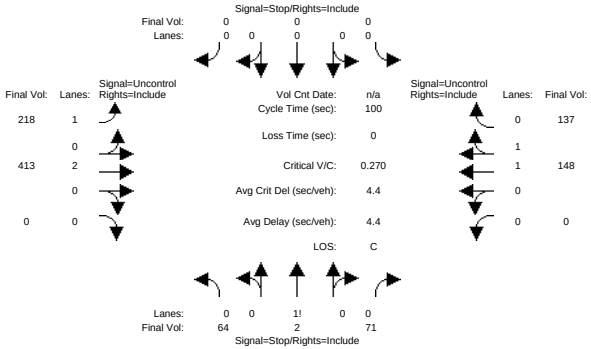
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0    94    2   185     0  594    73    62  258     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             987
Minor Approach Volume:           281
Minor Approach Volume Threshold: 289
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62    2    71     0    0     0   203  413     0     0  148   137
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   62    2    71     0    0     0   203  413     0     0  148   137
Added Vol:      2    0     0     0    0     0    15    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   64    2    71     0    0     0   218  413     0     0  148   137
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    64    2    71     0    0     0   218  413     0     0  148   137
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   64    2    71     0    0     0   218  413     0     0  148   137
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  923 1134   207  xxxx xxxx xxxxx   285 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  273  204   806  xxxx xxxx xxxxx  1289 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    237  170   806  xxxx xxxx xxxxx  1289 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.27 0.01  0.09  xxxx xxxx  xxxx  0.17 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  15.2 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  371 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 20.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      20.3           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   64    2    71     0    0     0   218  413     0     0  148   137
ApproachDel:      20.3           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=137]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1053]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

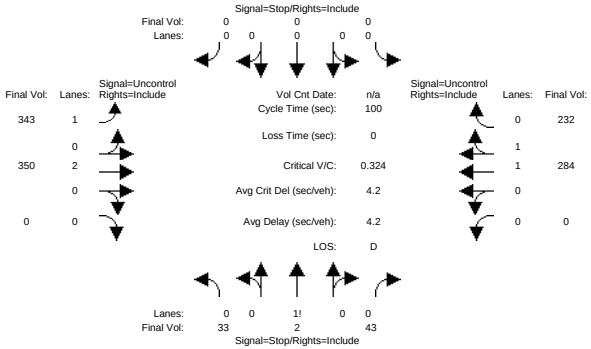
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   64    2    71     0    0     0   218  413     0     0  148   137
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             916
Minor Approach Volume:           137
Minor Approach Volume Threshold: 315
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    2    43     0    0     0   282  350     0     0  284   232
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   33    2    43     0    0     0   282  350     0     0  284   232
Added Vol:      0    0     0     0    0     0    61    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   33    2    43     0    0     0   343  350     0     0  284   232
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    33    2    43     0    0     0   343  350     0     0  284   232
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   33    2    43     0    0     0   343  350     0     0  284   232
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1178 1552   175  xxxx xxxx xxxxx   516 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  187  115   844  xxxx xxxx xxxxx  1060 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    140   78   844  xxxx xxxx xxxxx  1060 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.24 0.03  0.05  xxxx xxxx  xxxx  0.32 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  35.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.0 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  249 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 25.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    *     *     *    *     *     *    *     *
ApproachDel:      25.9           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         D                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   343  350     0     0  284   232
ApproachDel:      25.9           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=78]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1287]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

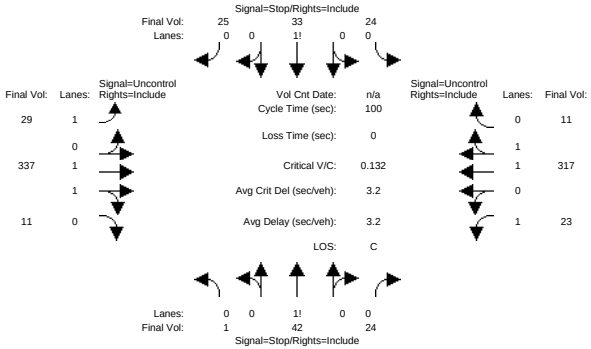
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   33    2    43     0    0     0   343  350     0     0  284   232
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1209
Minor Approach Volume:           78
Minor Approach Volume Threshold: 219
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   38    24    24   33    25    29  337    11    23  317    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   38    24    24   33    25    29  337    11    23  317    11
Added Vol:      0    4     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   42    24    24   33    25    29  337    11    23  317    11
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1   42    24    24   33    25    29  337    11    23  317    11
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1   42    24    24   33    25    29  337    11    23  317    11
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  622  775   174   616  775   164   328 xxxx xxxxx   348 xxxx xxxxx
Potent Cap.:  375  331   846   379  331   858  1243 xxxx xxxxx  1222 xxxx xxxxx
Move Cap.:    325  318   846   320  318   858  1243 xxxx xxxxx  1222 xxxx xxxxx
Volume/Cap:  0.00 0.13  0.03  0.07 0.10  0.03  0.02 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.8 xxxx xxxxx   1.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.0 xxxx xxxxx   8.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  409 xxxxx  xxxx  394 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  0.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 15.5 xxxxx xxxxx 16.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     *    *     *     *    *     *
ApproachDel:      15.5             16.5           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   42    24    24   33    25    29  337    11    23  317    11
ApproachDel:      15.5             16.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=67]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=877]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=82]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=877]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

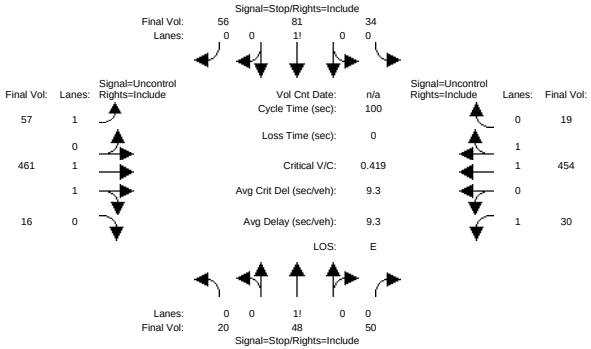
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   42    24    24   33    25    29  337    11    23  317    11
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             728
Minor Approach Volume:           82
Minor Approach Volume Threshold: 394
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20   47    50    34   81    56    57  461    16    30  454    19
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   20   47    50    34   81    56    57  461    16    30  454    19
Added Vol:      0    1     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20   48    50    34   81    56    57  461    16    30  454    19
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20   48    50    34   81    56    57  461    16    30  454    19
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20   48    50    34   81    56    57  461    16    30  454    19
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  911 1116   239   892 1115   237   473 xxxx xxxxx   477 xxxx xxxxx
Potent Cap.:  233  209   769   240  210   771  1099 xxxx xxxxx  1096 xxxx xxxxx
Move Cap.:    137  193   769   171  193   771  1099 xxxx xxxxx  1096 xxxx xxxxx
Volume/Cap:  0.15 0.25  0.07  0.20 0.42  0.07  0.05 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   4.1 xxxx xxxxx   2.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  257 xxxxx  xxxx  248 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.3 xxxxx xxxxx  4.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 30.4 xxxxx xxxxx 46.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    E     *     *    *     *     *    *     *
ApproachDel:      30.4             46.6            xxxxxx           xxxxxx
ApproachLOS:         D                E                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   48    50    34   81    56    57  461    16    30  454    19
ApproachDel:      30.4             46.6            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=118]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1326]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=171]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1326]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

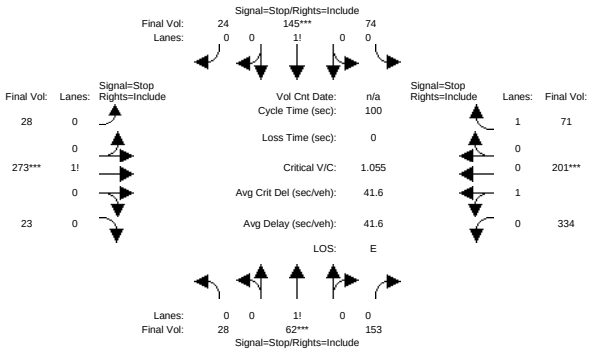
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   48    50    34   81    56    57  461    16    30  454    19
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1037
Minor Approach Volume:           171
Minor Approach Volume Threshold: 272
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #48: 13th St / G St



Street Name:	13th Street									G Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:																
Base Vol:	28	62	153	74	145	20	28	265	23	334	185	71				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	28	62	153	74	145	20	28	265	23	334	185	71				
Added Vol:	0	0	0	0	0	4	0	8	0	0	16	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	28	62	153	74	145	24	28	273	23	334	201	71				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	28	62	153	74	145	24	28	273	23	334	201	71				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	28	62	153	74	145	24	28	273	23	334	201	71				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	28	62	153	74	145	24	28	273	23	334	201	71				
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.12	0.25	0.63	0.30	0.60	0.10	0.09	0.84	0.07	0.62	0.38	1.00				
Final Sat.:	57	125	309	144	281	47	44	428	36	317	191	592				
Capacity Analysis Module:																
Vol/Sat:	0.50	0.50	0.50	0.52	0.52	0.52	0.64	0.64	0.64	1.05	1.05	0.12				
Crit Moves:		****			****			****			****					
Delay/Veh:	16.0	16.0	16.0	17.1	17.1	17.1	20.4	20.4	20.4	81.4	81.4	9.6				
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	16.0	16.0	16.0	17.1	17.1	17.1	20.4	20.4	20.4	81.4	81.4	9.6				
LOS by Move:	C	C	C	C	C	C	C	C	C	F	F	A				
ApproachDel:		16.0			17.1			20.4			73.0					
Delay Adj:		1.00			1.00			1.00			1.00					
ApprAdjDel:		16.0			17.1			20.4			73.0					
LOS by Appr:		C			C			C			F					
AllWayAvgQ:	20.6	20.6	20.6	22.4	22.4	22.4	37.0	37.0	37.0	252	252	3.4				

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #48 13th St / G St

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0	0	1	0	0 1
Initial Vol:	28	62	153		74	145	24		28	273	23		334	201	71	

Major Street Volume: 930
Minor Approach Volume: 243
Minor Approach Volume Threshold: 310

SIGNAL WARRANT DISCLAIMER

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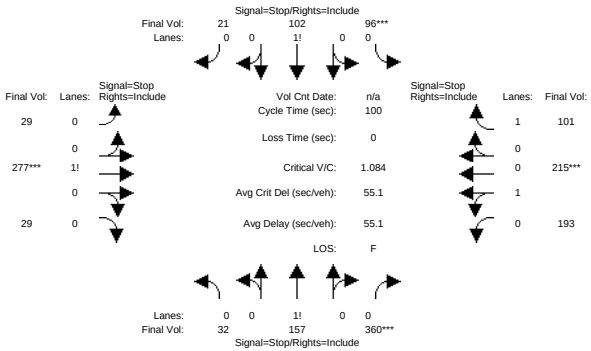
The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #48: 13th St / G St




```
Street Name:            13th Street                     G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      32   157   360    95   102    20    29   261    29   193   207   101
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   32   157   360    95   102    20    29   261    29   193   207   101
Added Vol:      0     0     0     1     0     1     0    16     0     0     8     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   32   157   360    96   102    21    29   277    29   193   215   101
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    32   157   360    96   102    21    29   277    29   193   215   101
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   32   157   360    96   102    21    29   277    29   193   215   101
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   32   157   360    96   102    21    29   277    29   193   215   101
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.06  0.29  0.65  0.44  0.46  0.10  0.08  0.83  0.09  0.47  0.53  1.00
Final Sat.:    30   145   332   179   190    39    38   365    38   206   229   491
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.08  1.08  1.08  0.54  0.54  0.54  0.76  0.76  0.76  0.94  0.94  0.21
Crit Moves:                ****  ****                    ****              ****
Delay/Veh:   90.7  90.7  90.7  20.1  20.1  20.1  30.8  30.8  30.8  56.7  56.7  11.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  90.7  90.7  90.7  20.1  20.1  20.1  30.8  30.8  30.8  56.7  56.7  11.9
LOS by Move:    F     F     F     C     C     C     D     D     D     F     F     B
ApproachDel:       90.7             20.1             30.8             47.8
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:        90.7             20.1             30.8             47.8
LOS by Appr:          F               C               D               E
AllWayAvgQ:    284  284 283.5  24.4 24.4  24.4  60.7 60.7  60.7   138   138   6.4
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #48 13th St / G St
*******************************************************************************
```



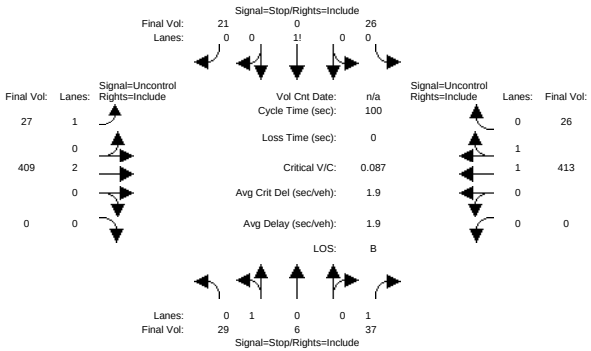
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   32  157   360    96  102    21    29  277    29   193  215   101
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             844
Minor Approach Volume:           549
Minor Approach Volume Threshold: 343
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #49: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26    2    37    26    0    21    27  401     0     0  394    26
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26    2    37    26    0    21    27  401     0     0  394    26
Added Vol:      3    4     0     0    0     0     0    8     0     0   19     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   29    6    37    26    0    21    27  409     0     0  413    26
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    29    6    37    26    0    21    27  409     0     0  413    26
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   29    6    37    26    0    21    27  409     0     0  413    26
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  670  902   205   688  889   220   439 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  347  280   808   337  285   791  1132 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    332  273   808   310  278   791  1132 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.09 0.02  0.05  0.08 0.00  0.03  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.6  xxxx xxxx xxxxx   1.8 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx   9.7 xxxxx xxxx xxxxx   8.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     A     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  320 xxxx xxxxx  xxxx  426 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.4 xxxx xxxxx xxxxx  0.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 17.6 xxxx xxxxx xxxxx 14.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:      13.5             14.5           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   29    6    37    26    0    21    27  409     0     0  413    26
ApproachDel:      13.5             14.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=72]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=994]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=47]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=994]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

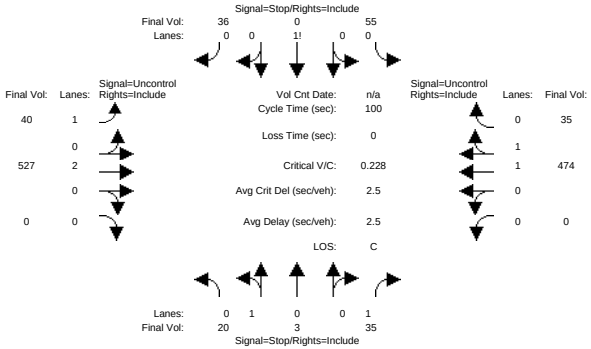
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   29    6    37    26    0    21    27  409     0     0  413    26
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             875
Minor Approach Volume:           72
Minor Approach Volume Threshold: 432
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #49: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      19    2    35    55    0    36    40  514     0     0  459    35
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   19    2    35    55    0    36    40  514     0     0  459    35
Added Vol:      1    1     0     0    0     0     0   13     0     0   15     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20    3    35    55    0    36    40  527     0     0  474    35
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20    3    35    55    0    36    40  527     0     0  474    35
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20    3    35    55    0    36    40  527     0     0  474    35
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  844 1116   264   837 1099   255   509 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  260  209   741   263  214   751  1066 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    240  202   741   241  206   751  1066 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.08 0.01  0.05  0.23 0.00  0.05  0.04 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.7  xxxx xxxx xxxxx   2.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  10.1 xxxxx xxxx xxxxx   8.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  234 xxxx xxxxx  xxxx  329 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.3 xxxx xxxxx xxxxx  1.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 22.0 xxxx xxxxx xxxxx 20.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     C    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:      14.8             20.1           xxxxxx           xxxxxx
ApproachLOS:         B               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   20    3    35    55    0    36    40  527     0     0  474    35
ApproachDel:      14.8             20.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=58]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1225]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=91]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1225]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

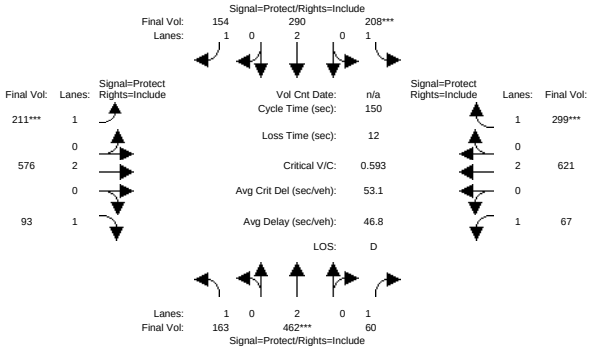
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   20    3    35    55    0    36    40  527     0     0  474    35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1076
Minor Approach Volume:           91
Minor Approach Volume Threshold: 260
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #51: Olive Ave / G St



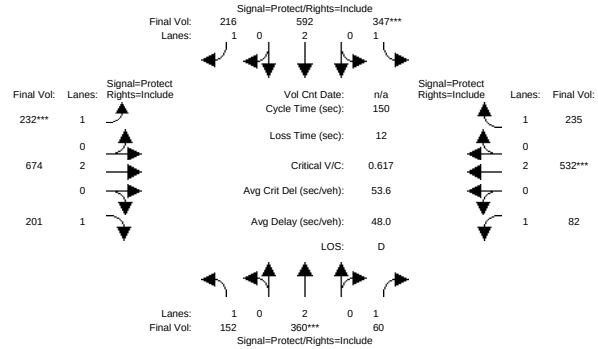
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	158	462	60	208	290	154	211	573	90	67	615	299
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	158	462	60	208	290	154	211	573	90	67	615	299
Added Vol:	5	0	0	0	0	0	0	3	3	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	163	462	60	208	290	154	211	576	93	67	621	299
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	163	462	60	208	290	154	211	576	93	67	621	299
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	163	462	60	208	290	154	211	576	93	67	621	299
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	163	462	60	208	290	154	211	576	93	67	621	299
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.04	0.12	0.08	0.10	0.12	0.16	0.06	0.04	0.17	0.19
Crit Moves:		****		****			****					****
Green/Cycle:	0.20	0.22	0.22	0.19	0.21	0.21	0.20	0.39	0.39	0.12	0.31	0.31
Volume/Cap:	0.45	0.59	0.17	0.59	0.38	0.45	0.59	0.40	0.15	0.32	0.55	0.59
Delay/Veh:	53.7	54.1	48.1	57.7	51.1	52.6	57.4	32.9	29.3	61.9	43.4	45.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.7	54.1	48.1	57.7	51.1	52.6	57.4	32.9	29.3	61.9	43.4	45.4
LOS by Move:	D	D	D	E	D	D	E	C	C	E	D	D
HCM2kAvgQ:	169	262	56	212	143	148	234	244	67	76	312	297

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #51: Olive Ave / G St



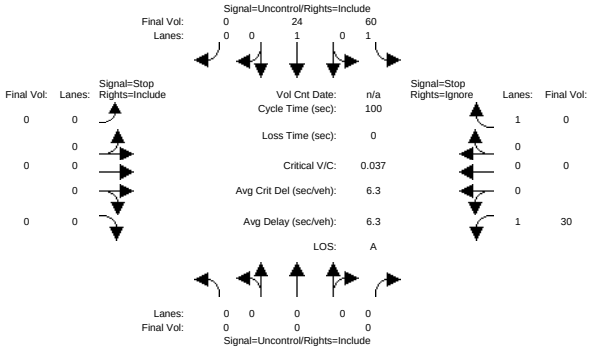
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	149	360	60	347	592	216	232	668	196	82	529	235
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	360	60	347	592	216	232	668	196	82	529	235
Added Vol:	3	0	0	0	0	0	0	6	5	0	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	152	360	60	347	592	216	232	674	201	82	532	235
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	152	360	60	347	592	216	232	674	201	82	532	235
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	152	360	60	347	592	216	232	674	201	82	532	235
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	152	360	60	347	592	216	232	674	201	82	532	235
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.10	0.04	0.19	0.16	0.13	0.13	0.19	0.12	0.05	0.15	0.15
Crit Moves:		****		****			****					****
Green/Cycle:	0.16	0.16	0.16	0.31	0.31	0.31	0.21	0.36	0.36	0.09	0.24	0.24
Volume/Cap:	0.52	0.62	0.23	0.62	0.52	0.43	0.62	0.52	0.35	0.51	0.62	0.61
Delay/Veh:	59.5	60.6	55.2	46.1	42.9	41.5	57.0	38.4	35.7	67.8	52.3	53.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.5	60.6	55.2	46.1	42.9	41.5	57.0	38.4	35.7	67.8	52.3	53.7
LOS by Move:	E	E	E	D	D	D	E	D	D	E	D	D
HCM2kAvgQ:	171	220	62	326	280	187	257	318	167	105	298	254

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #52: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    51   24     0     0    0     0    30    0   161
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    51   24     0     0    0     0    30    0   161
Added Vol:      0    0     0     9    0     0     0    0     0     0    0    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    60   24     0     0    0     0    30    0   175
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0    60   24     0     0    0     0    30    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    60   24     0     0    0     0    30    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   144 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   853 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   829 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.04 xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   2.9 xxxx xxxxx  xxxx xxxx xxxxx   2.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx   9.5 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.5
ApproachLOS:         *                *                *                A
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0    60   24     0     0    0     0    30    0   175
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.5
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=205]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=289]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

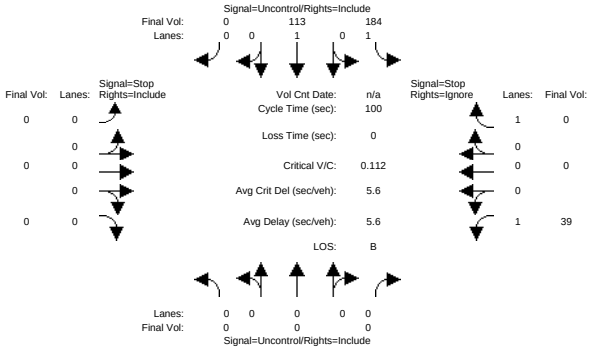
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0    60   24     0     0    0     0    30    0   175
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             84
Minor Approach Volume:          205
Minor Approach Volume Threshold: 1439
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #52: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   170  113     0     0    0     0    39    0    96
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   170  113     0     0    0     0    39    0    96
Added Vol:      0    0     0    14    0     0     0    0     0     0    0     9
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   184  113     0     0    0     0    39    0   105
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   184  113     0     0    0     0    39    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   184  113     0     0    0     0    39    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   481 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   548 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   500 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.11 xxxx  xxxx  xxxx xxxx  xxxx  0.08 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   9.5 xxxx xxxxx  xxxx xxxx xxxxx   6.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  12.8 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             12.8
ApproachLOS:         *                *                *                B
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   184  113     0     0    0     0    39    0   105
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             12.8
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=144]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=441]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

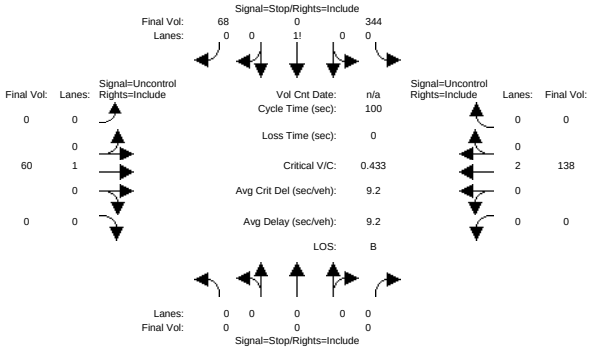
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   184  113     0     0    0     0    39    0   105
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             297
Minor Approach Volume:           144
Minor Approach Volume Threshold: 896
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #53: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   344    0    68     0   51     0     0  124     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   344    0    68     0   51     0     0  124     0
Added Vol:      0    0     0     0    0     0     0    9     0     0   14     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   344    0    68     0   60     0     0  138     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   344    0    68     0   60     0     0  138     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   344    0    68     0   60     0     0  138     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   198  198    69  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   795  701  1000  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   795  701  1000  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.43 0.00  0.07  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  823 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 13.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             13.7            xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0    68     0   60     0     0  138     0
ApproachDel:    xxxxxx             13.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=412]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=610]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   344    0    68     0   60     0     0  138     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             198
Minor Approach Volume:           412
Minor Approach Volume Threshold: 843
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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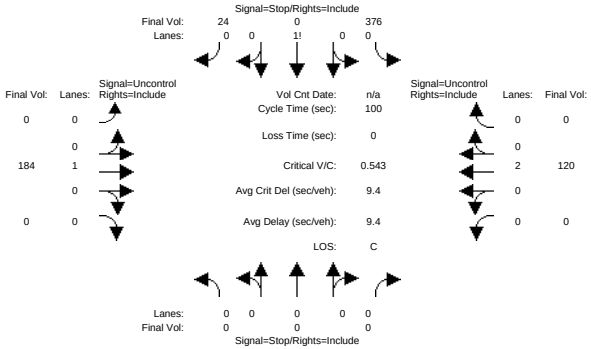
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #53: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   376    0    24     0  170     0     0  111     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   376    0    24     0  170     0     0  111     0
Added Vol:      0    0     0     0    0     0     0   14     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   376    0    24     0  184     0     0  120     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   376    0    24     0  184     0     0  120     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   376    0    24     0  184     0     0  120     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   304  304    60  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   692  613  1011  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   692  613  1011  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.54 0.00  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  705 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 16.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             16.6           xxxxxx           xxxxxx
ApproachLOS:         *               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    24     0  184     0     0  120     0
ApproachDel:    xxxxxx              16.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=400]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=704]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

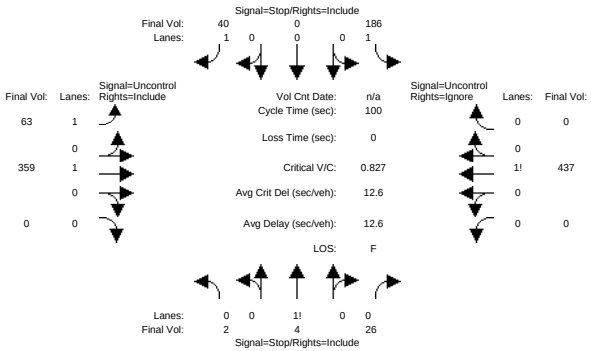
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   376    0    24     0  184     0     0  120     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             304
Minor Approach Volume:           400
Minor Approach Volume Threshold: 695
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    3    26   184    0    40    63  350     0     0  423   439
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    3    26   184    0    40    63  350     0     0  423   439
Added Vol:      0    1     0     2    0     0     0    9     0     0   14     8
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    4    26   186    0    40    63  359     0     0  437   447
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2    4    26   186    0    40    63  359     0     0  437     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    4    26   186    0    40    63  359     0     0  437     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  942  922   359   937 xxxx   437   437 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  245  272   690   247 xxxx   624  1134 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    220  257   690   225 xxxx   624  1134 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.01 0.02  0.04  0.83 xxxx  0.06  0.06 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   157 xxxx   5.1   4.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  68.6 xxxx  11.2   8.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     B     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  513 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     *    *     *
ApproachDel:      12.5             58.4            xxxxxx            xxxxxx
ApproachLOS:         B                F                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    2    4    26   186    0    40    63  359     0     0  437   447
ApproachDel:      12.5             58.4            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1564]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=226]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1564]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

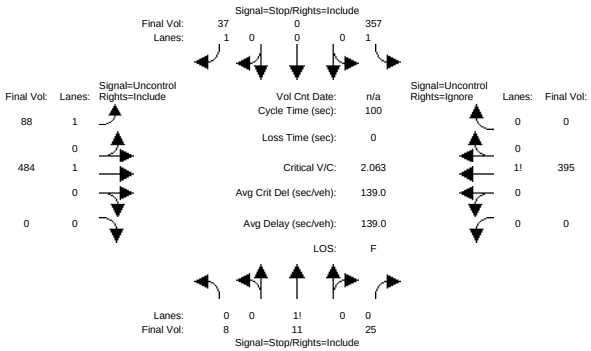
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    2    4    26   186    0    40    63  359     0     0  437   447
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1306
Minor Approach Volume:           226
Minor Approach Volume Threshold: 259
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8   11    25   349    0    37    88  470     0     0  386   312
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    8   11    25   349    0    37    88  470     0     0  386   312
Added Vol:      0    0     0     8    0     0     0   14     0     0    9     2
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    8   11    25   357    0    37    88  484     0     0  395   314
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     8   11    25   357    0    37    88  484     0     0  395     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    8   11    25   357    0    37    88  484     0     0  395     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1074 1055   484  1073 xxxx   395   395 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  199  227   587   200 xxxx   659  1175 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    177  210   587   173 xxxx   659  1175 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.05 0.05  0.04  2.06 xxxx  0.06  0.07 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   695 xxxx   4.5   6.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 541.6 xxxx  10.8   8.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     B     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  314 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 18.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      18.3            491.7           xxxxxx           xxxxxx
ApproachLOS:         C                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    8   11    25   357    0    37    88  484     0     0  395   314
ApproachDel:      18.3            491.7           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=44]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1719]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=53.8]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=394]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1719]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

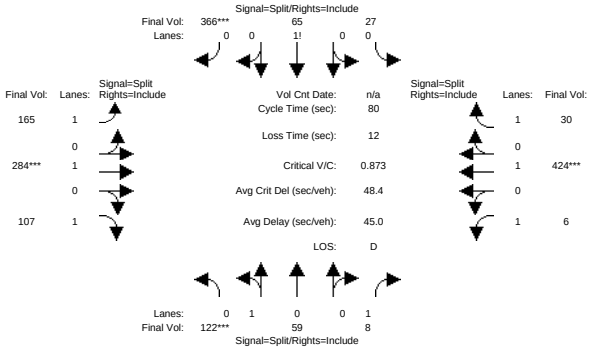
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    8   11    25   357    0    37    88  484     0     0  395   314
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1281
Minor Approach Volume:           394
Minor Approach Volume Threshold: 268
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

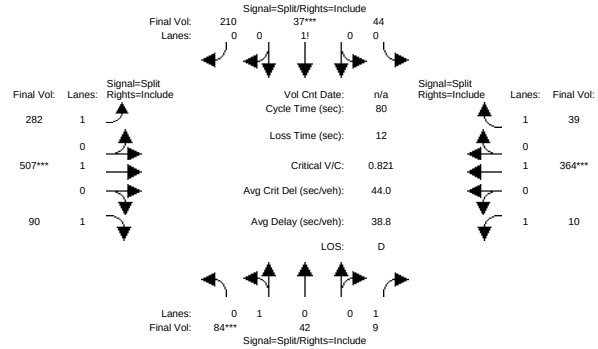



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     122   59     8   27   65   366  165  273   107    6  402    30
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  122   59     8   27   65   366  165  273   107    6  402    30
Added Vol:      0    0     0    0    0     0    0   11     0    0   22     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  122   59     8   27   65   366  165  284   107    6  424    30
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   122   59     8   27   65   366  165  284   107    6  424    30
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  122   59     8   27   65   366  165  284   107    6  424    30
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  122   59     8   27   65   366  165  284   107    6  424    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.89 0.89  0.89 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.06 0.14  0.80 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1238  599  1615  100  240  1350 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.00 0.27 0.27  0.27 0.09 0.15  0.07 0.00 0.22  0.02
Crit Moves:  ****                ****       ****              ****
Green/Cycle: 0.13 0.13  0.13 0.31 0.31  0.31 0.17 0.17  0.17 0.25 0.25  0.25
Volume/Cap:  0.79 0.79  0.04 0.89 0.89  0.89 0.54 0.89  0.39 0.01 0.89  0.07
Delay/Veh:   50.5 50.5  30.9 43.4 43.4  43.4 32.5 57.1  30.6 22.5 46.9  22.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  50.5 50.5  30.9 43.4 43.4  43.4 32.5 57.1  30.6 22.5 46.9  22.9
LOS by Move:    D    D     C    D    D     D    C    E     C    C    D     C
HCM2kAvgQ:    163  163     5  362  362   362  112  257    69    3  344    15
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

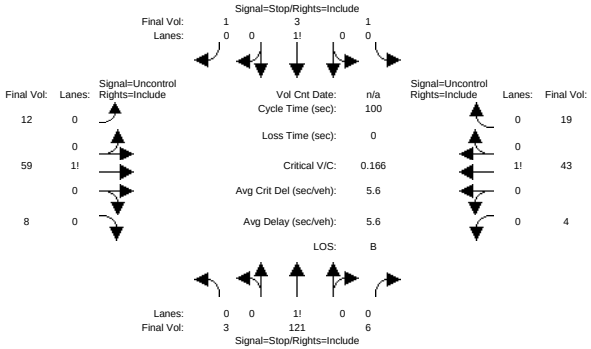



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      84   42     9   44   37   210  282  485    90   10  353    39
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   84   42     9   44   37   210  282  485    90   10  353    39
Added Vol:      0    0     0    0    0     0    0   22     0    0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   84   42     9   44   37   210  282  507    90   10  364    39
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    84   42     9   44   37   210  282  507    90   10  364    39
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   84   42     9   44   37   210  282  507    90   10  364    39
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   84   42     9   44   37   210  282  507    90   10  364    39
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.90 0.90  0.90 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.15 0.13  0.72 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1226  613  1615  258  217  1229 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.01 0.17 0.17  0.17 0.16 0.27  0.06 0.01 0.19  0.02
Crit Moves:  ****                ****              ****              ****
Green/Cycle: 0.13 0.13  0.13 0.20 0.20  0.20 0.31 0.31  0.31 0.22 0.22  0.22
Volume/Cap:  0.55 0.55  0.04 0.87 0.87  0.87 0.51 0.87  0.18 0.03 0.87  0.11
Delay/Veh:   35.7 35.7  30.9 51.8 51.8  51.8 23.5 39.3  20.5 24.5 47.3  25.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  35.7 35.7  30.9 51.8 51.8  51.8 23.5 39.3  20.5 24.5 47.3  25.0
LOS by Move:    D    D     C    D    D     D    C    D     C    C    D     C
HCM2kAvgQ:     94   94     6  253  253   253  154  378    42    5  298    20
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3   18     6     1     3     1    11   59     8     4   43     7
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3   18     6     1     3     1    11   59     8     4   43     7
Added Vol:      0  103     0     0     0     0     1    0     0     0    0    12
PasserByVol:    0    0     0     0     0     0     0    0     0     0    0     0
Initial Fut:    3  121     6     1     3     1    12   59     8     4   43    19
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3  121     6     1     3     1    12   59     8     4   43    19
Reduct Vol:     0    0     0     0     0     0     0    0     0     0    0     0
FinalVolume:    3  121     6     1     3     1    12   59     8     4   43    19
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  150  157    63   211  152    53    62 xxxx xxxxx    67 xxxx xxxxx
Potent Cap.:  823  739  1007   750  744  1021  1554 xxxx xxxxx  1547 xxxx xxxxx
Move Cap.:    813  731  1007   646  736  1021  1554 xxxx xxxxx  1547 xxxx xxxxx
Volume/Cap:  0.00 0.17  0.01  0.00 0.00  0.00  0.01 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  742 xxxxx  xxxx  757 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.9 xxxxx xxxxx  9.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    A     *     *    *     *     *    *     *
ApproachDel:      10.9              9.8           xxxxxx           xxxxxx
ApproachLOS:         B                A                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3  121     6     1     3     1    12   59     8     4   43    19
ApproachDel:      10.9              9.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=130]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=280]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=280]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

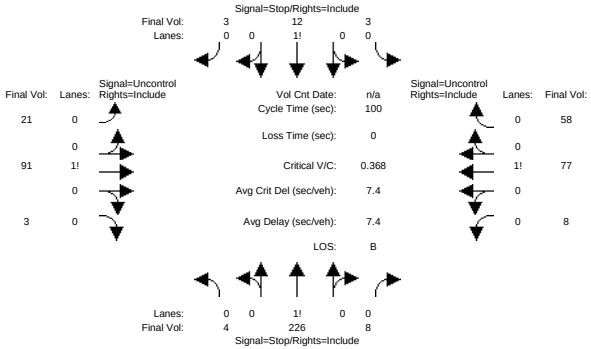
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3  121     6     1     3     1    12   59     8     4   43    19
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             145
Minor Approach Volume:           130
Minor Approach Volume Threshold: 734
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                         O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   58     8     3   12     3    18   91     3     8   77    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   58     8     3   12     3    18   91     3     8   77    11
Added Vol:      0  168     0     0    0     0     3    0     0     0    0    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4  226     8     3   12     3    21   91     3     8   77    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4  226     8     3   12     3    21   91     3     8   77    58
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4  226     8     3   12     3    21   91     3     8   77    58
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  264  286    93   374  258   106   135 xxxx xxxxx    94 xxxx xxxxx
Potent Cap.:  693  627   970   587  650   954  1462 xxxx xxxxx  1513 xxxx xxxxx
Move Cap.:    671  615   970   410  637   954  1462 xxxx xxxxx  1513 xxxx xxxxx
Volume/Cap:  0.01 0.37  0.01  0.01 0.02  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  623 xxxxx  xxxx  614 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.8 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 14.3 xxxxx xxxxx 11.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      14.3             11.0            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  226     8     3   12     3    21   91     3     8   77    58
ApproachDel:      14.3             11.0            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=238]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=514]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=514]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

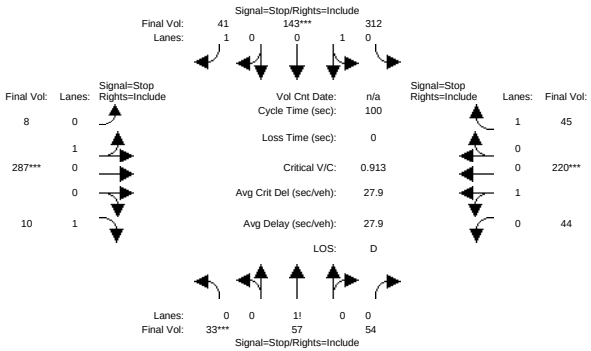
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  226     8     3   12     3    21   91     3     8   77    58
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             258
Minor Approach Volume:           238
Minor Approach Volume Threshold: 581
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #57: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33    56    46    91   138    41     8   266    10    34   209    45
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   33    56    46    91   138    41     8   266    10    34   209    45
Added Vol:      0     1     8   221     5     0     0    21     0    10    11     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   33    57    54   312   143    41     8   287    10    44   220    45
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    33    57    54   312   143    41     8   287    10    44   220    45
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   33    57    54   312   143    41     8   287    10    44   220    45
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   33    57    54   312   143    41     8   287    10    44   220    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.23  0.40  0.37  0.69  0.31  1.00  0.03  0.97  1.00  0.17  0.83  1.00
Final Sat.:   101   174   165   342   157   574    13   459   519    77   387   515
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.33  0.33  0.33  0.91  0.91  0.07  0.63  0.63  0.02  0.57  0.57  0.09
Crit Moves:  ****                  ****              ****              ****
Delay/Veh:   13.9  13.9  13.9  46.6  46.6   9.3  20.4  20.4   9.4  18.6  18.6   9.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  13.9  13.9  13.9  46.6  46.6   9.3  20.4  20.4   9.4  18.6  18.6   9.9
LOS by Move:    B     B     B     E     E     A     C     C     A     C     C     A
ApproachDel:       13.9              43.5              20.0              17.3
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        13.9              43.5              20.0              17.3
LOS by Appr:          B                 E                 C                 C
AllWayAvgQ:  10.0  10.0  10.0   127   127   1.8  33.9  33.9   0.4  27.3  27.3   2.1
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #57 13th St / M St
*******************************************************************************
```



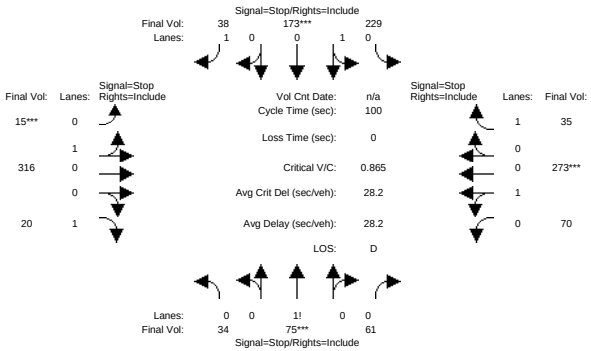
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   33   57    54   312  143    41     8  287    10    44  220    45
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             640
Minor Approach Volume:           309
Minor Approach Volume Threshold: 566
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #57: 13th St / M St




```
Street Name:            13th Street                          M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      34    72    54   111   172    38    15   300    20    57   253    35
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   34    72    54   111   172    38    15   300    20    57   253    35
Added Vol:      0     3     7   118     1     0     0    16     0    13    20     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   34    75    61   229   173    38    15   316    20    70   273    35
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    34    75    61   229   173    38    15   316    20    70   273    35
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   34    75    61   229   173    38    15   316    20    70   273    35
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   34    75    61   229   173    38    15   316    20    70   273    35
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.20  0.44  0.36  0.57  0.43  1.00  0.05  0.95  1.00  0.20  0.80  1.00
Final Sat.:    81   178   145   265   200   527    21   440   503    94   367   508
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.42  0.42  0.42  0.86  0.86  0.07  0.72  0.72  0.04  0.74  0.74  0.07
Crit Moves:        ****              ****        ****                    ****
Delay/Veh:   15.9  15.9  15.9  40.3  40.3   9.8  25.6  25.6   9.8  27.6  27.6  10.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  15.9  15.9  15.9  40.3  40.3   9.8  25.6  25.6   9.8  27.6  27.6  10.0
LOS by Move:    C     C     C     E     E     A     D     D     A     D     D     A
ApproachDel:       15.9              37.7              24.7              25.9
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        15.9              37.7              24.7              25.9
LOS by Appr:          C                 E                 C                 D
AllWayAvgQ:  13.7  13.7  13.7  96.9  96.9   1.8  49.2  49.2   0.9  55.3  55.3   1.7
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #57 13th St / M St
*******************************************************************************
```



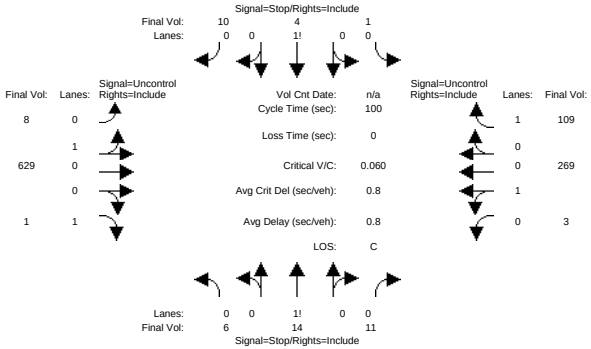
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   34   75   61   229  173   38    15  316   20    70  273   35
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             729
Minor Approach Volume:           440
Minor Approach Volume Threshold: 510
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #58: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   14     7     1    4    10     8  379     1     3  247     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   14     7     1    4    10     8  379     1     3  247     6
Added Vol:      0    0     4     0    0     0     0  250     0     0   22   103
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6   14    11     1    4    10     8  629     1     3  269   109
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6   14    11     1    4    10     8  629     1     3  269   109
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6   14    11     1    4    10     8  629     1     3  269   109
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  982 1029   629   933  921   269   378 xxxx xxxxx   630 xxxx xxxxx
Potent Cap.:  230  236   486   248  273   775  1192 xxxx xxxxx   962 xxxx xxxxx
Move Cap.:    223  233   486   230  270   775  1192 xxxx xxxxx   962 xxxx xxxxx
Volume/Cap:  0.03 0.06  0.02  0.00 0.01  0.01  0.01 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.0 xxxx xxxxx   8.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  283 xxxxx  xxxx  468 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.4 xxxxx xxxxx  0.1 xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 19.3 xxxxx xxxxx 13.0 xxxxx   8.0 xxxx xxxxx   8.8 xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     A    *     *     A    *     *
ApproachDel:      19.3             13.0           xxxxxx           xxxxxx
ApproachLOS:         C                B                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14    11     1    4    10     8  629     1     3  269   109
ApproachDel:      19.3             13.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1065]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1065]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

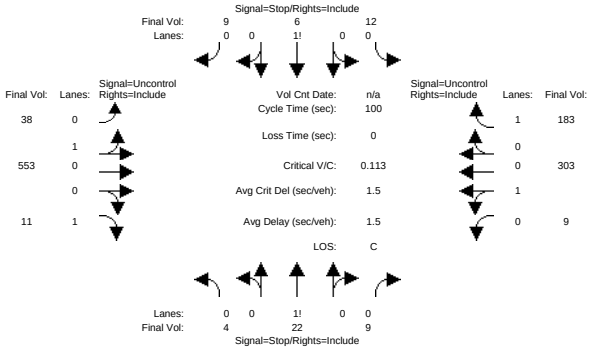
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    6   14    11     1    4    10     8  629     1     3  269   109
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1019
Minor Approach Volume:           31
Minor Approach Volume Threshold: 278
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #58: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   22     8    12    6     9    38  412    11     9  271    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   22     8    12    6     9    38  412    11     9  271    15
Added Vol:      0    0     1     0    0     0     0  141     0     0   32   168
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4   22     9    12    6     9    38  553    11     9  303   183
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4   22     9    12    6     9    38  553    11     9  303   183
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4   22     9    12    6     9    38  553    11     9  303   183
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1049 1133   553   971  961   303   486 xxxx xxxxx   564 xxxx xxxxx
Potent Cap.:  207  205   537   234  258   741  1087 xxxx xxxxx  1018 xxxx xxxxx
Move Cap.:    194  196   537   203  247   741  1087 xxxx xxxxx  1018 xxxx xxxxx
Volume/Cap:  0.02 0.11  0.02  0.06 0.02  0.01  0.03 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.7 xxxx xxxxx   0.7 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx   8.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  234 xxxxx  xxxx  283 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.5 xxxxx xxxxx  0.3 xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 23.1 xxxxx xxxxx 19.1 xxxxx   8.4 xxxx xxxxx   8.6 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      23.1             19.1           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22     9    12    6     9    38  553    11     9  303   183
ApproachDel:      23.1             19.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1159]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1159]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

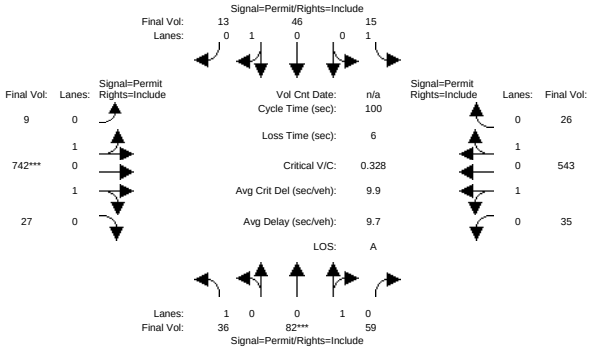
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    4   22     9    12    6     9    38  553    11     9  303   183
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1097
Minor Approach Volume:           35
Minor Approach Volume Threshold: 253
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #59: Main St / M St



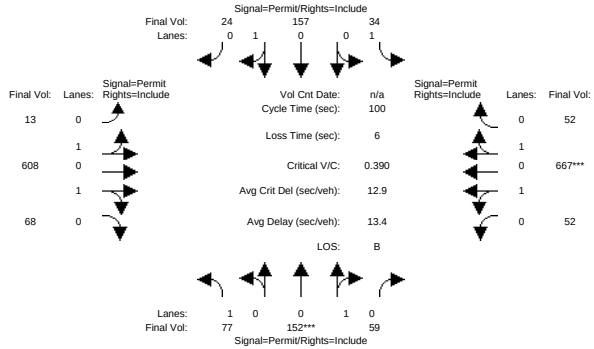
Street Name:	Main Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	10	10	10		10	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	35	81	59		15	46	13		9	721	27		35	529	26	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	35	81	59		15	46	13		9	721	27		35	529	26	
Added Vol:	1	1	0		0	0	0		0	21	0		0	14	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	36	82	59		15	46	13		9	742	27		35	543	26	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	36	82	59		15	46	13		9	742	27		35	543	26	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	36	82	59		15	46	13		9	742	27		35	543	26	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	36	82	59		15	46	13		9	742	27		35	543	26	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.72	0.94	0.94		0.57	0.97	0.97		0.90	0.90	0.90		0.83	0.83	0.83	
Lanes:	1.00	0.58	0.42		1.00	0.78	0.22		0.02	1.91	0.07		0.11	1.80	0.09	
Final Sat.:	1368	1035	745		1077	1432	405		39	3244	118		183	2832	136	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.08	0.08		0.01	0.03	0.03		0.23	0.23	0.23		0.19	0.19	0.19	
Crit Moves:		****								****						
Green/Cycle:	0.24	0.24	0.24		0.24	0.24	0.24		0.70	0.70	0.70		0.70	0.70	0.70	
Volume/Cap:	0.11	0.33	0.33		0.06	0.13	0.13		0.33	0.33	0.33		0.27	0.27	0.27	
Delay/Veh:	29.7	31.7	31.7		29.2	29.8	29.8		6.0	6.0	6.0		5.7	5.7	5.7	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	29.7	31.7	31.7		29.2	29.8	29.8		6.0	6.0	6.0		5.7	5.7	5.7	
LOS by Move:	C	C	C		C	C	C		A	A	A		A	A	A	
HCM2kAvgQ:	23	93	93		10	36	36		120	120	120		90	90	90	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #59: Main St / M St



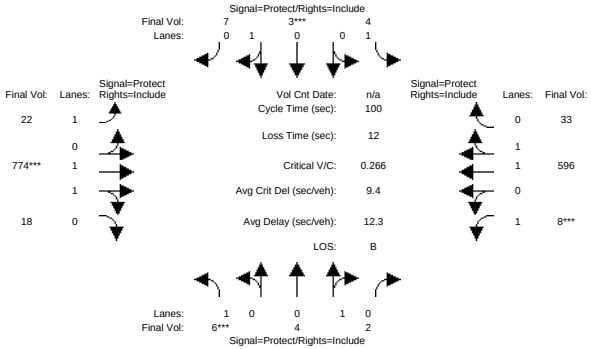
Street Name:	Main Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	10	10	10		10	10	10		10	10	10		10	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	77	152	59		34	156	24		13	594	67		52	646	52	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	77	152	59		34	156	24		13	594	67		52	646	52	
Added Vol:	0	0	0		0	1	0		0	14	1		0	21	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	77	152	59		34	157	24		13	608	68		52	667	52	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	77	152	59		34	157	24		13	608	68		52	667	52	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	77	152	59		34	157	24		13	608	68		52	667	52	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	77	152	59		34	157	24		13	608	68		52	667	52	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.53	0.96	0.96		0.49	0.98	0.98		0.88	0.88	0.88		0.81	0.81	0.81	
Lanes:	1.00	0.72	0.28		1.00	0.87	0.13		0.04	1.76	0.20		0.13	1.74	0.13	
Final Sat.:	1013	1311	509		925	1615	247		63	2946	330		208	2665	208	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.12	0.12		0.04	0.10	0.10		0.21	0.21	0.21		0.25	0.25	0.25	
Crit Moves:		****												****		
Green/Cycle:	0.30	0.30	0.30		0.30	0.30	0.30		0.64	0.64	0.64		0.64	0.64	0.64	
Volume/Cap:	0.26	0.39	0.39		0.12	0.33	0.33		0.32	0.32	0.32		0.39	0.39	0.39	
Delay/Veh:	27.2	28.4	28.4		25.8	27.7	27.7		8.1	8.1	8.1		8.7	8.7	8.7	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	27.2	28.4	28.4		25.8	27.7	27.7		8.1	8.1	8.1		8.7	8.7	8.7	
LOS by Move:	C	C	C		C	C	C		A	A	A		A	A	A	
HCM2kAvgQ:	49	132	132		21	110	110		120	120	120		146	146	146	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #60: 18th St / M St



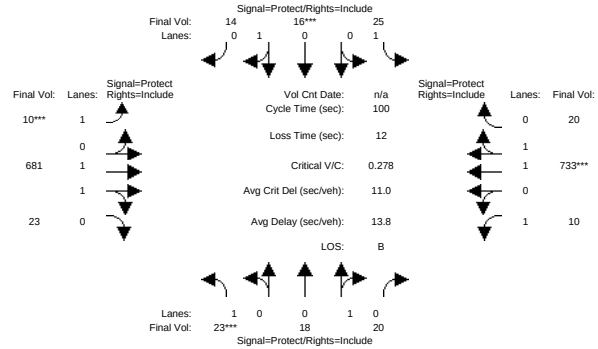
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	2		3	2	4		2	7	22		769	2	8		586	32
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	2		3	2	4		2	7	22		769	2	8		586	32
Added Vol:	4		1	0	0		1	0	0		5	16	0		10	1
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	6		4	2	4		3	7	22		774	18	8		596	33
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	6		4	2	4		3	7	22		774	18	8		596	33
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	6		4	2	4		3	7	22		774	18	8		596	33
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	6		4	2	4		3	7	22		774	18	8		596	33
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	0.95	0.95		0.90	0.90	0.95		0.95	0.95	0.95		0.94	0.94
Lanes:	1.00		0.67	0.33	1.00		0.30	0.70	1.00		1.95	0.05	1.00		1.90	0.10
Final Sat.:	1805		1203	602	1805		510	1190	1805		3517	82	1805		3393	188
Capacity Analysis Module:																
Vol/Sat:	0.00		0.00	0.00	0.00		0.01	0.01	0.01		0.22	0.22	0.00		0.18	0.18
Crit Moves:	****						****				****		****			
Green/Cycle:	0.07		0.10	0.10	0.07		0.10	0.10	0.20		0.64	0.64	0.07		0.51	0.51
Volume/Cap:	0.05		0.03	0.03	0.03		0.06	0.06	0.06		0.34	0.34	0.06		0.35	0.35
Delay/Veh:	43.5		40.7	40.7	43.4		40.9	40.9	32.3		8.4	8.4	43.6		14.8	14.8
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	43.5		40.7	40.7	43.4		40.9	40.9	32.3		8.4	8.4	43.6		14.8	14.8
LOS by Move:	D		D	D	D		D	D	C		A	A	D		B	B
HCM2kAvgQ:	5		5	5	3		7	7	13		144	144	7		150	150

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #60: 18th St / M St



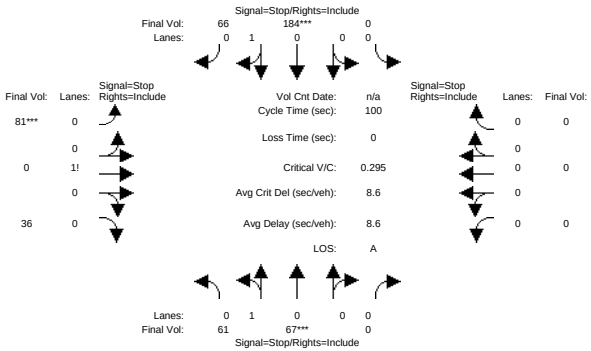
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	7		17	20	24		15	14	10		671	19	10		728	20
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	7		17	20	24		15	14	10		671	19	10		728	20
Added Vol:	16		1	0	1		1	0	0		10	4	0		5	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	23		18	20	25		16	14	10		681	23	10		733	20
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	23		18	20	25		16	14	10		681	23	10		733	20
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	23		18	20	25		16	14	10		681	23	10		733	20
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	23		18	20	25		16	14	10		681	23	10		733	20
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.92	0.92	0.95		0.93	0.93	0.95		0.95	0.95	0.95		0.95	0.95
Lanes:	1.00		0.47	0.53	1.00		0.53	0.47	1.00		1.93	0.07	1.00		1.95	0.05
Final Sat.:	1805		829	921	1805		942	825	1805		3475	117	1805		3500	95
Capacity Analysis Module:																
Vol/Sat:	0.01		0.02	0.02	0.01		0.02	0.02	0.01		0.20	0.20	0.01		0.21	0.21
Crit Moves:	****						****		****				****			
Green/Cycle:	0.07		0.10	0.10	0.07		0.10	0.10	0.07		0.52	0.52	0.19		0.64	0.64
Volume/Cap:	0.18		0.22	0.22	0.20		0.17	0.17	0.08		0.37	0.37	0.03		0.33	0.33
Delay/Veh:	44.5		42.0	42.0	44.6		41.7	41.7	43.8		14.3	14.3	33.3		8.3	8.3
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	44.5		42.0	42.0	44.6		41.7	41.7	43.8		14.3	14.3	33.3		8.3	8.3
LOS by Move:	D		D	D	D		D	D	D		B	B	C		A	A
HCM2kAvgQ:	21		31	31	18		20	20	7		163	163	6		137	137

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #61: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61    35     0     0    54    66    81     0    36     0     0     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   61    35     0     0    54    66    81     0    36     0     0     0
Added Vol:      0    32     0     0   130     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   61    67     0     0   184    66    81     0    36     0     0     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    61    67     0     0   184    66    81     0    36     0     0     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   61    67     0     0   184    66    81     0    36     0     0     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   61    67     0     0   184    66    81     0    36     0     0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.48  0.52  0.00  0.00  0.74  0.26  0.69  0.00  0.31  0.00  0.00  0.00
Final Sat.:   369   405     0     0   624   224   506     0   225     0     0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17  0.17  xxxx  xxxx  0.30  0.30  0.16  xxxx  0.16  xxxx  xxxx  xxxx
Crit Moves:        ****              ****        ****
Delay/Veh:    8.4   8.4   0.0   0.0   8.8   8.8   8.4   0.0   8.4   0.0   0.0   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.4   8.4   0.0   0.0   8.8   8.8   8.4   0.0   8.4   0.0   0.0   0.0
LOS by Move:    A     A     *     *     A     A     A     *     A     *     *     *
ApproachDel:        8.4               8.8               8.4            xxxxxx
Delay Adj:         1.00              1.00              1.00             xxxxx
ApprAdjDel:         8.4               8.8               8.4            xxxxxx
LOS by Appr:          A                 A                 A                 *
AllWayAvgQ:   4.6   4.6   4.6   9.9   9.9   9.9   4.2   4.2   4.2   0.0   0.0   0.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
```



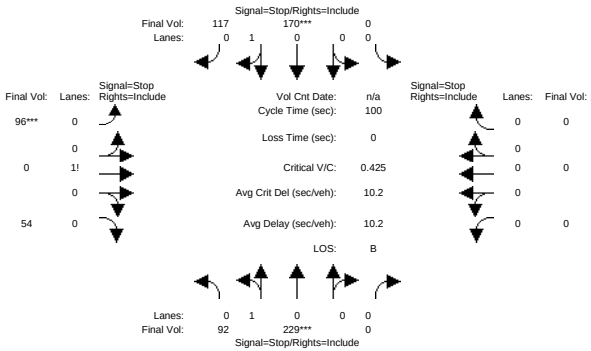
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   61   67     0     0  184    66    81     0    36     0     0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             378
Minor Approach Volume:           117
Minor Approach Volume Threshold: 479
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #61: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      92    99     0     0   138   117    96     0    54     0     0     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   92    99     0     0   138   117    96     0    54     0     0     0
Added Vol:      0   130     0     0    32     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   92   229     0     0   170   117    96     0    54     0     0     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    92   229     0     0   170   117    96     0    54     0     0     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   92   229     0     0   170   117    96     0    54     0     0     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   92   229     0     0   170   117    96     0    54     0     0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.29  0.71  0.00  0.00  0.59  0.41  0.64  0.00  0.36  0.00  0.00  0.00
Final Sat.:   216   539     0     0   470   323   418     0   235     0     0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.43  0.43  xxxx  xxxx  0.36  0.36  0.23  xxxx  0.23  xxxx  xxxx  xxxx
Crit Moves:        ****              ****        ****
Delay/Veh:   10.9  10.9   0.0   0.0   9.8   9.8   9.4   0.0   9.4   0.0   0.0   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.9  10.9   0.0   0.0   9.8   9.8   9.4   0.0   9.4   0.0   0.0   0.0
LOS by Move:    B     B     *     *     A     A     A     *     A     *     *     *
ApproachDel:       10.9               9.8               9.4            xxxxxx
Delay Adj:         1.00              1.00              1.00             xxxxx
ApprAdjDel:        10.9               9.8               9.4            xxxxxx
LOS by Appr:          B                 A                 A                 *
AllWayAvgQ:  17.0  17.0  17.0  13.0  13.0  13.0   6.2   6.2   6.2   0.0   0.0   0.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
```



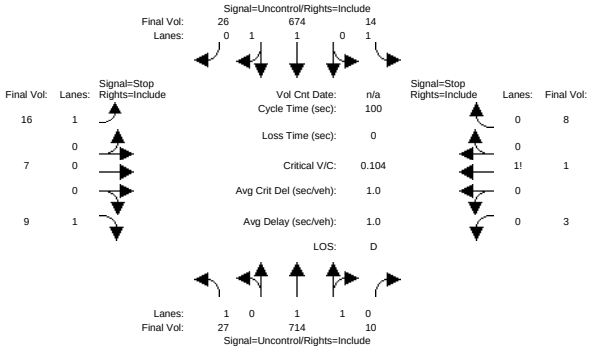
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   92  229     0    0  170   117    96    0    54    0     0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             608
Minor Approach Volume:           150
Minor Approach Volume Threshold: 352
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      27  525    10    14  457    26    16    7     9     3    1     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   27  525    10    14  457    26    16    7     9     3    1     8
Added Vol:      0  189     0     0  217     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   27  714    10    14  674    26    16    7     9     3    1     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    27  714    10    14  674    26    16    7     9     3    1     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   27  714    10    14  674    26    16    7     9     3    1     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  700 xxxx xxxxx   724 xxxx xxxxx  1127 1493   350  1142 1501   362
Potent Cap.:  906 xxxx xxxxx   888 xxxx xxxxx   162  124   652   158  123   641
Move Cap.:    906 xxxx xxxxx   888 xxxx xxxxx   153  119   652   144  118   641
Volume/Cap:  0.03 xxxx  xxxx  0.02 xxxx  xxxx  0.10 0.06  0.01  0.02 0.01  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.3 xxxx xxxxx   1.2 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.1 xxxx xxxxx   9.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   141 xxxx   220  xxxx  286 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.6 xxxx   0.2 xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  35.5 xxxx  22.6 xxxxx 18.1 xxxxx
Shared LOS:     *    *     *     *    *     *     E    *     C     *    C     *
ApproachDel:    xxxxxx           xxxxxx             30.2             18.1
ApproachLOS:         *                *                D                C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   27  714    10    14  674    26    16    7     9     3    1     8
ApproachDel:    xxxxxx           xxxxxx             30.2             18.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1509]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1509]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

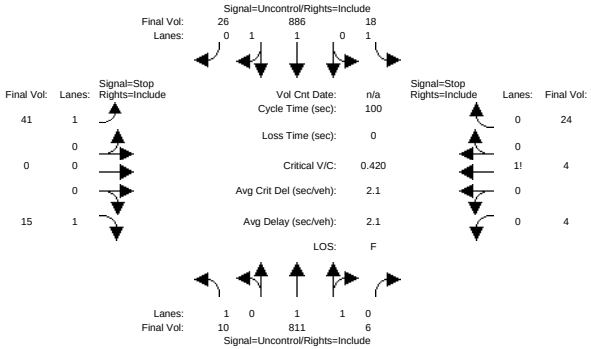
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   27  714    10    14  674    26    16    7     9     3    1     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1465
Minor Approach Volume:           32
Minor Approach Volume Threshold: 210
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10  594     6    18  697    26    41    0    15     4    4    24
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   10  594     6    18  697    26    41    0    15     4    4    24
Added Vol:      0  217     0     0  189     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   10  811     6    18  886    26    41    0    15     4    4    24
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    10  811     6    18  886    26    41    0    15     4    4    24
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   10  811     6    18  886    26    41    0    15     4    4    24
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  912 xxxx xxxxx   817 xxxx xxxxx  1363 xxxx   456  1313 1782   409
Potent Cap.:  755 xxxx xxxxx   820 xxxx xxxxx   109 xxxx   557   118   83   598
Move Cap.:    755 xxxx xxxxx   820 xxxx xxxxx    98 xxxx   557   112   80   598
Volume/Cap:  0.01 xxxx  xxxx  0.02 xxxx  xxxx  0.42 xxxx  0.03  0.04 0.05  0.04
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.0 xxxx xxxxx   1.7 xxxx xxxxx  43.6 xxxx   2.1  xxxx xxxx xxxxx
Control Del:  9.8 xxxx xxxxx   9.5 xxxx xxxxx  66.3 xxxx  11.6 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  254 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.4 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 21.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             51.7            21.2
ApproachLOS:         *                *                F               C
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   10  811     6    18  886    26    41    0    15     4    4    24
ApproachDel:    xxxxxx           xxxxxx             51.7            21.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1845]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1845]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

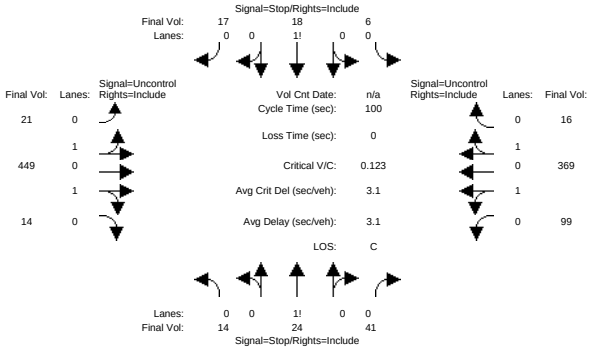
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   10  811     6    18  886    26    41    0    15     4    4    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1757
Minor Approach Volume:           56
Minor Approach Volume Threshold: 132 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #63: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      14   23    25     6   16     7     2  440    14    34  360    16
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   14   23    25     6   16     7     2  440    14    34  360    16
Added Vol:      0    1    16     0    2    10    19    9     0    65    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   14   24    41     6   18    17    21  449    14    99  369    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    14   24    41     6   18    17    21  449    14    99  369    16
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   14   24    41     6   18    17    21  449    14    99  369    16
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  890 1081   232   854 1080   193   385 xxxx xxxxx   463 xxxx xxxxx
Potent Cap.:  241  220   777   256  220   823  1185 xxxx xxxxx  1109 xxxx xxxxx
Move Cap.:    201  195   777   201  195   823  1185 xxxx xxxxx  1109 xxxx xxxxx
Volume/Cap:  0.07 0.12  0.05  0.03 0.09  0.02  0.02 xxxx  xxxx  0.09 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.4 xxxx xxxxx   7.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx   8.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  322 xxxxx  xxxx  287 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx  0.5 xxxxx   0.1 xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx 19.8 xxxxx xxxxx 19.6 xxxxx   8.1 xxxx xxxxx   8.6 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      19.8             19.6           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   24    41     6   18    17    21  449    14    99  369    16
ApproachDel:      19.8             19.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=79]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1088]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=41]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1088]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   14   24    41     6   18    17    21  449    14    99  369    16
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             968
Minor Approach Volume:           79
Minor Approach Volume Threshold: 296
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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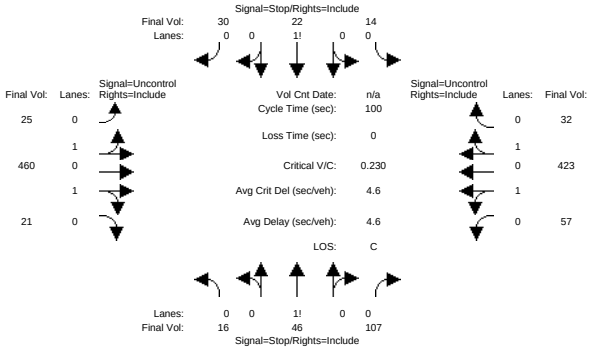
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #63: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      16   40    42    14   22    11    15  451    21    41  414    32
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   16   40    42    14   22    11    15  451    21    41  414    32
Added Vol:      0    6    65     0    0    19    10    9     0    16    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   16   46   107    14   22    30    25  460    21    57  423    32
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    16   46   107    14   22    30    25  460    21    57  423    32
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   16   46   107    14   22    30    25  460    21    57  423    32
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  857 1090   241   856 1084   228   455 xxxx xxxxx   481 xxxx xxxxx
Potent Cap.:  254  217   767   255  219   781  1116 xxxx xxxxx  1092 xxxx xxxxx
Move Cap.:    211  200   767   170  202   781  1116 xxxx xxxxx  1092 xxxx xxxxx
Volume/Cap:  0.08 0.23  0.14  0.08 0.11  0.04  0.02 xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.7 xxxx xxxxx   4.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  380 xxxxx  xxxx  287 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.2 xxxxx xxxxx  0.9 xxxxx   0.1 xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx 21.9 xxxxx xxxxx 21.2 xxxxx   8.3 xxxx xxxxx   8.5 xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     A    *     *     A    *     *
ApproachDel:      21.9             21.2           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   46   107    14   22    30    25  460    21    57  423    32
ApproachDel:      21.9             21.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=169]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1253]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=66]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1253]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

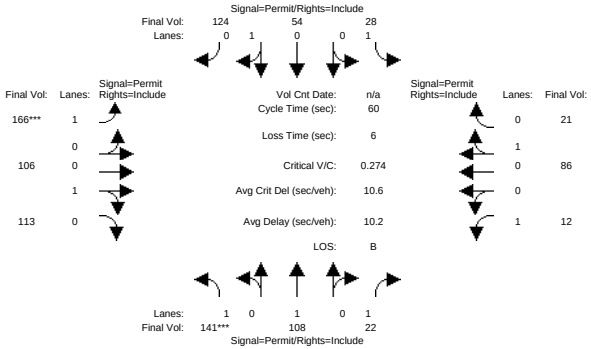
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   16   46   107    14   22    30    25  460    21    57  423    32
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1018
Minor Approach Volume:           169
Minor Approach Volume Threshold: 279
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #64: Main St / Martin Luther King Wy



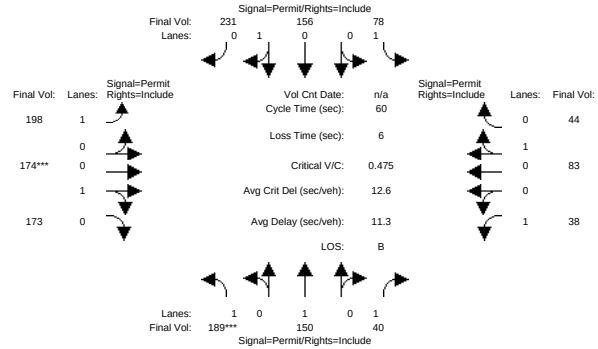
Street Name:	Main Street												Martin Luther King Way											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	141		106		22	28		54		124	166		106		113	12		86		21
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	141		106		22	28		54		124	166		106		113	12		86		21
Added Vol:	0		2		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	141		108		22	28		54		124	166		106		113	12		86		21
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	141		108		22	28		54		124	166		106		113	12		86		21
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	141		108		22	28		54		124	166		106		113	12		86		21
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	141		108		22	28		54		124	166		106		113	12		86		21
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.62		1.00		0.85	0.68		0.90		0.90	0.69		0.92		0.92	0.58		0.97		0.97
Lanes:	1.00		1.00		1.00	1.00		0.30		0.70	1.00		0.48		0.52	1.00		0.80		0.20
Final Sat.:	1180		1900		1615	1300		516		1185	1302		849		905	1106		1483		362
Capacity Analysis Module:																				
Vol/Sat:	0.12		0.06		0.01	0.02		0.10		0.10	0.13		0.12		0.12	0.01		0.06		0.06
Crit Moves:	****										****									
Green/Cycle:	0.44		0.44		0.44	0.44		0.44		0.44	0.46		0.46		0.46	0.46		0.46		0.46
Volume/Cap:	0.27		0.13		0.03	0.05		0.24		0.24	0.27		0.27		0.27	0.02		0.12		0.12
Delay/Veh:	11.2		10.2		9.7	9.8		10.9		10.9	10.1		10.0		10.0	8.7		9.2		9.2
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	11.2		10.2		9.7	9.8		10.9		10.9	10.1		10.0		10.0	8.7		9.2		9.2
LOS by Move:	B		B		A	A		B		B	B		B		B	A		A		A
HCM2kAvgQ:	47		31		6	8		55		55	45		59		59	3		29		29

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #64: Main St / Martin Luther King Wy



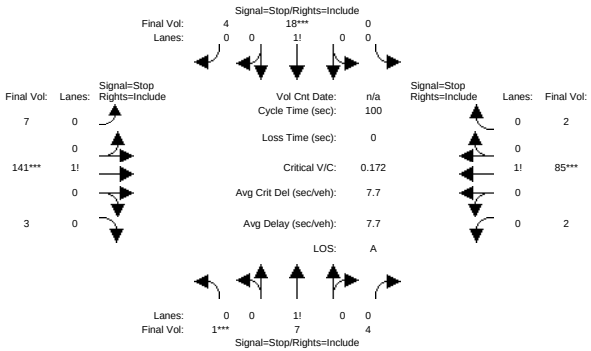
Street Name:	Main Street												Martin Luther King Way											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	189		150		40	78		154		231	198		174		173	38		83		44
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	189		150		40	78		154		231	198		174		173	38		83		44
Added Vol:	0		0		0	0		2		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	189		150		40	78		156		231	198		174		173	38		83		44
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	189		150		40	78		156		231	198		174		173	38		83		44
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	189		150		40	78		156		231	198		174		173	38		83		44
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	189		150		40	78		156		231	198		174		173	38		83		44
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.43		1.00		0.85	0.66		0.91		0.91	0.67		0.93		0.93	0.43		0.95		0.95
Lanes:	1.00		1.00		1.00	1.00		0.40		0.60	1.00		0.50		0.50	1.00		0.65		0.35
Final Sat.:	821		1900		1615	1246		697		1032	1275		881		876	819		1177		624
Capacity Analysis Module:																				
Vol/Sat:	0.23		0.08		0.02	0.06		0.22		0.22	0.16		0.20		0.20	0.05		0.07		0.07
Crit Moves:	****												****							
Green/Cycle:	0.48		0.48		0.48	0.48		0.48		0.48	0.42		0.42		0.42	0.42		0.42		0.42
Volume/Cap:	0.48		0.16		0.05	0.13		0.46		0.46	0.37		0.48		0.48	0.11		0.17		0.17
Delay/Veh:	11.3		8.7		8.2	8.6		10.7		10.7	12.6		13.3		13.3	10.9		11.1		11.1
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	11.3		8.7		8.2	8.6		10.7		10.7	12.6		13.3		13.3	10.9		11.1		11.1
LOS by Move:	B		A		A	A		B		B	B		B		B	B		B		B
HCM2kAvgQ:	75		40		10	22		128		128	60		111		111	13		38		38

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project AM

Intersection #65: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1     2     4     0     1     4     7   141     3     2    85     2
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    1     2     4     0     1     4     7   141     3     2    85     2
Added Vol:      0     5     0     0    17     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    1     7     4     0    18     4     7   141     3     2    85     2
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     1     7     4     0    18     4     7   141     3     2    85     2
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    1     7     4     0    18     4     7   141     3     2    85     2
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    1     7     4     0    18     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.08  0.59  0.33  0.00  0.82  0.18  0.05  0.93  0.02  0.02  0.96  0.02
Final Sat.:    67   471   269     0   652   145    41   821    17    19   828    19
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01  0.01  0.01  xxxx  0.03  0.03  0.17  0.17  0.17  0.10  0.10  0.10
Crit Moves:  ****                  ****              ****              ****
Delay/Veh:    7.3   7.3   7.3   0.0   7.4   7.4   7.9   7.9   7.9   7.6   7.6   7.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.3   7.3   7.3   0.0   7.4   7.4   7.9   7.9   7.9   7.6   7.6   7.6
LOS by Move:    A     A     A     *     A     A     A     A     A     A     A     A
ApproachDel:        7.3               7.4               7.9               7.6
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.3               7.4               7.9               7.6
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   0.3   0.3   0.3   0.6   0.6   0.6   5.1   5.1   5.1   2.8   2.8   2.8
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #65 18th St / Martin Luther King Wy
*******************************************************************************
```



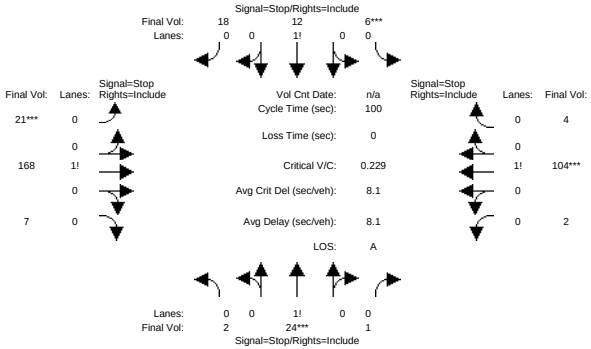
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    1     7     4     0    18     4     7   141     3     2    85     2
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             240
Minor Approach Volume:           22
Minor Approach Volume Threshold: 600
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project PM

Intersection #65: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    7     1     6    7    18    21  168     7     2  104     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    7     1     6    7    18    21  168     7     2  104     4
Added Vol:      0   17     0     0    5     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   24     1     6   12    18    21  168     7     2  104     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2   24     1     6   12    18    21  168     7     2  104     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   24     1     6   12    18    21  168     7     2  104     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    2   24     1     6   12    18    21  168     7     2  104     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.07 0.89  0.04  0.17 0.33  0.50  0.11 0.86  0.03  0.02 0.94  0.04
Final Sat.:    55  658    27   131  262   393    92  733    31    15  792    30
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.04  0.04  0.05 0.05  0.05  0.23 0.23  0.23  0.13 0.13  0.13
Crit Moves:        ****        ****              ****                    ****
Delay/Veh:    7.7  7.7   7.7   7.5  7.5   7.5   8.4  8.4   8.4   7.8  7.8   7.8
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.7  7.7   7.7   7.5  7.5   7.5   8.4  8.4   8.4   7.8  7.8   7.8
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       7.7              7.5              8.4              7.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.7              7.5              8.4              7.8
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.8  0.8   0.8   1.1  1.1   1.1   7.2  7.2   7.2   3.6  3.6   3.6
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #65 18th St / Martin Luther King Wy
*******************************************************************************
```



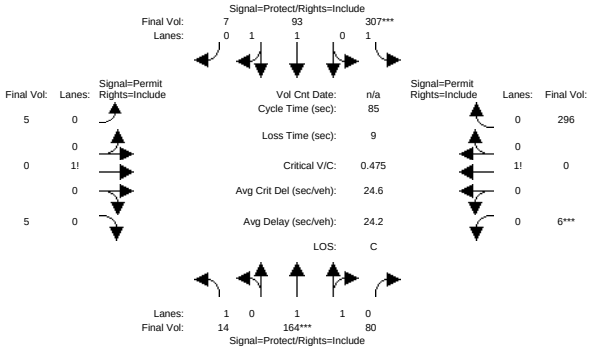
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2   24     1     6   12    18    21  168     7     2  104     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             306
Minor Approach Volume:           36
Minor Approach Volume Threshold: 535
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #66: 16th St / H St



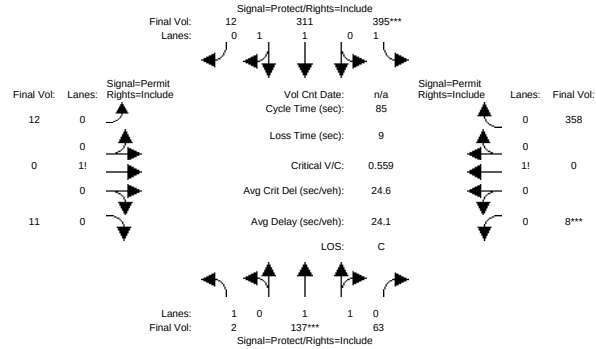
Street Name:	16th Street									H Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	14		142	80	293		84	7	5		0	5	6		0	286
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	14		142	80	293		84	7	5		0	5	6		0	286
Added Vol:	0		22	0	14		9	0	0		0	0	0		0	10
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	14		164	80	307		93	7	5		0	5	6		0	296
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	14		164	80	307		93	7	5		0	5	6		0	296
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	14		164	80	307		93	7	5		0	5	6		0	296
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	14		164	80	307		93	7	5		0	5	6		0	296
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.90	0.90	0.95		0.94	0.94	0.84		1.00	0.84	0.87		1.00	0.87
Lanes:	1.00		1.34	0.66	1.00		1.86	0.14	0.50		0.00	0.50	0.02		0.00	0.98
Final Sat.:	1805		2308	1126	1805		3324	250	799		0	799	33		0	1612
Capacity Analysis Module:																
Vol/Sat:	0.01		0.07	0.07	0.17		0.03	0.03	0.01		0.00	0.01	0.18		0.00	0.18
Crit Moves:			****		****								****			
Green/Cycle:	0.21		0.15	0.15	0.36		0.30	0.30	0.39		0.00	0.39	0.39		0.00	0.39
Volume/Cap:	0.04		0.48	0.48	0.48		0.09	0.09	0.02		0.00	0.02	0.48		0.00	0.48
Delay/Veh:	26.8		33.8	33.8	21.7		21.6	21.6	16.1		0.0	16.1	20.2		0.0	20.2
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	26.8		33.8	33.8	21.7		21.6	21.6	16.1		0.0	16.1	20.2		0.0	20.2
LOS by Move:	C		C	C	C		C	C	B		A	B	C		A	C
HCM2kAvgQ:	8		91	91	162		25	25	4		0	4	156		0	156

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #66: 16th St / H St



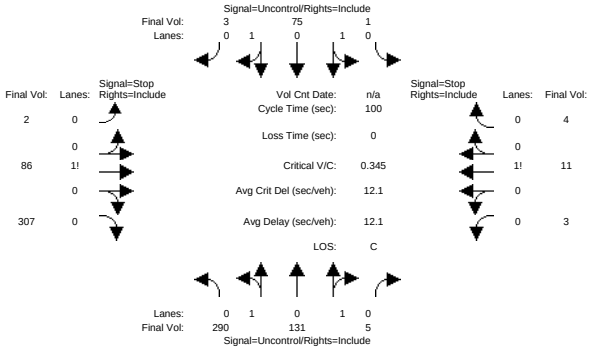
Street Name:	16th Street									H Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	2		122	63	378		297	12	12		0	11	8		0	350
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	2		122	63	378		297	12	12		0	11	8		0	350
Added Vol:	0		15	0	17		14	0	0		0	0	0		0	8
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	2		137	63	395		311	12	12		0	11	8		0	358
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	2		137	63	395		311	12	12		0	11	8		0	358
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	2		137	63	395		311	12	12		0	11	8		0	358
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	2		137	63	395		311	12	12		0	11	8		0	358
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.91	0.91	0.95		0.94	0.94	0.79		1.00	0.79	0.86		1.00	0.86
Lanes:	1.00		1.37	0.63	1.00		1.93	0.07	0.52		0.00	0.48	0.02		0.00	0.98
Final Sat.:	1805		2357	1084	1805		3455	133	786		0	720	36		0	1607
Capacity Analysis Module:																
Vol/Sat:	0.00		0.06	0.06	0.22		0.09	0.09	0.02		0.00	0.02	0.22		0.00	0.22
Crit Moves:			****		****								****			
Green/Cycle:	0.21		0.12	0.12	0.38		0.30	0.30	0.39		0.00	0.39	0.39		0.00	0.39
Volume/Cap:	0.01		0.49	0.49	0.57		0.30	0.30	0.04		0.00	0.04	0.57		0.00	0.57
Delay/Veh:	26.8		36.1	36.1	21.7		23.3	23.3	16.0		0.0	16.0	21.4		0.0	21.4
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	26.8		36.1	36.1	21.7		23.3	23.3	16.0		0.0	16.0	21.4		0.0	21.4
LOS by Move:	C		D	D	C		C	C	B		A	B	C		A	C
HCM2kAvgQ:	1		81	81	216		89	89	9		0	9	201		0	201

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project AM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     280  129     5     1   75     3     2   86   293     3   11     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  280  129     5     1   75     3     2   86   293     3   11     4
Added Vol:     10    2     0     0    0     0     0    0    14     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  290  131     5     1   75     3     2   86   307     3   11     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   290  131     5     1   75     3     2   86   307     3   11     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  290  131     5     1   75     3     2   86   307     3   11     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   78 xxxx xxxxx   136 xxxx xxxxx   730  795    39   796  794    68
Potent Cap.: 1533 xxxx xxxxx  1461 xxxx xxxxx   314  323  1031   281  323   988
Move Cap.:   1533 xxxx xxxxx  1461 xxxx xxxxx   250  250  1031   121  250   988
Volume/Cap:  0.19 xxxx  xxxx  0.00 xxxx  xxxx  0.01 0.34  0.30  0.02 0.04  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   17.4 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.9 xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  607 xxxxx  xxxx  247 xxxxx
SharedQueue:  0.7 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  4.7 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:  7.9 xxxx xxxxx   7.5 xxxx xxxxx xxxxx 21.3 xxxxx xxxxx 20.7 xxxxx
Shared LOS:     A    *     *     A    *     *     *    C     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             21.3            20.7
ApproachLOS:         *                *                C               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  290  131     5     1   75     3     2   86   307     3   11     4
ApproachDel:    xxxxxx           xxxxxx             21.3            20.7
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=395]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=918]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=918]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  290  131     5     1   75     3     2   86   307     3   11     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             505
Minor Approach Volume:           395
Minor Approach Volume Threshold: 520
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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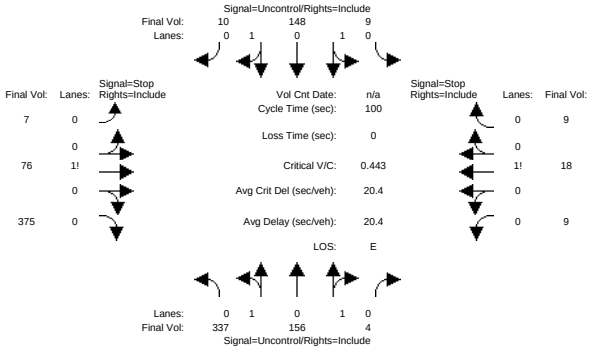
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project PM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     329  156     4     9  146    10     7   76   358     9   18     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  329  156     4     9  146    10     7   76   358     9   18     9
Added Vol:      8    0     0     0    2     0     0    0    17     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  337  156     4     9  148    10     7   76   375     9   18     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   337  156     4     9  148    10     7   76   375     9   18     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  337  156     4     9  148    10     7   76   375     9   18     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  158 xxxx xxxxx   160 xxxx xxxxx   932 1005    79   962 1008    80
Potent Cap.: 1434 xxxx xxxxx  1432 xxxx xxxxx   224  243   972   213  242   971
Move Cap.:   1434 xxxx xxxxx  1432 xxxx xxxxx   159  172   972    68  171   971
Volume/Cap:  0.24 xxxx  xxxx  0.01 xxxx  xxxx  0.04 0.44  0.39  0.13 0.11  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   22.9 xxxx xxxxx   0.5 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.3 xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  525 xxxxx  xxxx  145 xxxxx
SharedQueue:  0.9 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  9.6 xxxxx xxxxx  0.9 xxxxx
Shrd ConDel:  8.3 xxxx xxxxx   7.5 xxxx xxxxx xxxxx 42.5 xxxxx xxxxx 37.7 xxxxx
Shared LOS:     A    *     *     A    *     *     *    E     *     *    E     *
ApproachDel:    xxxxxx           xxxxxx             42.5            37.7
ApproachLOS:         *                *               E               E
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  337  156     4     9  148    10     7   76   375     9   18     9
ApproachDel:    xxxxxx           xxxxxx             42.5            37.7
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=458]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1158]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=36]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1158]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

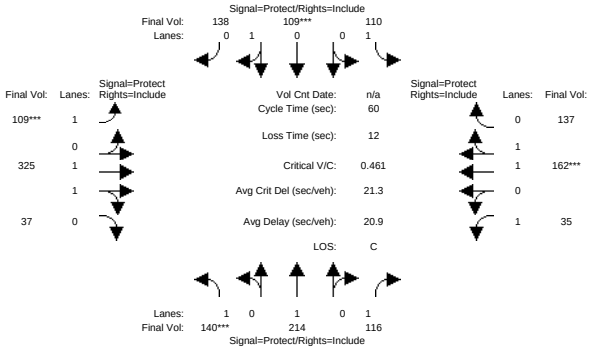
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  337  156     4     9  148    10     7   76   375     9   18     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             664
Minor Approach Volume:           458
Minor Approach Volume Threshold: 426
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #69: Main St / G St



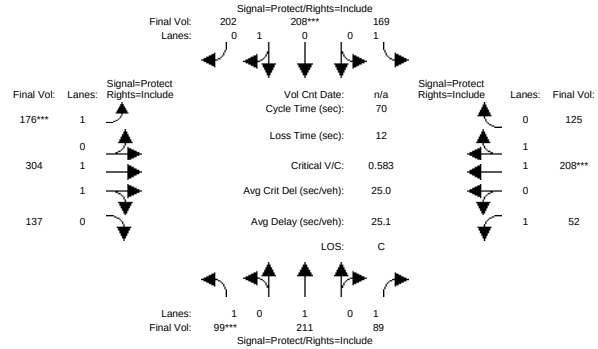
Street Name:	Main Street									G Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	134	214	113		105	109	128		105	323	36		35	158	129	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	134	214	113		105	109	128		105	323	36		35	158	129	
Added Vol:	6	0	3		5	0	10		4	2	1		0	4	8	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	140	214	116		110	109	138		109	325	37		35	162	137	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	140	214	116		110	109	138		109	325	37		35	162	137	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	140	214	116		110	109	138		109	325	37		35	162	137	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	140	214	116		110	109	138		109	325	37		35	162	137	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	0.85		0.95	0.92	0.92		0.95	0.94	0.94		0.95	0.88	0.88	
Lanes:	1.00	1.00	1.00		1.00	0.44	0.56		1.00	1.80	0.20		1.00	1.08	0.92	
Final Sat.:	1805	1900	1615		1805	768	972		1805	3192	363		1805	1821	1540	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.11	0.07		0.06	0.14	0.14		0.06	0.10	0.10		0.02	0.09	0.09	
Crit Moves:	****					****			****					****		
Green/Cycle:	0.17	0.28	0.28		0.20	0.31	0.31		0.13	0.19	0.19		0.13	0.19	0.19	
Volume/Cap:	0.46	0.40	0.26		0.31	0.46	0.46		0.46	0.53	0.53		0.15	0.46	0.46	
Delay/Veh:	23.6	18.0	17.1		21.2	17.4	17.4		25.5	22.7	22.7		23.3	22.0	22.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	23.6	18.0	17.1		21.2	17.4	17.4		25.5	22.7	22.7		23.3	22.0	22.0	
LOS by Move:	C	B	B		C	B	B		C	C	C		C	C	C	
HCM2kAvgQ:	73	89	46		50	104	104		62	99	99		14	64	64	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #69: Main St / G St



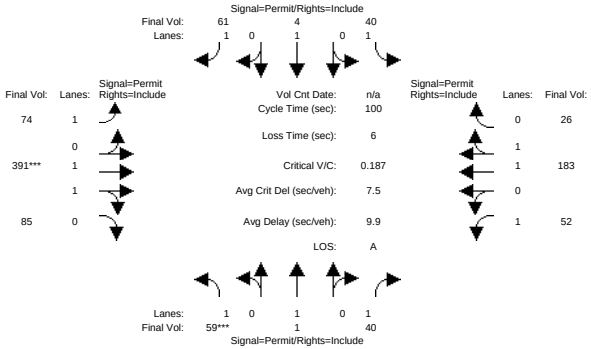
Street Name:	Main Street									G Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	98	211	88		161	208	191		172	301	131		50	205	120	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	98	211	88		161	208	191		172	301	131		50	205	120	
Added Vol:	1	0	1		8	0	11		4	3	6		2	3	5	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	99	211	89		169	208	202		176	304	137		52	208	125	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	99	211	89		169	208	202		176	304	137		52	208	125	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	99	211	89		169	208	202		176	304	137		52	208	125	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	99	211	89		169	208	202		176	304	137		52	208	125	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	0.85		0.95	0.93	0.93		0.95	0.91	0.91		0.95	0.90	0.90	
Lanes:	1.00	1.00	1.00		1.00	0.51	0.49		1.00	1.38	0.62		1.00	1.25	0.75	
Final Sat.:	1805	1900	1615		1805	893	867		1805	2372	1069		1805	2129	1279	
Capacity Analysis Module:																
Vol/Sat:	0.05	0.11	0.06		0.09	0.23	0.23		0.10	0.13	0.13		0.03	0.10	0.10	
Crit Moves:	****					****			****					****		
Green/Cycle:	0.10	0.29	0.29		0.20	0.40	0.40		0.17	0.20	0.20		0.14	0.17	0.17	
Volume/Cap:	0.55	0.38	0.19		0.46	0.59	0.59		0.59	0.66	0.66		0.21	0.59	0.59	
Delay/Veh:	33.5	20.2	18.8		25.3	17.9	17.9		30.0	28.4	28.4		27.3	28.6	28.6	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	33.5	20.2	18.8		25.3	17.9	17.9		30.0	28.4	28.4		27.3	28.6	28.6	
LOS by Move:	C	C	B		C	B	B		C	C	C		C	C	C	
HCM2kAvgQ:	73	97	38		93	191	191		112	147	147		24	89	89	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project AM

Intersection #70: 18th St / G St



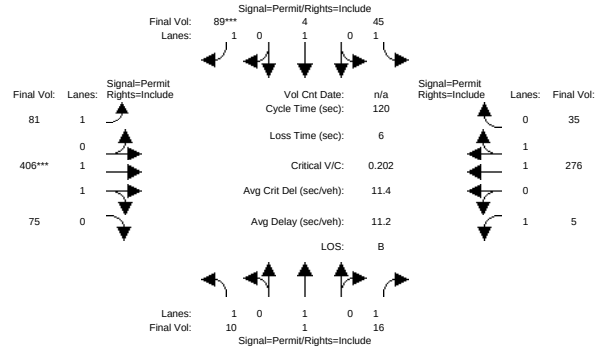
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	59	1	40	40	4	60	70	385	85	52	172	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	1	40	40	4	60	70	385	85	52	172	26
Added Vol:	0	0	0	0	0	1	4	6	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	59	1	40	40	4	61	74	391	85	52	183	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	1	40	40	4	61	74	391	85	52	183	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	1	40	40	4	61	74	391	85	52	183	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	59	1	40	40	4	61	74	391	85	52	183	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.61	0.92	0.92	0.47	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.64	0.36	1.00	1.75	0.25
Final Sat.:	1455	1900	1615	1459	1900	1615	1165	2885	627	885	3101	441
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.02	0.03	0.00	0.04	0.06	0.14	0.14	0.06	0.06	0.06
Crit Moves:	****							****				
Green/Cycle:	0.22	0.22	0.22	0.22	0.22	0.22	0.72	0.72	0.72	0.72	0.72	0.72
Volume/Cap:	0.19	0.00	0.11	0.13	0.01	0.17	0.09	0.19	0.19	0.08	0.08	0.08
Delay/Veh:	32.3	30.7	31.6	31.7	30.8	32.1	4.1	4.5	4.5	4.1	4.1	4.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	30.7	31.6	31.7	30.8	32.1	4.1	4.5	4.5	4.1	4.1	4.1
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	39	1	26	26	2	40	16	60	60	13	25	25

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project PM

Intersection #70: 18th St / G St



Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	1	16	45	4	85	80	395	75	5	270	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1	16	45	4	85	80	395	75	5	270	35
Added Vol:	0	0	0	0	0	4	1	11	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	1	16	45	4	89	81	406	75	5	276	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	1	16	45	4	89	81	406	75	5	276	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1	16	45	4	89	81	406	75	5	276	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1	16	45	4	89	81	406	75	5	276	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.85	0.77	1.00	0.85	0.55	0.93	0.93	0.45	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.69	0.31	1.00	1.77	0.23
Final Sat.:	1455	1900	1615	1459	1900	1615	1049	2977	550	863	3149	399
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.03	0.00	0.06	0.08	0.14	0.14	0.01	0.09	0.09
Crit Moves:						****		****				
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.68	0.68	0.68	0.68	0.68	0.68
Volume/Cap:	0.03	0.00	0.04	0.11	0.01	0.20	0.11	0.20	0.20	0.01	0.13	0.13
Delay/Veh:	31.9	31.7	32.0	32.8	31.7	33.8	6.9	7.3	7.3	6.3	6.9	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.9	31.7	32.0	32.8	31.7	33.8	6.9	7.3	7.3	6.3	6.9	6.9
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	7	1	11	31	3	63	25	83	83	2	52	52

Note: Queue reported is the distance per lane in feet.

HEAVY MANTENANCE FACILITY ANALYSIS - CASTLE COMMERCE

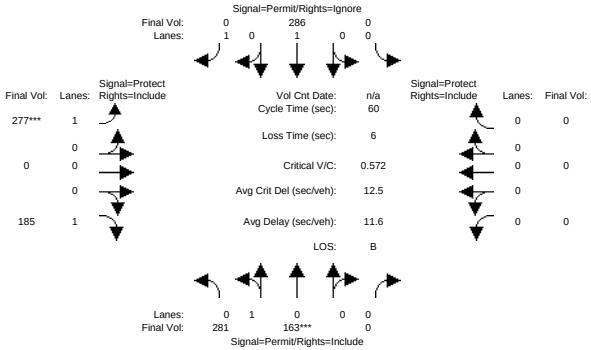
EXISTING WITH PROJECT_OPTION-B MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM Mit

Intersection #11: Ashby Rd/ Buhach Rd



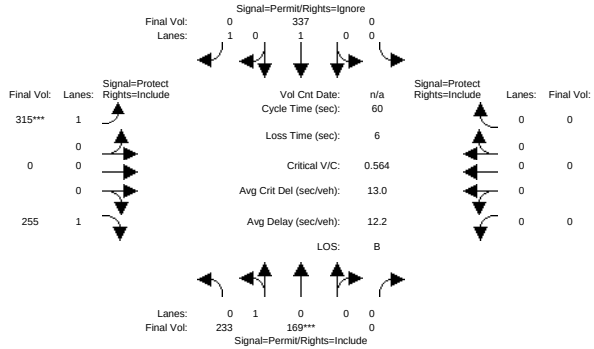
Street Name:	Ashby Road- Buhach Rd						Buhach Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	281	144	0	0	231	188	185	0	185	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	281	144	0	0	231	188	185	0	185	0	0	0
Added Vol:	0	19	0	0	55	8	92	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	281	163	0	0	286	196	277	0	185	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	281	163	0	0	286	0	277	0	185	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	281	163	0	0	286	0	277	0	185	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	281	163	0	0	286	0	277	0	185	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.65	0.65	1.00	1.00	1.00	1.00	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	0.63	0.37	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	778	451	0	0	1900	1900	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.36	0.36	0.00	0.00	0.15	0.00	0.15	0.00	0.11	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.63	0.63	0.00	0.00	0.63	0.00	0.27	0.00	0.27	0.00	0.00	0.00
Volume/Cap:	0.57	0.57	0.00	0.00	0.24	0.00	0.57	0.00	0.43	0.00	0.00	0.00
Delay/Veh:	7.4	7.4	0.0	0.0	4.9	0.0	20.6	0.0	18.8	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.4	7.4	0.0	0.0	4.9	0.0	20.6	0.0	18.8	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	C	A	B	A	A	A
HCM2kAvgQ:	6	6	0	0	2	0	5	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM Mit

Intersection #11: Ashby Rd/ Buhach Rd



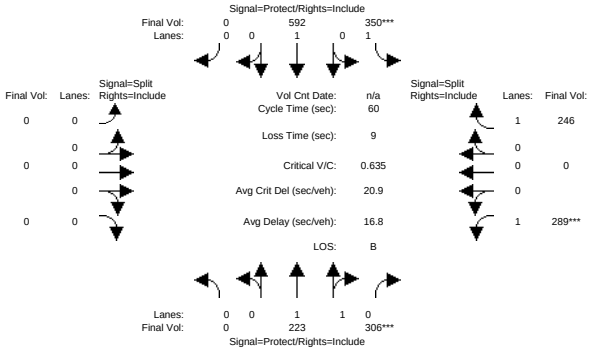
Street Name:	Ashby Road- Buhach Rd						Buhach Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	233	158	0	0	240	215	263	0	255	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	233	158	0	0	240	215	263	0	255	0	0	0
Added Vol:	0	11	0	0	97	14	52	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	233	169	0	0	337	229	315	0	255	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	233	169	0	0	337	0	315	0	255	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	169	0	0	337	0	315	0	255	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	233	169	0	0	337	0	315	0	255	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.64	0.64	1.00	1.00	1.00	1.00	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	0.58	0.42	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	699	507	0	0	1900	1900	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.00	0.00	0.18	0.00	0.17	0.00	0.16	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.59	0.59	0.00	0.00	0.59	0.00	0.31	0.00	0.31	0.00	0.00	0.00
Volume/Cap:	0.56	0.56	0.00	0.00	0.30	0.00	0.56	0.00	0.51	0.00	0.00	0.00
Delay/Veh:	8.6	8.6	0.0	0.0	6.3	0.0	18.7	0.0	17.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.6	8.6	0.0	0.0	6.3	0.0	18.7	0.0	17.9	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	B	A	B	A	A	A
HCM2kAvgQ:	5	5	0	0	3	0	6	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #25: 16th St / SR-59

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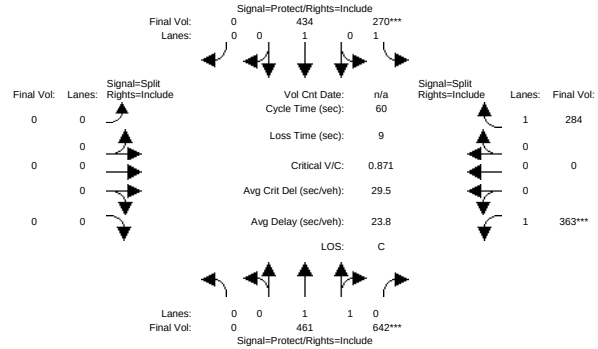
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10   10     7   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  194  298   350  592    0     0    0    0   272    0  246
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0  194  298   350  592    0     0    0    0   272    0  246
Added Vol:      0   29    8     0    0    0     0    0    0    17    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  223  306   350  592    0     0    0    0   289    0  246
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0  223  306   350  592    0     0    0    0   289    0  246
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  223  306   350  592    0     0    0    0   289    0  246
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0  223  306   350  592    0     0    0    0   289    0  246
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.87 0.87  0.95 1.00 1.00  1.00 1.00 1.00  0.95 1.00 0.85
Lanes:       0.00 1.00 1.00  1.00 1.00 0.00  0.00 0.00 0.00  1.00 0.00 1.00
Final Sat.:     0 1648 1648  1805 1900    0     0    0    0  1805    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.14 0.19  0.19 0.31 0.00  0.00 0.00 0.00  0.16 0.00 0.15
Crit Moves:                  ****  ****                     ****
Green/Cycle: 0.00 0.29 0.29  0.31 0.60 0.00  0.00 0.00 0.00  0.25 0.00 0.25
Volume/Cap:  0.00 0.46 0.63  0.63 0.52 0.00  0.00 0.00 0.00  0.63 0.00 0.60
Delay/Veh:    0.0 17.7 20.1  20.4  7.5  0.0   0.0  0.0  0.0  22.9  0.0 22.4
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 17.7 20.1  20.4  7.5  0.0   0.0  0.0  0.0  22.9  0.0 22.4
LOS by Move:    A    B    C     C    A    A     A    A    A     C    A    C
HCM2kAvgQ:      0  101  157   166  171    0     0    0    0   148    0  126
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #25: 16th St / SR-59

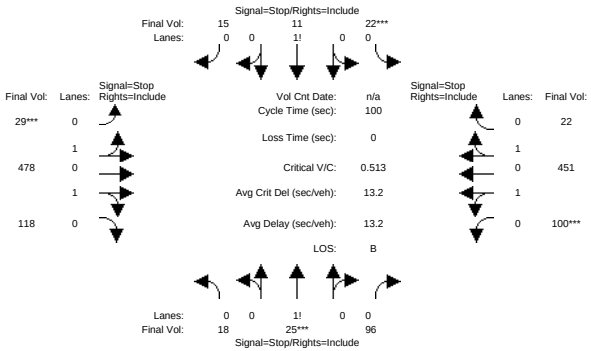



```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10   10     7   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  427  625   270  434    0     0    0    0   355    0  284
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0  427  625   270  434    0     0    0    0   355    0  284
Added Vol:      0   34   17     0    0    0     0    0    0     8    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  461  642   270  434    0     0    0    0   363    0  284
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0  461  642   270  434    0     0    0    0   363    0  284
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  461  642   270  434    0     0    0    0   363    0  284
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0  461  642   270  434    0     0    0    0   363    0  284
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.87 0.87  0.95 1.00 1.00  1.00 1.00 1.00  0.95 1.00 0.85
Lanes:       0.00 1.00 1.00  1.00 1.00 0.00  0.00 0.00 0.00  1.00 0.00 1.00
Final Sat.:     0 1648 1648  1805 1900    0     0    0    0  1805    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.28 0.39  0.15 0.23 0.00  0.00 0.00 0.00  0.20 0.00 0.18
Crit Moves:                  ****  ****                     ****
Green/Cycle: 0.00 0.45 0.45  0.17 0.62 0.00  0.00 0.00 0.00  0.23 0.00 0.23
Volume/Cap:  0.00 0.63 0.87  0.87 0.37 0.00  0.00 0.00 0.00  0.87 0.00 0.76
Delay/Veh:    0.0 13.4 21.8  46.6  5.8  0.0   0.0  0.0  0.0  39.9  0.0 30.4
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 13.4 21.8  46.6  5.8  0.0   0.0  0.0  0.0  39.9  0.0 30.4
LOS by Move:    A    B    C     D    A    A     A    A    A     D    A    C
HCM2kAvgQ:      0  195  376   205  104    0     0    0    0   250    0  175
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #37: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    13    92    22     8    15    29   337     6    85   343    22
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2    13    92    22     8    15    29   337     6    85   343    22
Added Vol:     16    12     4     0     3     0     0   141   112    15   108     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   18    25    96    22    11    15    29   478   118   100   451    22
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    18    25    96    22    11    15    29   478   118   100   451    22
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   18    25    96    22    11    15    29   478   118   100   451    22
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   18    25    96    22    11    15    29   478   118   100   451    22
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.13  0.18  0.69  0.46  0.23  0.31  0.09  1.53  0.38  0.35  1.57  0.08
Final Sat.:    73   102   391   232   116   158    57   954   243   207   953    47
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.25  0.25  0.25  0.09  0.09  0.09  0.51  0.50  0.49  0.48  0.47  0.47
Crit Moves:        ****        ****              ****              ****
Delay/Veh:   10.7  10.7  10.7  10.1  10.1  10.1  14.2  13.8  13.1  13.9  13.5  13.2
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.7  10.7  10.7  10.1  10.1  10.1  14.2  13.8  13.1  13.9  13.5  13.2
LOS by Move:    B     B     B     B     B     B     B     B     B     B     B     B
ApproachDel:       10.7              10.1              13.7              13.6
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        10.7              10.1              13.7              13.6
LOS by Appr:          B                 B                 B                 B
AllWayAvgQ:   7.0   7.0   7.0   2.2   2.2   2.2  24.3  21.9  21.9  21.7  20.2  20.2
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #37 15th St / M St
*******************************************************************************
```



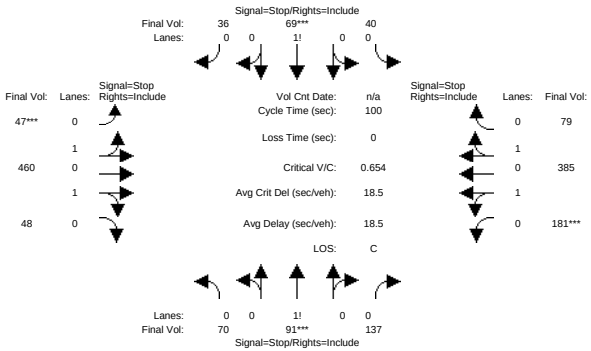
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   18   25    96   22   11    15   29  478   118   100  451    22
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1198
Minor Approach Volume:           139
Minor Approach Volume Threshold: 223
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #37: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    41   123    40    68    36    47   346    20   177   250    79
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    5    41   123    40    68    36    47   346    20   177   250    79
Added Vol:     65    50    14     0     1     0     0   114    28     4   135     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   70    91   137    40    69    36    47   460    48   181   385    79
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    70    91   137    40    69    36    47   460    48   181   385    79
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   70    91   137    40    69    36    47   460    48   181   385    79
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   70    91   137    40    69    36    47   460    48   181   385    79
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.23  0.31  0.46  0.27  0.48  0.25  0.17  1.66  0.17  0.56  1.20  0.24
Final Sat.:   120   156   235   123   213   111    84   832    88   277   613   129
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.58  0.58  0.58  0.32  0.32  0.32  0.56  0.55  0.54  0.65  0.63  0.61
Crit Moves:        ****              ****        ****              ****
Delay/Veh:   18.1  18.1  18.1  13.5  13.5  13.5  18.1  17.7  17.2  22.0  20.2  19.2
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  18.1  18.1  18.1  13.5  13.5  13.5  18.1  17.7  17.2  22.0  20.2  19.2
LOS by Move:    C     C     C     B     B     B     C     C     C     C     C     C
ApproachDel:       18.1              13.5              17.7              20.6
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        18.1              13.5              17.7              20.6
LOS by Appr:          C                 B                 C                 C
AllWayAvgQ:  29.4  29.4  29.4   9.7   9.7   9.7  28.6  26.9  26.9  41.6  35.6  35.6
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #37 15th St / M St
*******************************************************************************
```



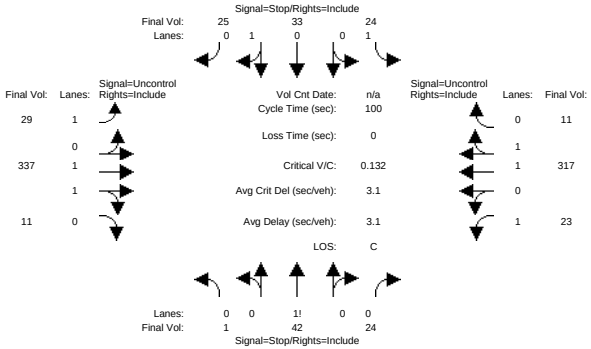
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   70   91   137    40   69    36    47  460    48   181  385    79
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1200
Minor Approach Volume:           298
Minor Approach Volume Threshold: 222
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1   38    24    24   33    25    29  337    11    23  317    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1   38    24    24   33    25    29  337    11    23  317    11
Added Vol:      0    4     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1   42    24    24   33    25    29  337    11    23  317    11
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1   42    24    24   33    25    29  337    11    23  317    11
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1   42    24    24   33    25    29  337    11    23  317    11
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  622  775   174   616  775   164   328 xxxx xxxxx   348 xxxx xxxxx
Potent Cap.:  375  331   846   379  331   858  1243 xxxx xxxxx  1222 xxxx xxxxx
Move Cap.:    325  318   846   320  318   858  1243 xxxx xxxxx  1222 xxxx xxxxx
Volume/Cap:  0.00 0.13  0.03  0.07 0.10  0.03  0.02 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   6.0 xxxx xxxxx   1.8 xxxx xxxxx   1.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  17.1 xxxx xxxxx   8.0 xxxx xxxxx   8.0 xxxx xxxxx
LOS by Move:    *    *     *     C    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  409 xxxxx  xxxx xxxx   436  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx xxxx   0.5 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 15.5 xxxxx xxxxx xxxx  14.5 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     B     *    *     *     *    *     *
ApproachDel:      15.5             15.3           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   42    24    24   33    25    29  337    11    23  317    11
ApproachDel:      15.5             15.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=67]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=877]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=82]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=877]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

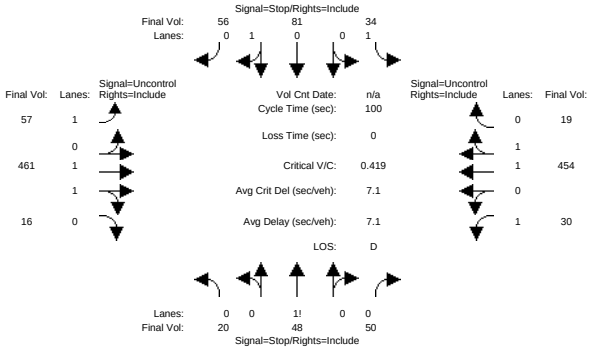
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1   42    24    24   33    25    29  337    11    23  317    11
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             728
Minor Approach Volume:           82
Minor Approach Volume Threshold: 511
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20   47    50    34   81    56    57  461    16    30  454    19
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   20   47    50    34   81    56    57  461    16    30  454    19
Added Vol:      0    1     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20   48    50    34   81    56    57  461    16    30  454    19
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20   48    50    34   81    56    57  461    16    30  454    19
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20   48    50    34   81    56    57  461    16    30  454    19
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  911 1116   239   892 1115   237   473 xxxx xxxxx   477 xxxx xxxxx
Potent Cap.:  233  209   769   240  210   771  1099 xxxx xxxxx  1096 xxxx xxxxx
Move Cap.:    137  193   769   171  193   771  1099 xxxx xxxxx  1096 xxxx xxxxx
Volume/Cap:  0.15 0.25  0.07  0.20 0.42  0.07  0.05 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  17.9 xxxx xxxxx   4.1 xxxx xxxxx   2.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  31.2 xxxx xxxxx   8.5 xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     D    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  257 xxxxx  xxxx xxxx   279  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.3 xxxxx xxxxx xxxx   2.5 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 30.4 xxxxx xxxxx xxxx  29.8 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    *     D     *    *     *     *    *     *
ApproachDel:      30.4             30.1            xxxxxx           xxxxxx
ApproachLOS:         D                D                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   48    50    34   81    56    57  461    16    30  454    19
ApproachDel:      30.4             30.1            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=118]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1326]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=171]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1326]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

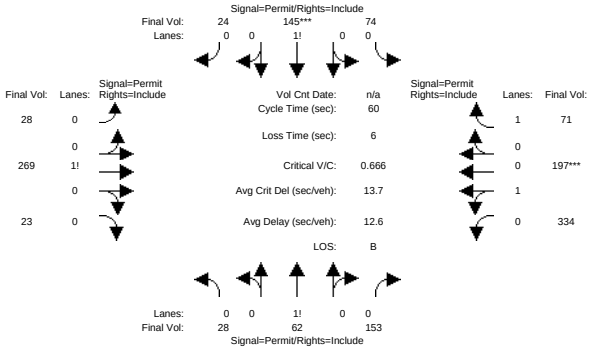
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   20   48    50    34   81    56    57  461    16    30  454    19
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1037
Minor Approach Volume:           171
Minor Approach Volume Threshold: 358
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #48: 13th St / G St



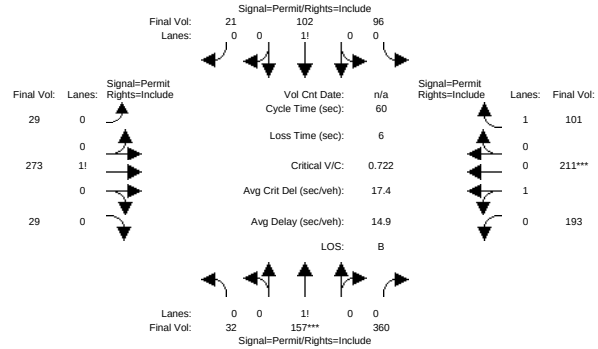
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	28	62	153	74	145	20	28	265	23	334	185	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	62	153	74	145	20	28	265	23	334	185	71
Added Vol:	0	0	0	0	0	4	0	4	0	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	62	153	74	145	24	28	269	23	334	197	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	62	153	74	145	24	28	269	23	334	197	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	62	153	74	145	24	28	269	23	334	197	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	62	153	74	145	24	28	269	23	334	197	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	0.78	0.78	0.78	0.94	0.94	0.94	0.64	0.64	0.85
Lanes:	0.12	0.25	0.63	0.30	0.60	0.10	0.09	0.84	0.07	0.63	0.37	1.00
Final Sat.:	192	424	1046	452	885	147	156	1494	128	766	452	1615
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.15	0.16	0.16	0.16	0.18	0.18	0.18	0.44	0.44	0.04
Crit Moves:					****						****	
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.65	0.65	0.65	0.65	0.65	0.65
Volume/Cap:	0.59	0.59	0.59	0.67	0.67	0.67	0.28	0.28	0.28	0.67	0.67	0.07
Delay/Veh:	22.4	22.4	22.4	25.1	25.1	25.1	4.5	4.5	4.5	8.5	8.5	3.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.4	22.4	22.4	25.1	25.1	25.1	4.5	4.5	4.5	8.5	8.5	3.8
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	124	124	124	104	104	104	66	66	66	156	156	12

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #48: 13th St / G St



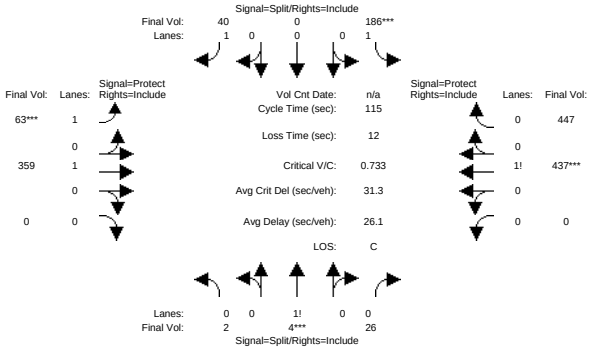
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	32	157	360	95	102	20	29	261	29	193	207	101
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	157	360	95	102	20	29	261	29	193	207	101
Added Vol:	0	0	0	1	0	1	0	12	0	0	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	157	360	96	102	21	29	273	29	193	211	101
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	157	360	96	102	21	29	273	29	193	211	101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	157	360	96	102	21	29	273	29	193	211	101
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	32	157	360	96	102	21	29	273	29	193	211	101
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.89	0.67	0.67	0.67	0.94	0.94	0.94	0.65	0.65	0.85
Lanes:	0.06	0.29	0.65	0.44	0.46	0.10	0.09	0.82	0.09	0.48	0.52	1.00
Final Sat.:	99	484	1109	558	593	122	156	1471	156	594	649	1615
Capacity Analysis Module:												
Vol/Sat:	0.32	0.32	0.32	0.17	0.17	0.17	0.19	0.19	0.19	0.33	0.33	0.06
Crit Moves:		****									****	
Green/Cycle:	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Volume/Cap:	0.72	0.72	0.72	0.38	0.38	0.38	0.41	0.41	0.41	0.72	0.72	0.14
Delay/Veh:	16.9	16.9	16.9	11.4	11.4	11.4	11.5	11.5	11.5	18.0	18.0	9.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.9	16.9	16.9	11.4	11.4	11.4	11.5	11.5	11.5	18.0	18.0	9.8
LOS by Move:	B	B	B	B	B	B	B	B	B	B	B	A
HCM2kAvgQ:	246	246	246	66	66	66	110	110	110	156	156	26

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

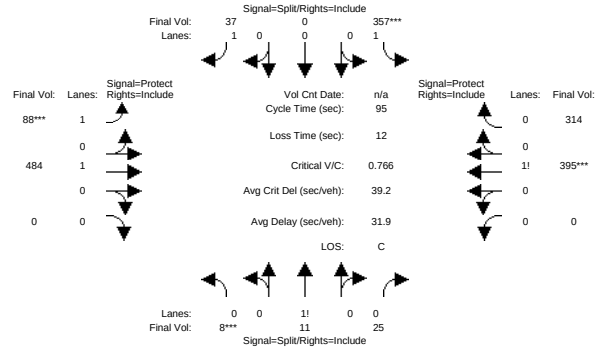



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10    10    0   10     7   10    0     0   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    3   26   184    0   40    63  350    0     0  423  439
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    2    3   26   184    0   40    63  350    0     0  423  439
Added Vol:      0    1    0     2    0    0     0    9    0     0   14    8
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    2    4   26   186    0   40    63  359    0     0  437  447
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     2    4   26   186    0   40    63  359    0     0  437  447
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    2    4   26   186    0   40    63  359    0     0  437  447
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    2    4   26   186    0   40    63  359    0     0  437  447
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.89 0.89 0.89  0.95 1.00 0.85  0.95 1.00 1.00  1.00 0.93 0.93
Lanes:       0.06 0.13 0.81  1.00 0.00 1.00  1.00 1.00 0.00  0.00 0.49 0.51
Final Sat.:   105  211 1370  1805    0 1615  1805 1900    0     0  875  895
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.02 0.02  0.10 0.00 0.02  0.03 0.19 0.00  0.00 0.50 0.50
Crit Moves:        ****       ****            ****                 ****
Green/Cycle: 0.09 0.09 0.09  0.13 0.00 0.13  0.06 0.68 0.00  0.00 0.62 0.62
Volume/Cap:  0.22 0.22 0.22  0.81 0.00 0.19  0.57 0.28 0.00  0.00 0.81 0.81
Delay/Veh:   49.6 49.6 49.6  67.1  0.0 45.3  59.7  7.3  0.0   0.0 21.0 21.0
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  49.6 49.6 49.6  67.1  0.0 45.3  59.7  7.3  0.0   0.0 21.0 21.0
LOS by Move:    D    D    D     E    A    D     E    A    A     A    C    C
HCM2kAvgQ:     31   31   31   214    0   34    77  122    0     0  564  564
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

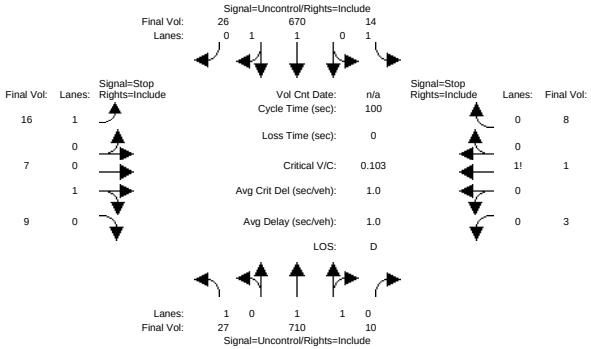



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10    10   10   10     7   10    0     0   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8   11   25   349    0   37    88  470    0     0  386  312
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    8   11   25   349    0   37    88  470    0     0  386  312
Added Vol:      0    0    0     8    0    0     0   14    0     0    9    2
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    8   11   25   357    0   37    88  484    0     0  395  314
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     8   11   25   357    0   37    88  484    0     0  395  314
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    8   11   25   357    0   37    88  484    0     0  395  314
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    8   11   25   357    0   37    88  484    0     0  395  314
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.91 0.91 0.91  0.95 1.00 0.85  0.95 1.00 1.00  1.00 0.94 0.94
Lanes:       0.18 0.25 0.57  1.00 0.00 1.00  1.00 1.00 0.00  0.00 0.56 0.44
Final Sat.:   316  434  987  1805    0 1615  1805 1900    0     0  995  791
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.03 0.03  0.20 0.00 0.02  0.05 0.25 0.00  0.00 0.40 0.40
Crit Moves:  ****            ****            ****                 ****
Green/Cycle: 0.11 0.11 0.11  0.23 0.00 0.23  0.07 0.54 0.00  0.00 0.46 0.46
Volume/Cap:  0.24 0.24 0.24  0.86 0.00 0.10  0.66 0.47 0.00  0.00 0.86 0.86
Delay/Veh:   39.7 39.7 39.7  50.9  0.0 28.9  54.6 14.0  0.0   0.0 31.4 31.4
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  39.7 39.7 39.7  50.9  0.0 28.9  54.6 14.0  0.0   0.0 31.4 31.4
LOS by Move:    D    D    D     D    A    C     D    B    A     A    C    C
HCM2kAvgQ:     34   34   34   324    0   22    95  220    0     0  449  449
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      27  525    10    14  457    26    16    7     9     3    1     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   27  525    10    14  457    26    16    7     9     3    1     8
Added Vol:      0  185     0     0  213     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   27  710    10    14  670    26    16    7     9     3    1     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    27  710    10    14  670    26    16    7     9     3    1     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   27  710    10    14  670    26    16    7     9     3    1     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  696 xxxx xxxxx   720 xxxx xxxxx  1121 1485   348  1136 1493   360
Potent Cap.:  909 xxxx xxxxx   891 xxxx xxxxx   164  126   654   159  124   642
Move Cap.:    909 xxxx xxxxx   891 xxxx xxxxx   155  120   654   145  119   642
Volume/Cap:  0.03 xxxx  xxxx  0.02 xxxx  xxxx  0.10 0.06  0.01  0.02 0.01  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.3 xxxx xxxxx   1.2 xxxx xxxxx   8.5 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.1 xxxx xxxxx   9.1 xxxx xxxxx  30.9 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     D    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   222  xxxx  289 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   0.2 xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  22.5 xxxxx 18.0 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     C     *    C     *
ApproachDel:    xxxxxx           xxxxxx             26.7             18.0
ApproachLOS:         *                *                D                C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   27  710    10    14  670    26    16    7     9     3    1     8
ApproachDel:    xxxxxx           xxxxxx             26.7             18.0
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1501]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1501]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

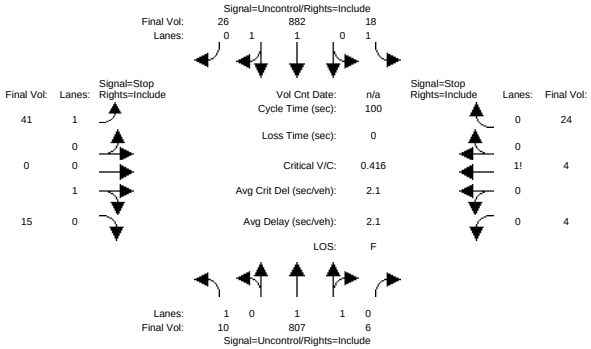
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   27  710    10    14  670    26    16    7     9     3    1     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1457
Minor Approach Volume:           32
Minor Approach Volume Threshold: 212
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10  594     6    18  697    26    41    0    15     4    4    24
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   10  594     6    18  697    26    41    0    15     4    4    24
Added Vol:      0  213     0     0  185     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   10  807     6    18  882    26    41    0    15     4    4    24
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    10  807     6    18  882    26    41    0    15     4    4    24
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   10  807     6    18  882    26    41    0    15     4    4    24
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  908 xxxx xxxxx   813 xxxx xxxxx  1357 1764   454  1307 1774   407
Potent Cap.:  758 xxxx xxxxx   823 xxxx xxxxx   110   85   559   119   84   600
Move Cap.:    758 xxxx xxxxx   823 xxxx xxxxx    99   82   559   113   81   600
Volume/Cap:  0.01 xxxx  xxxx  0.02 xxxx  xxxx  0.42 0.00  0.03  0.04 0.05  0.04
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.0 xxxx xxxxx   1.7 xxxx xxxxx  43.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.8 xxxx xxxxx   9.5 xxxx xxxxx  65.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     F    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   559  xxxx  256 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   0.1 xxxxx  0.4 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  11.6 xxxxx 21.0 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     B     *    C     *
ApproachDel:    xxxxxx           xxxxxx             50.9            21.0
ApproachLOS:         *                *                F               C
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   10  807     6    18  882    26    41    0    15     4    4    24
ApproachDel:    xxxxxx           xxxxxx             50.9            21.0
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1837]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1837]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

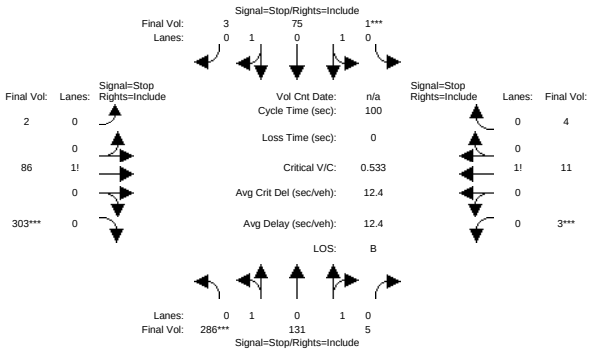
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  1! 0  0
Initial Vol:   10  807     6    18  882    26    41    0    15     4    4    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1749
Minor Approach Volume:           56
Minor Approach Volume Threshold: 134 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation AM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     280  129     5     1   75     3     2   86   293     3   11     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  280  129     5     1   75     3     2   86   293     3   11     4
Added Vol:      6    2     0     0    0     0     0    0    10     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  286  131     5     1   75     3     2   86   303     3   11     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   286  131     5     1   75     3     2   86   303     3   11     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  286  131     5     1   75     3     2   86   303     3   11     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  286  131     5     1   75     3     2   86   303     3   11     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.98  0.02  0.02 1.90  0.08  0.01 0.22  0.77  0.17 0.61  0.22
Final Sat.:   574  610    15    14 1058    43     4  161   568    97  357   130
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.50 0.21  0.34  0.07 0.07  0.07  0.53 0.53  0.53  0.03 0.03  0.03
Crit Moves:  ****             ****                     ****  ****
Delay/Veh:   14.4  9.8   9.8   9.2  9.2   9.1  12.7 12.7  12.7   8.8  8.8   8.8
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  14.4  9.8   9.8   9.2  9.2   9.1  12.7 12.7  12.7   8.8  8.8   8.8
LOS by Move:    B    A     A     A    A     A     B    B     B     A    A     A
ApproachDel:      12.9              9.2             12.7              8.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       12.9              9.2             12.7              8.8
LOS by Appr:         B                A                B                A
AllWayAvgQ:  22.3  6.5   6.5   1.7  1.6   1.6  25.1 25.1  25.1   0.7  0.7   0.7
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
```



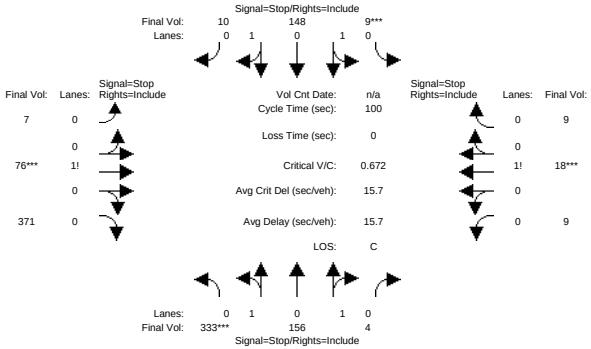
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  286  131     5    1   75     3    2   86   303    3   11     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             501
Minor Approach Volume:           391
Minor Approach Volume Threshold: 523
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing + Project_Mitigation PM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     329  156     4     9  146    10     7   76   358     9   18     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  329  156     4     9  146    10     7   76   358     9   18     9
Added Vol:      4    0     0     0    2     0     0    0    13     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  333  156     4     9  148    10     7   76   371     9   18     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   333  156     4     9  148    10     7   76   371     9   18     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  333  156     4     9  148    10     7   76   371     9   18     9
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  333  156     4     9  148    10     7   76   371     9   18     9
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.98  0.02  0.11 1.77  0.12  0.01 0.17  0.82  0.25 0.50  0.25
Final Sat.:   536  570     9    55  915    62    10  113   552   127  254   127
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.62 0.27  0.43  0.16 0.16  0.16  0.67 0.67  0.67  0.07 0.07  0.07
Crit Moves:  ****             ****                   ****              ****
Delay/Veh:   18.9 11.0  11.0  10.5 10.4  10.3  17.4 17.4  17.4   9.7  9.7   9.7
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  18.9 11.0  11.0  10.5 10.4  10.3  17.4 17.4  17.4   9.7  9.7   9.7
LOS by Move:    C    B     B     B    B     B     C    C     C     A    A     A
ApproachDel:      16.3             10.4             17.4              9.7
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       16.3             10.4             17.4              9.7
LOS by Appr:         C                B                C                A
AllWayAvgQ:  35.8  8.9   8.9   4.2  4.1   4.1  43.2 43.2  43.2   1.5  1.5   1.5
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  333  156     4     9  148    10     7   76   371     9   18     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             660
Minor Approach Volume:           454
Minor Approach Volume Threshold: 428
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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HEAVY MANTENANCE FACILITY ANALYSIS – CASTLE COMMERCE

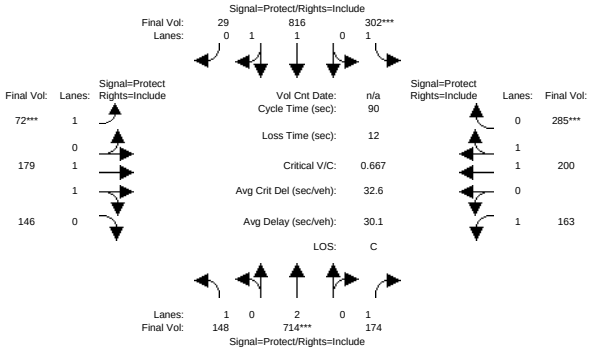
2035 NOBUILD CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #1: Winton Wy/Bellevue Rd



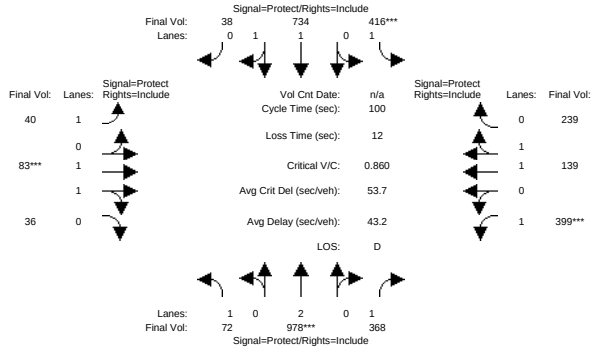
Street Name:	N. Winton Way						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	148	714	174	302	816	29	72	179	146	163	200	285
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	148	714	174	302	816	29	72	179	146	163	200	285
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	148	714	174	302	816	29	72	179	146	163	200	285
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	148	714	174	302	816	29	72	179	146	163	200	285
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	148	714	174	302	816	29	72	179	146	163	200	285
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	148	714	174	302	816	29	72	179	146	163	200	285
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.95	0.95	0.89	0.89	0.95	0.87	0.87
Lanes:	1.00	2.00	1.00	1.00	1.93	0.07	1.00	1.10	0.90	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3469	123	1805	1855	1513	1805	1646	1646
Capacity Analysis Module:												
Vol/Sat:	0.08	0.20	0.11	0.17	0.24	0.24	0.04	0.10	0.10	0.09	0.12	0.17
Crit Moves:		****		****			****					****
Green/Cycle:	0.14	0.29	0.29	0.25	0.40	0.40	0.08	0.18	0.18	0.15	0.25	0.25
Volume/Cap:	0.59	0.68	0.37	0.68	0.59	0.59	0.51	0.53	0.53	0.61	0.48	0.68
Delay/Veh:	40.2	30.2	25.9	35.1	22.1	22.1	43.1	34.1	34.1	39.8	28.9	33.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.2	30.2	25.9	35.1	22.1	22.1	43.1	34.1	34.1	39.8	28.9	33.0
LOS by Move:	D	C	C	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	5	10	4	9	10	10	3	5	5	5	5	9

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #1: Winton Wy/Bellevue Rd



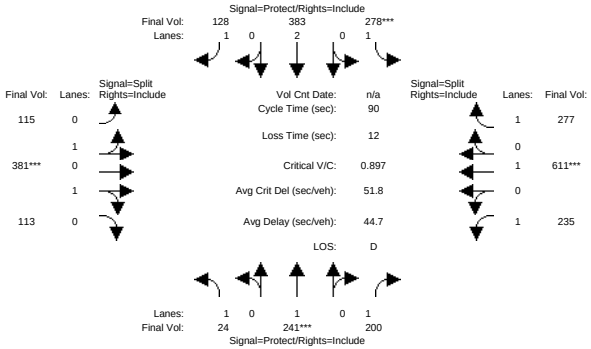
Street Name:	N. Winton Way						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	72	978	368	416	734	38	40	83	36	399	139	239
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	72	978	368	416	734	38	40	83	36	399	139	239
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	72	978	368	416	734	38	40	83	36	399	139	239
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	72	978	368	416	734	38	40	83	36	399	139	239
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	978	368	416	734	38	40	83	36	399	139	239
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	72	978	368	416	734	38	40	83	36	399	139	239
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.94	0.94	0.95	0.91	0.91	0.95	0.86	0.86
Lanes:	1.00	2.00	1.00	1.00	1.90	0.10	1.00	1.39	0.61	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3408	176	1805	2405	1043	1805	1634	1634
Capacity Analysis Module:												
Vol/Sat:	0.04	0.27	0.23	0.23	0.22	0.22	0.02	0.03	0.03	0.22	0.09	0.15
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.29	0.29	0.25	0.41	0.41	0.11	0.10	0.10	0.24	0.23	0.23
Volume/Cap:	0.30	0.93	0.78	0.93	0.53	0.53	0.20	0.35	0.35	0.93	0.37	0.64
Delay/Veh:	39.9	47.8	40.5	61.9	22.7	22.7	41.0	42.6	42.6	63.2	32.7	37.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.9	47.8	40.5	61.9	22.7	22.7	41.0	42.6	42.6	63.2	32.7	37.2
LOS by Move:	D	D	D	E	C	C	D	D	D	E	C	D
HCM2kAvgQ:	2	20	12	17	10	10	1	2	2	16	4	8

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #2: Atwater Blvd / Applegate Rd



Street Name:	Atwater Boulevard									Applegate Road-Winton Way								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	24		241		200	278		383		128	115		381		113	235		611		277
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	24		241		200	278		383		128	115		381		113	235		611		277
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	24		241		200	278		383		128	115		381		113	235		611		277
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	24		241		200	278		383		128	115		381		113	235		611		277
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	24		241		200	278		383		128	115		381		113	235		611		277
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	24		241		200	278		383		128	115		381		113	235		611		277
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.95		0.85	0.92		0.92		0.92	0.95		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		2.00		1.00	0.38		1.25		0.37	1.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		3610		1615	657		2175		645	1805		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.01		0.13		0.12	0.15		0.11		0.08	0.18		0.18		0.18	0.13		0.32		0.17
Crit Moves:			****			****							****					****		
Green/Cycle:	0.13		0.14		0.14	0.17		0.18		0.18	0.20		0.20		0.20	0.36		0.36		0.36
Volume/Cap:	0.10		0.90		0.88	0.90		0.58		0.43	0.90		0.90		0.90	0.36		0.90		0.48
Delay/Veh:	34.8		67.7		67.1	63.3		34.8		33.5	50.0		50.0		50.0	21.6		41.9		23.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	34.8		67.7		67.1	63.3		34.8		33.5	50.0		50.0		50.0	21.6		41.9		23.0
LOS by Move:	C		E		E	E		C		C	D		D		D	C		D		C
HCM2kAvgQ:	1		10		8	11		6		4	9		9		9	5		20		6

Note: Queue reported is the number of cars per lane.

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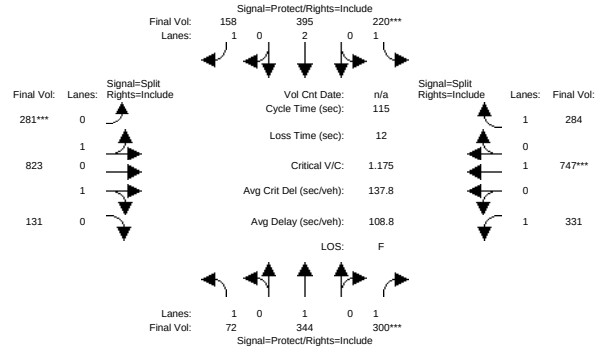
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #2: Atwater Blvd / Applegate Rd



Street Name:	Atwater Boulevard									Applegate Road-Winton Way								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	72		344		300	220		395		158	281		823		131	331		747		284
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	72		344		300	220		395		158	281		823		131	331		747		284
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	72		344		300	220		395		158	281		823		131	331		747		284
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	72		344		300	220		395		158	281		823		131	331		747		284
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	72		344		300	220		395		158	281		823		131	331		747		284
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	72		344		300	220		395		158	281		823		131	331		747		284
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.95		0.85	0.92		0.92		0.92	0.95		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		2.00		1.00	0.46		1.33		0.21	1.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		3610		1615	799		2341		373	1805		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.04		0.18		0.19	0.12		0.11		0.10	0.35		0.35		0.35	0.18		0.39		0.18
Crit Moves:					****	****					****							****		
Green/Cycle:	0.09		0.16		0.16	0.10		0.17		0.17	0.30		0.30		0.30	0.33		0.33		0.33
Volume/Cap:	0.43		1.15		1.17	1.17		0.65		0.58	1.17		1.17		1.17	0.55		1.17		0.53
Delay/Veh:	50.9		146		160.4	172.3		47.2		47.3	129.2		129		129.2	32.2		133		31.8
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	50.9		146		160.4	172.3		47.2		47.3	129.2		129		129.2	32.2		133		31.8
LOS by Move:	D		F		F	F		D		D	F		F		F	C		F		C
HCM2kAvgQ:	3		21		19	15		8		6	33		33		33	10		43		8

Note: Queue reported is the number of cars per lane.

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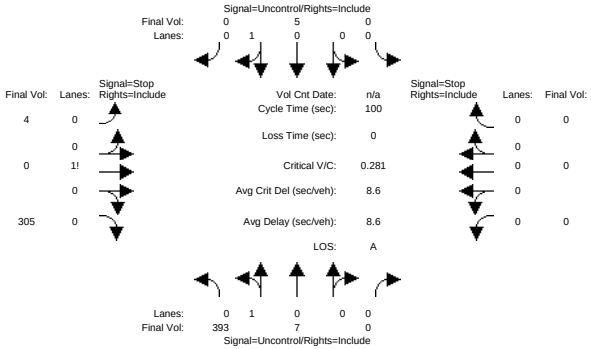
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #3: Sycamore Ave / SR-99 NB Ramps

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Street Name:         Sycamore Avenue                    SR-99 NB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     393    7     0     0    5     0     4    0   305     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  393    7     0     0    5     0     4    0   305     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  393    7     0     0    5     0     4    0   305     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   393    7     0     0    5     0     4    0   305     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  393    7     0     0    5     0     4    0   305     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:    5 xxxx xxxxx  xxxx xxxx xxxxx   798  798     5  xxxx xxxx xxxxx
Potent Cap.: 1630 xxxx xxxxx  xxxx xxxx xxxxx   358  321  1084  xxxx xxxx xxxxx
Move Cap.:   1630 xxxx xxxxx  xxxx xxxx xxxxx   272  222  1084  xxxx xxxx xxxxx
Volume/Cap:  0.24 xxxx  xxxx  xxxx xxxx  xxxx  0.01 0.00  0.28  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.9 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 1044 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  1.2 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.9 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              9.9           xxxxxx
ApproachLOS:         *                *               A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  393    7     0     0    5     0     4    0   305     0    0     0
ApproachDel:    xxxxxx           xxxxxx              9.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=309]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=714]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

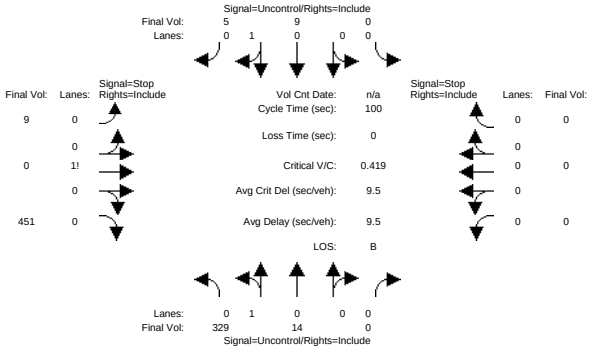
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  393    7     0     0    5     0     4    0   305     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             405
Minor Approach Volume:           309
Minor Approach Volume Threshold: 460
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #3: Sycamore Ave / SR-99 NB Ramps




```
Street Name:         Sycamore Avenue                    SR-99 NB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     329   14     0     0     9     5     9     0   451     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  329   14     0     0     9     5     9     0   451     0     0     0
Added Vol:      0    0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0    0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  329   14     0     0     9     5     9     0   451     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   329   14     0     0     9     5     9     0   451     0     0     0
Reduct Vol:     0    0     0     0     0     0     0     0     0     0     0     0
FinalVolume:  329   14     0     0     9     5     9     0   451     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   14 xxxx xxxxx  xxxx xxxx xxxxx   684  684    12  xxxx xxxx xxxxx
Potent Cap.: 1617 xxxx xxxxx  xxxx xxxx xxxxx   418  374  1075  xxxx xxxx xxxxx
Move Cap.:   1617 xxxx xxxxx  xxxx xxxx xxxxx   337  281  1075  xxxx xxxx xxxxx
Volume/Cap:  0.20 xxxx  xxxx  xxxx xxxx  xxxx  0.03 0.00  0.42  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.8 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 1031 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  2.3 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 11.3 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    B     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             11.3           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  329   14     0     0     9     5     9     0   451     0     0     0
ApproachDel:    xxxxxx           xxxxxx             11.3           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=460]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=817]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

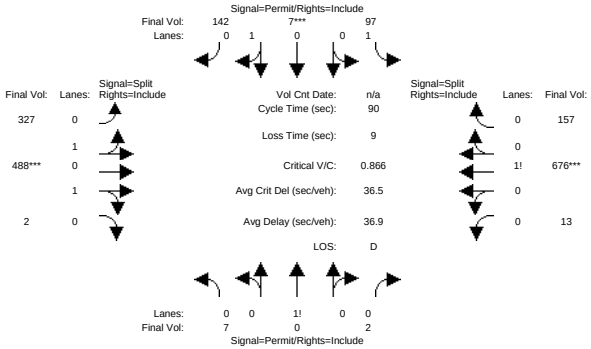
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  329   14     0     0     9     5     9     0   451     0     0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             357
Minor Approach Volume:           460
Minor Approach Volume Threshold: 494
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #4: Sycamore Ave / Applegate Rd



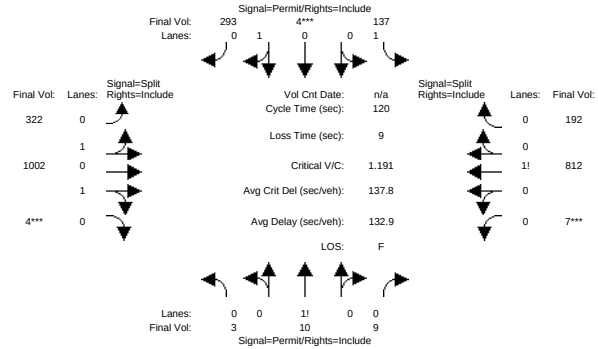
Street Name:	Sycamore Avenue									Applegate Road								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10	10	10			10	10	10			10	10	10			10	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	7	0	2			97	7	142			327	488	2			13	676	157		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	7	0	2			97	7	142			327	488	2			13	676	157		
Added Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	7	0	2			97	7	142			327	488	2			13	676	157		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	7	0	2			97	7	142			327	488	2			13	676	157		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	7	0	2			97	7	142			327	488	2			13	676	157		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	7	0	2			97	7	142			327	488	2			13	676	157		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.74	1.00	0.74			0.76	0.86	0.86			0.93	0.93	0.93			0.97	0.97	0.97		
Lanes:	0.78	0.00	0.22			1.00	0.05	0.95			0.80	1.19	0.01			0.01	0.80	0.19		
Final Sat.:	1095	0	313			1446	76	1552			1416	2113	9			28	1479	343		
Capacity Analysis Module:																				
Vol/Sat:	0.01	0.00	0.01			0.07	0.09	0.09			0.23	0.23	0.23			0.46	0.46	0.46		
Crit Moves:							****					****					****			
Green/Cycle:	0.11	0.00	0.11			0.11	0.11	0.11			0.26	0.26	0.26			0.52	0.52	0.52		
Volume/Cap:	0.06	0.00	0.06			0.60	0.82	0.82			0.87	0.87	0.87			0.87	0.87	0.87		
Delay/Veh:	35.9	0.0	35.9			44.5	64.4	64.4			40.6	40.6	40.6			27.5	27.5	27.5		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	35.9	0.0	35.9			44.5	64.4	64.4			40.6	40.6	40.6			27.5	27.5	27.5		
LOS by Move:	D	A	D			D	E	E			D	D	D			C	C	C		
HCM2kAvgQ:	0	0	0			4	6	6			13	13	13			20	20	20		

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #4: Sycamore Ave / Applegate Rd



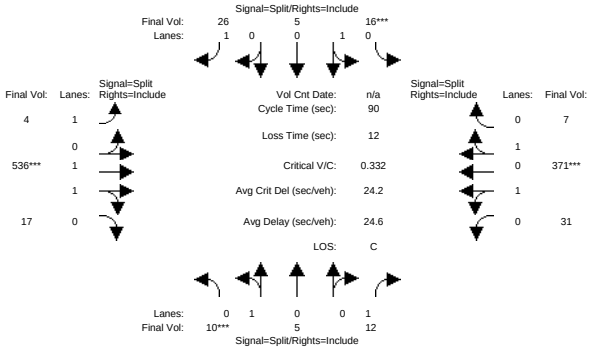
Street Name:	Sycamore Avenue									Applegate Road								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10	10	10			10	10	10			10	10	10			10	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	3	10	9			137	4	293			322	1002	4			7	812	192		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	3	10	9			137	4	293			322	1002	4			7	812	192		
Added Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	3	10	9			137	4	293			322	1002	4			7	812	192		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	3	10	9			137	4	293			322	1002	4			7	812	192		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	3	10	9			137	4	293			322	1002	4			7	812	192		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	3	10	9			137	4	293			322	1002	4			7	812	192		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.64	0.64	0.64			0.75	0.85	0.85			0.94	0.94	0.94			0.97	0.97	0.97		
Lanes:	0.14	0.45	0.41			1.00	0.01	0.99			0.48	1.51	0.01			0.01	0.80	0.19		
Final Sat.:	166	554	499			1433	22	1597			865	2691	11			13	1486	351		
Capacity Analysis Module:																				
Vol/Sat:	0.02	0.02	0.02			0.10	0.18	0.18			0.37	0.37	0.37			0.55	0.55	0.55		
Crit Moves:							****						****	****						
Green/Cycle:	0.15	0.15	0.15			0.15	0.15	0.15			0.31	0.31	0.31			0.46	0.46	0.46		
Volume/Cap:	0.12	0.12	0.12			0.62	1.19	1.19			1.19	1.19	1.19			1.19	1.19	1.19		
Delay/Veh:	44.0	44.0	44.0			52.8	170	169.5			136.5	137	136.5			130.3	130	130.3		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	44.0	44.0	44.0			52.8	170	169.5			136.5	137	136.5			130.3	130	130.3		
LOS by Move:	D	D	D			D	F	F			F	F	F			F	F	F		
HCM2kAvgQ:	1	1	1			6	20	20			40	40	40			54	54	54		

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #5: Bell Ln-Mall Access / SR-99 SB Ramps



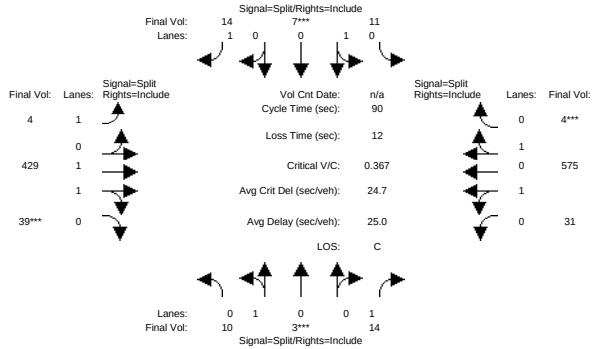
Street Name:	Bell Ln-Mall Access									SR-99 SB Ramps		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	5	12	16	5	26	4	536	17	31	371	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	5	12	16	5	26	4	536	17	31	371	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	5	12	16	5	26	4	536	17	31	371	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	5	12	16	5	26	4	536	17	31	371	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	5	12	16	5	26	4	536	17	31	371	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	5	12	16	5	26	4	536	17	31	371	7
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.96	0.96	0.85	0.95	0.95	0.95	0.94	0.94	0.94
Lanes:	0.67	0.33	1.00	0.76	0.24	1.00	1.00	1.94	0.06	0.15	1.82	0.03
Final Sat.:	1226	613	1615	1394	436	1615	1805	3482	110	272	3252	61
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.01	0.01	0.02	0.00	0.15	0.15	0.11	0.11	0.11
Crit Moves:	****			****				****			****	
Green/Cycle:	0.11	0.11	0.11	0.11	0.11	0.11	0.37	0.37	0.37	0.27	0.27	0.27
Volume/Cap:	0.07	0.07	0.07	0.10	0.10	0.14	0.01	0.42	0.42	0.42	0.42	0.42
Delay/Veh:	36.0	36.0	36.0	36.2	36.2	36.5	17.9	21.3	21.3	27.0	27.0	27.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.0	36.0	36.0	36.2	36.2	36.5	17.9	21.3	21.3	27.0	27.0	27.0
LOS by Move:	D	D	D	D	D	D	B	C	C	C	C	C
HCM2kAvgQ:	0	0	0	1	1	1	0	6	6	5	5	5

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #5: Bell Ln-Mall Access / SR-99 SB Ramps



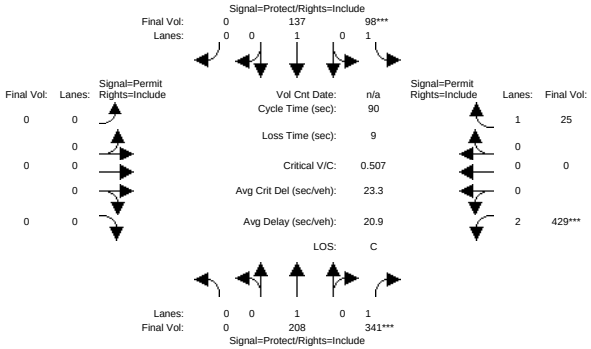
Street Name:	Bell Ln-Mall Access									SR-99 SB Ramps		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	3	14	11	7	14	4	429	39	31	575	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	3	14	11	7	14	4	429	39	31	575	4
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	3	14	11	7	14	4	429	39	31	575	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	3	14	11	7	14	4	429	39	31	575	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	3	14	11	7	14	4	429	39	31	575	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	3	14	11	7	14	4	429	39	31	575	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.96	0.96	0.85	0.97	0.97	0.85	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.77	0.23	1.00	0.61	0.39	1.00	1.00	1.83	0.17	0.10	1.89	0.01
Final Sat.:	1407	422	1615	1126	717	1615	1805	3269	297	183	3389	24
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.13	0.13	0.17	0.17	0.17
Crit Moves:		****			****				****			****
Green/Cycle:	0.11	0.11	0.11	0.11	0.11	0.11	0.28	0.28	0.28	0.36	0.36	0.36
Volume/Cap:	0.06	0.06	0.08	0.09	0.09	0.08	0.01	0.47	0.47	0.47	0.47	0.47
Delay/Veh:	35.9	35.9	36.1	36.1	36.1	36.1	23.3	27.1	27.1	22.2	22.2	22.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.9	35.9	36.1	36.1	36.1	36.1	23.3	27.1	27.1	22.2	22.2	22.2
LOS by Move:	D	D	D	D	D	D	C	C	C	C	C	C
HCM2kAvgQ:	0	0	0	0	0	0	0	6	6	7	7	7

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #6: Bell Dr/Bell Ln



Street Name:	Bell Dr						Bell Ln-SR99 SB Ramp Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	208	341	98	137	0	0	0	0	429	0	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	208	341	98	137	0	0	0	0	429	0	25
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	208	341	98	137	0	0	0	0	429	0	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	208	341	98	137	0	0	0	0	429	0	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	208	341	98	137	0	0	0	0	429	0	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	208	341	98	137	0	0	0	0	429	0	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.95	1.00	1.00	1.00	1.00	1.00	0.59	1.00	0.85
Lanes:	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	1900	1615	1805	1900	0	0	0	0	2252	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.21	0.05	0.07	0.00	0.00	0.00	0.00	0.19	0.00	0.02
Crit Moves:			****	****						****		
Green/Cycle:	0.00	0.42	0.42	0.11	0.52	0.00	0.00	0.00	0.00	0.38	0.00	0.38
Volume/Cap:	0.00	0.26	0.51	0.51	0.14	0.00	0.00	0.00	0.00	0.51	0.00	0.04
Delay/Veh:	0.0	17.4	20.0	40.1	11.1	0.0	0.0	0.0	0.0	22.1	0.0	17.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	17.4	20.0	40.1	11.1	0.0	0.0	0.0	0.0	22.1	0.0	17.8
LOS by Move:	A	B	C	D	B	A	A	A	A	C	A	B
HCM2kAvgQ:	0	4	7	3	2	0	0	0	0	5	0	0

Note: Queue reported is the number of cars per lane.

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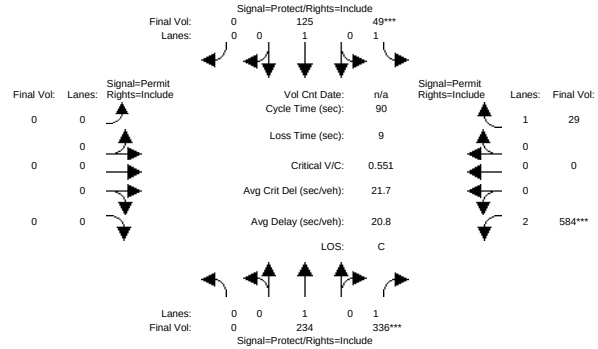
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #6: Bell Dr/Bell Ln



Street Name:	Bell Dr						Bell Ln-SR99 SB Ramp Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	234	336	49	125	0	0	0	0	584	0	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	234	336	49	125	0	0	0	0	584	0	29
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	234	336	49	125	0	0	0	0	584	0	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	234	336	49	125	0	0	0	0	584	0	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	234	336	49	125	0	0	0	0	584	0	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	234	336	49	125	0	0	0	0	584	0	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.95	1.00	1.00	1.00	1.00	1.00	0.59	1.00	0.85
Lanes:	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	1900	1615	1805	1900	0	0	0	0	2241	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.12	0.21	0.03	0.07	0.00	0.00	0.00	0.00	0.26	0.00	0.02
Crit Moves:			****	****						****		
Green/Cycle:	0.00	0.37	0.37	0.08	0.44	0.00	0.00	0.00	0.00	0.46	0.00	0.46
Volume/Cap:	0.00	0.34	0.57	0.35	0.15	0.00	0.00	0.00	0.00	0.57	0.00	0.04
Delay/Veh:	0.0	21.0	24.2	40.8	15.0	0.0	0.0	0.0	0.0	18.7	0.0	13.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	21.0	24.2	40.8	15.0	0.0	0.0	0.0	0.0	18.7	0.0	13.5
LOS by Move:	A	C	C	D	B	A	A	A	A	B	A	B
HCM2kAvgQ:	0	5	7	2	2	0	0	0	0	6	0	0

Note: Queue reported is the number of cars per lane.

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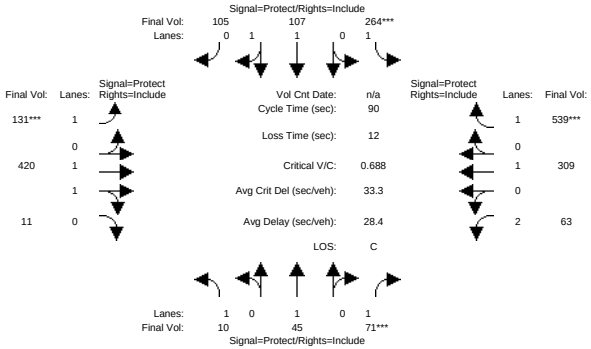
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #7: Bel Dr-Commerce / Applegate Rd



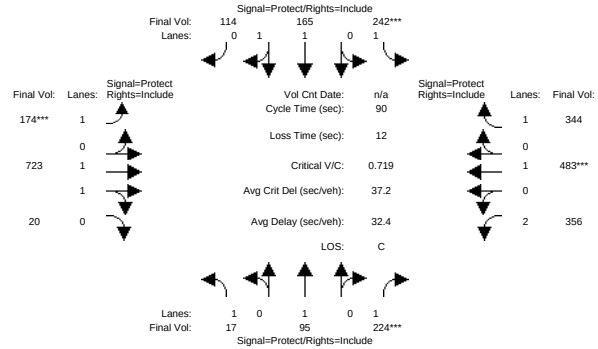
Street Name:	Bell Dr-Commerce						Applegate Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	45	71	264	107	105	131	420	11	63	309	539
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	45	71	264	107	105	131	420	11	63	309	539
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	45	71	264	107	105	131	420	11	63	309	539
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	45	71	264	107	105	131	420	11	63	309	539
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	45	71	264	107	105	131	420	11	63	309	539
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	45	71	264	107	105	131	420	11	63	309	539
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.88	0.88	0.95	0.95	0.95	0.92	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.01	0.99	1.00	1.95	0.05	2.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	1687	1656	1805	3504	92	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.02	0.04	0.15	0.06	0.06	0.07	0.12	0.12	0.02	0.16	0.33
Crit Moves:			****	****			****					****
Green/Cycle:	0.13	0.11	0.11	0.20	0.18	0.18	0.10	0.34	0.34	0.22	0.46	0.46
Volume/Cap:	0.04	0.21	0.40	0.73	0.35	0.35	0.73	0.36	0.36	0.08	0.36	0.73
Delay/Veh:	34.5	36.9	38.6	41.2	32.4	32.4	53.7	22.7	22.7	28.0	16.1	23.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.5	36.9	38.6	41.2	32.4	32.4	53.7	22.7	22.7	28.0	16.1	23.7
LOS by Move:	C	D	D	D	C	C	D	C	C	C	B	C
HCM2kAvgQ:	0	1	2	7	3	3	5	5	5	1	5	12

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #7: Bel Dr-Commerce / Applegate Rd



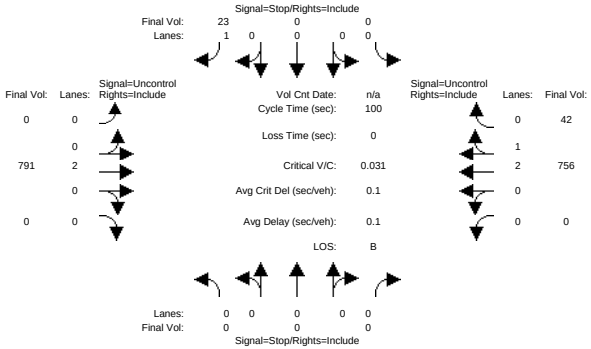
Street Name:	Bell Dr-Commerce						Applegate Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	17	95	224	242	165	114	174	723	20	356	483	344
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	17	95	224	242	165	114	174	723	20	356	483	344
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	17	95	224	242	165	114	174	723	20	356	483	344
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	17	95	224	242	165	114	174	723	20	356	483	344
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	95	224	242	165	114	174	723	20	356	483	344
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	17	95	224	242	165	114	174	723	20	356	483	344
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.89	0.89	0.95	0.95	0.95	0.92	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.18	0.82	1.00	1.95	0.05	2.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	2005	1385	1805	3499	97	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.05	0.14	0.13	0.08	0.08	0.10	0.21	0.21	0.10	0.25	0.21
Crit Moves:			****	****			****				****	
Green/Cycle:	0.16	0.19	0.19	0.19	0.22	0.22	0.13	0.33	0.33	0.16	0.35	0.35
Volume/Cap:	0.06	0.26	0.72	0.72	0.37	0.37	0.72	0.63	0.63	0.63	0.72	0.60
Delay/Veh:	32.4	31.2	41.9	41.7	29.9	29.9	47.4	26.8	26.8	37.6	29.0	25.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.4	31.2	41.9	41.7	29.9	29.9	47.4	26.8	26.8	37.6	29.0	25.7
LOS by Move:	C	C	D	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	0	2	7	7	3	3	6	10	10	4	11	7

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #8: Mall Access / Applegate Rd




```
Street Name:            Mall Access                     Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0    23     0  791     0     0  756    42
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0    23     0  791     0     0  756    42
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0    23     0  791     0     0  756    42
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0    23     0  791     0     0  756    42
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0    23     0  791     0     0  756    42
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   273  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   731  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   731  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.03  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  10.1 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             10.1           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    23     0  791     0     0  756    42
ApproachDel:    xxxxxx             10.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1612]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

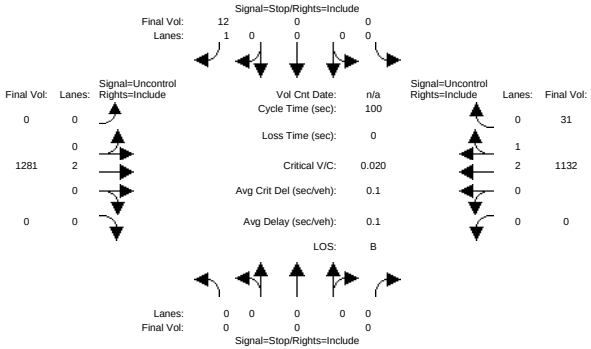
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    23     0  791     0     0  756    42
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1589
Minor Approach Volume:           23
Minor Approach Volume Threshold: 125
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #8: Mall Access / Applegate Rd




```
Street Name:            Mall Access                     Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0    12     0 1281     0     0 1132    31
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0    12     0 1281     0     0 1132    31
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0    12     0 1281     0     0 1132    31
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0    12     0 1281     0     0 1132    31
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0    12     0 1281     0     0 1132    31
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   393  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   612  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   612  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  11.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             11.0           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    12     0 1281     0     0 1132    31
ApproachDel:    xxxxxx             11.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2456]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

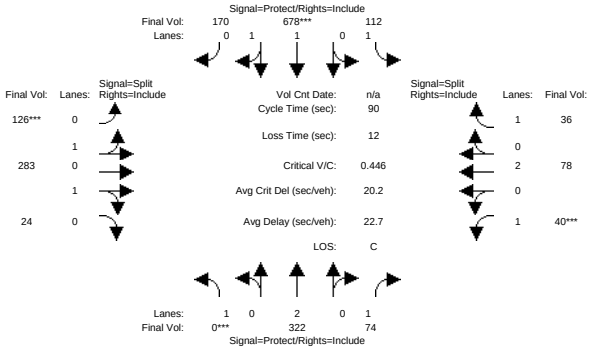
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    12     0 1281     0     0 1132    31
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2444
Minor Approach Volume:           12
Minor Approach Volume Threshold: -23 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #9: Santa Fe Dr / Buhach Rd-AirdromeEntry



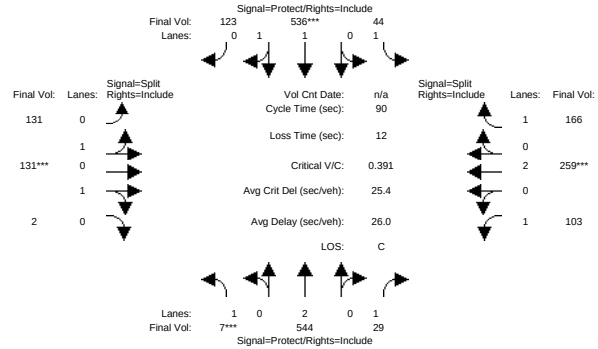
Street Name:	Santa Fe Drive						Buhach Road - Airdrome Entry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	322	74	112	678	170	126	283	24	40	78	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	322	74	112	678	170	126	283	24	40	78	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	322	74	112	678	170	126	283	24	40	78	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	322	74	112	678	170	126	283	24	40	78	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	322	74	112	678	170	126	283	24	40	78	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	322	74	112	678	170	126	283	24	40	78	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	0.95	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	1.60	0.40	0.58	1.31	0.11	1.00	2.00	1.00
Final Sat.:	1900	3610	1615	1805	2800	702	1027	2308	196	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.05	0.06	0.24	0.24	0.12	0.12	0.12	0.02	0.02	0.02
Crit Moves:	****				****		****			****		
Green/Cycle:	0.00	0.30	0.30	0.21	0.50	0.50	0.25	0.25	0.25	0.11	0.11	0.11
Volume/Cap:	0.00	0.30	0.16	0.30	0.48	0.48	0.48	0.48	0.48	0.20	0.19	0.20
Delay/Veh:	0.0	24.7	23.6	30.7	15.0	15.0	29.0	29.0	29.0	36.9	36.6	36.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	24.7	23.6	30.7	15.0	15.0	29.0	29.0	29.0	36.9	36.6	36.9
LOS by Move:	A	C	C	C	B	B	C	C	C	D	D	D
HCM2kAvgQ:	0	3	1	3	8	8	5	5	5	1	1	1

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #9: Santa Fe Dr / Buhach Rd-AirdromeEntry



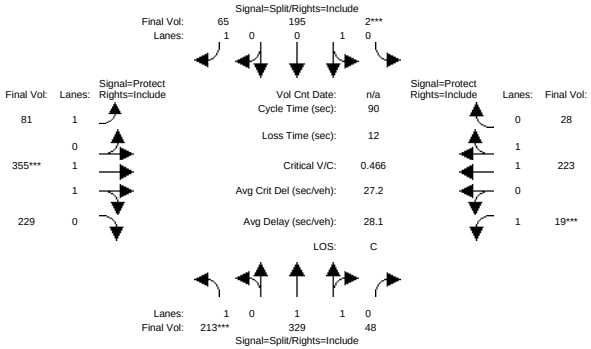
Street Name:	Santa Fe Drive						Buhach Road - Airdrome Entry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	7	544	29	44	536	123	131	131	2	103	259	166
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	544	29	44	536	123	131	131	2	103	259	166
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	544	29	44	536	123	131	131	2	103	259	166
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	544	29	44	536	123	131	131	2	103	259	166
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	544	29	44	536	123	131	131	2	103	259	166
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	544	29	44	536	123	131	131	2	103	259	166
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	1.63	0.37	0.99	0.99	0.02	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	2854	655	1747	1747	27	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.15	0.02	0.02	0.19	0.19	0.08	0.08	0.08	0.06	0.07	0.10
Crit Moves:	****				****			****			****	
Green/Cycle:	0.08	0.32	0.32	0.16	0.41	0.41	0.16	0.16	0.16	0.22	0.22	0.22
Volume/Cap:	0.05	0.47	0.06	0.15	0.46	0.46	0.46	0.46	0.46	0.26	0.32	0.46
Delay/Veh:	38.6	24.9	21.3	32.4	19.8	19.8	34.8	34.8	34.8	29.2	29.6	31.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.6	24.9	21.3	32.4	19.8	19.8	34.8	34.8	34.8	29.2	29.6	31.3
LOS by Move:	D	C	C	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	0	6	1	1	7	7	3	3	3	2	3	4

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #10: Buhach Rd/Bellevue Rd



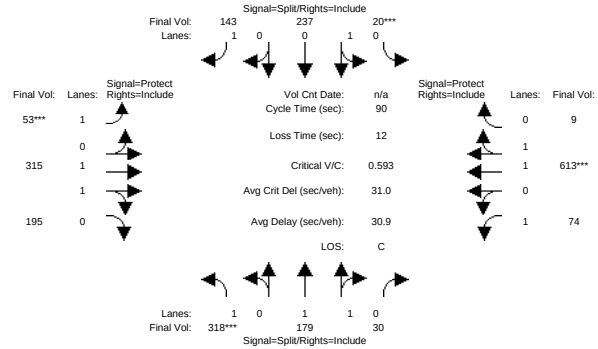
Street Name:	N. Buhach Road						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	213	329	48	2	195	65	81	355	229	19	223	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	213	329	48	2	195	65	81	355	229	19	223	28
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	213	329	48	2	195	65	81	355	229	19	223	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	213	329	48	2	195	65	81	355	229	19	223	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	213	329	48	2	195	65	81	355	229	19	223	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	213	329	48	2	195	65	81	355	229	19	223	28
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	1.00	1.00	0.85	0.95	0.89	0.89	0.95	0.93	0.93
Lanes:	1.00	1.75	0.25	0.01	0.99	1.00	1.00	1.22	0.78	1.00	1.78	0.22
Final Sat.:	1805	3091	451	19	1881	1615	1805	2065	1332	1805	3153	396
Capacity Analysis Module:												
Vol/Sat:	0.12	0.11	0.11	0.10	0.10	0.04	0.04	0.17	0.17	0.01	0.07	0.07
Crit Moves:	****			****				****		****		
Green/Cycle:	0.24	0.24	0.24	0.21	0.21	0.21	0.17	0.34	0.34	0.08	0.25	0.25
Volume/Cap:	0.50	0.45	0.45	0.50	0.50	0.19	0.26	0.50	0.50	0.14	0.28	0.28
Delay/Veh:	30.7	29.7	29.7	32.5	32.5	29.7	32.6	23.7	23.7	39.1	27.5	27.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.7	29.7	29.7	32.5	32.5	29.7	32.6	23.7	23.7	39.1	27.5	27.5
LOS by Move:	C	C	C	C	C	C	C	C	C	D	C	C
HCM2kAvgQ:	6	5	5	5	5	1	2	7	7	0	3	3

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #10: Buhach Rd/Bellevue Rd



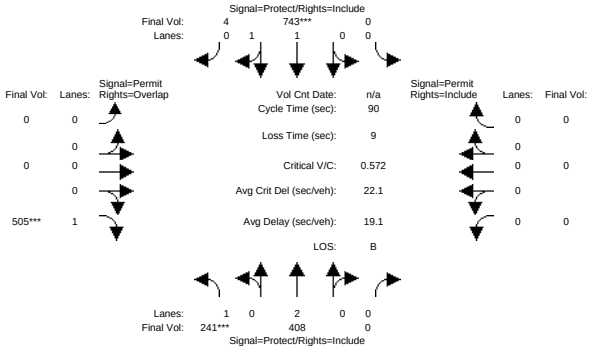
Street Name:	N. Buhach Road						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	318	179	30	20	237	143	53	315	195	74	613	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	318	179	30	20	237	143	53	315	195	74	613	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	318	179	30	20	237	143	53	315	195	74	613	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	318	179	30	20	237	143	53	315	195	74	613	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	318	179	30	20	237	143	53	315	195	74	613	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	318	179	30	20	237	143	53	315	195	74	613	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	1.00	1.00	0.85	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.71	0.29	0.08	0.92	1.00	1.00	1.24	0.76	1.00	1.97	0.03
Final Sat.:	1805	3024	507	147	1745	1615	1805	2103	1302	1805	3551	52
Capacity Analysis Module:												
Vol/Sat:	0.18	0.06	0.06	0.14	0.14	0.09	0.03	0.15	0.15	0.04	0.17	0.17
Crit Moves:	****			****			****				****	
Green/Cycle:	0.29	0.29	0.29	0.22	0.22	0.22	0.08	0.24	0.24	0.12	0.28	0.28
Volume/Cap:	0.61	0.21	0.21	0.61	0.61	0.40	0.38	0.63	0.63	0.33	0.61	0.61
Delay/Veh:	30.0	24.4	24.4	34.3	34.3	30.7	41.1	32.6	32.6	37.0	29.2	29.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.0	24.4	24.4	34.3	34.3	30.7	41.1	32.6	32.6	37.0	29.2	29.2
LOS by Move:	C	C	C	C	C	C	D	C	C	D	C	C
HCM2kAvgQ:	8	2	2	6	6	3	2	8	8	2	8	8

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #14: Santa Fe Dr / Bellevue Rd



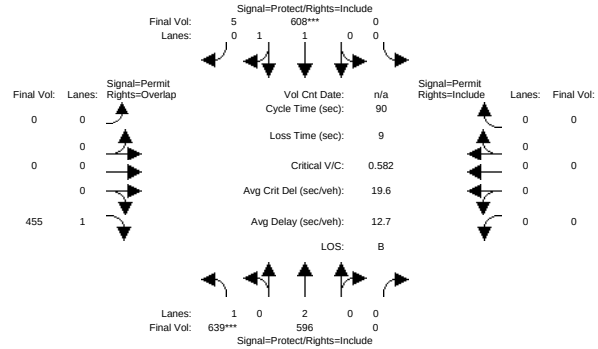
Street Name:	Santa Fe Drive								Bellevue Road							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	0		0	10	10		0	0	10		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	241	408	0		0	743	4		0	0	505		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	241	408	0		0	743	4		0	0	505		0	0	0	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	241	408	0		0	743	4		0	0	505		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	241	408	0		0	743	4		0	0	505		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	241	408	0		0	743	4		0	0	505		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	241	408	0		0	743	4		0	0	505		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.95	1.00		1.00	0.95	0.95		1.00	1.00	0.87		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		0.00	1.99	0.01		0.00	0.00	1.00		0.00	0.00	0.00	
Final Sat.:	1805	3610	0		0	3587	19		0	0	1644		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.13	0.11	0.00		0.00	0.21	0.21		0.00	0.00	0.31		0.00	0.00	0.00	
Crit Moves:	****					****					****					
Green/Cycle:	0.23	0.60	0.00		0.00	0.36	0.36		0.00	0.00	0.54		0.00	0.00	0.00	
Volume/Cap:	0.57	0.19	0.00		0.00	0.57	0.57		0.00	0.00	0.57		0.00	0.00	0.00	
Delay/Veh:	32.4	8.3	0.0		0.0	23.7	23.7		0.0	0.0	14.8		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	32.4	8.3	0.0		0.0	23.7	23.7		0.0	0.0	14.8		0.0	0.0	0.0	
LOS by Move:	C	A	A		A	C	C		A	A	B		A	A	A	
HCM2kAvgQ:	6	3	0		0	9	9		0	0	9		0	0	0	

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #14: Santa Fe Dr / Bellevue Rd



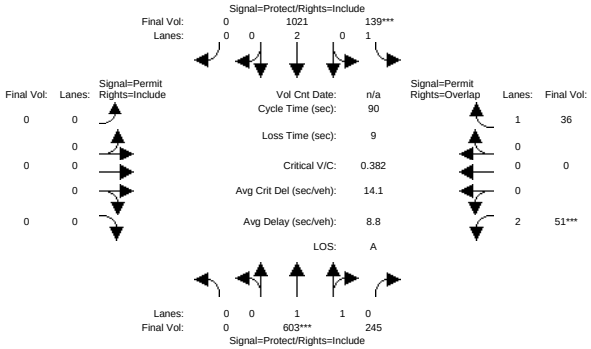
Street Name:	Santa Fe Drive								Bellevue Road							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7	10	0		0	10	10		0	0	10		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	639	596	0		0	608	5		0	0	455		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	639	596	0		0	608	5		0	0	455		0	0	0	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	639	596	0		0	608	5		0	0	455		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	639	596	0		0	608	5		0	0	455		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	639	596	0		0	608	5		0	0	455		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	639	596	0		0	608	5		0	0	455		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.95	1.00		1.00	0.95	0.95		1.00	1.00	0.87		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		0.00	1.98	0.02		0.00	0.00	1.00		0.00	0.00	0.00	
Final Sat.:	1805	3610	0		0	3577	29		0	0	1644		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.35	0.17	0.00		0.00	0.17	0.17		0.00	0.00	0.28		0.00	0.00	0.00	
Crit Moves:	****					****										
Green/Cycle:	0.61	0.90	0.00		0.00	0.29	0.29		0.00	0.00	0.61		0.00	0.00	0.00	
Volume/Cap:	0.58	0.18	0.00		0.00	0.58	0.58		0.00	0.00	0.46		0.00	0.00	0.00	
Delay/Veh:	11.5	0.6	0.0		0.0	28.0	28.0		0.0	0.0	9.9		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	11.5	0.6	0.0		0.0	28.0	28.0		0.0	0.0	9.9		0.0	0.0	0.0	
LOS by Move:	B	A	A		A	C	C		A	A	A		A	A	A	
HCM2kAvgQ:	11	1	0		0	7	7		0	0	7		0	0	0	

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #15: Santa Fe Dr / F St



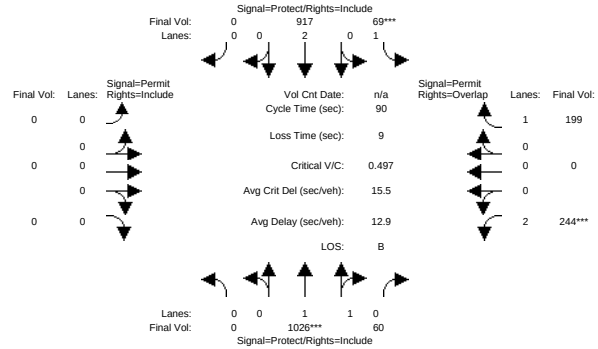
Street Name:	Santa Fe Drive						F Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	603	245	139	1021	0	0	0	0	51	0	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	603	245	139	1021	0	0	0	0	51	0	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	603	245	139	1021	0	0	0	0	51	0	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	603	245	139	1021	0	0	0	0	51	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	603	245	139	1021	0	0	0	0	51	0	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	603	245	139	1021	0	0	0	0	51	0	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00	0.63	1.00	0.85
Lanes:	0.00	1.42	0.58	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	2457	998	1805	3610	0	0	0	0	2396	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.25	0.25	0.08	0.28	0.00	0.00	0.00	0.00	0.02	0.00	0.02
Crit Moves:		****		****						****		
Green/Cycle:	0.00	0.60	0.60	0.19	0.79	0.00	0.00	0.00	0.00	0.11	0.00	0.30
Volume/Cap:	0.00	0.41	0.41	0.41	0.36	0.00	0.00	0.00	0.00	0.19	0.00	0.07
Delay/Veh:	0.0	9.7	9.7	32.9	2.9	0.0	0.0	0.0	0.0	36.7	0.0	22.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.7	9.7	32.9	2.9	0.0	0.0	0.0	0.0	36.7	0.0	22.7
LOS by Move:	A	A	A	C	A	A	A	A	A	D	A	C
HCM2kAvgQ:	0	6	6	3	4	0	0	0	0	1	0	1

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #15: Santa Fe Dr / F St



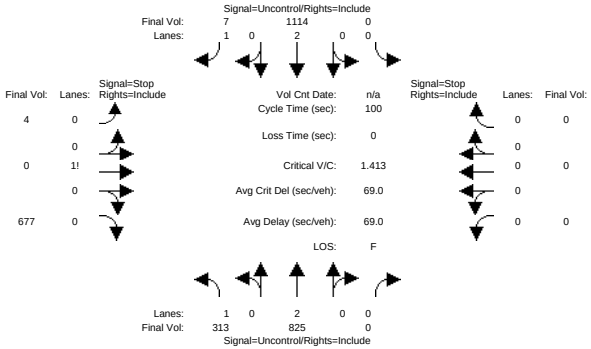
Street Name:	Santa Fe Drive						F Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	1026	60	69	917	0	0	0	0	244	0	199
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1026	60	69	917	0	0	0	0	244	0	199
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1026	60	69	917	0	0	0	0	244	0	199
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1026	60	69	917	0	0	0	0	244	0	199
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1026	60	69	917	0	0	0	0	244	0	199
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1026	60	69	917	0	0	0	0	244	0	199
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.94	0.94	0.95	0.95	1.00	1.00	1.00	1.00	0.61	1.00	0.85
Lanes:	0.00	1.89	0.11	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3383	198	1805	3610	0	0	0	0	2300	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.30	0.30	0.04	0.25	0.00	0.00	0.00	0.00	0.11	0.00	0.12
Crit Moves:		****		****						****		
Green/Cycle:	0.00	0.61	0.61	0.08	0.69	0.00	0.00	0.00	0.00	0.21	0.00	0.29
Volume/Cap:	0.00	0.50	0.50	0.49	0.37	0.00	0.00	0.00	0.00	0.50	0.00	0.42
Delay/Veh:	0.0	10.0	10.0	42.5	6.0	0.0	0.0	0.0	0.0	32.0	0.0	26.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.0	10.0	42.5	6.0	0.0	0.0	0.0	0.0	32.0	0.0	26.4
LOS by Move:	A	B	B	D	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	8	8	2	5	0	0	0	0	4	0	5

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #16: Santa Fe Dr / W Ave 2




```
Street Name:           Santa Fe Drive                        W Ave 2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     313  825     0     0 1114     7     4    0   677     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  313  825     0     0 1114     7     4    0   677     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  313  825     0     0 1114     7     4    0   677     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   313  825     0     0 1114     7     4    0   677     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  313  825     0     0 1114     7     4    0   677     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1121 xxxx xxxxx  xxxx xxxx xxxxx  2153 2565   557  xxxx xxxx xxxxx
Potent Cap.:  631 xxxx xxxxx  xxxx xxxx xxxxx    42   27   479  xxxx xxxx xxxxx
Move Cap.:    631 xxxx xxxxx  xxxx xxxx xxxxx    26   13   479  xxxx xxxx xxxxx
Volume/Cap:  0.50 xxxx  xxxx  xxxx xxxx  xxxx  0.16 0.00  1.41  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.8 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 16.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    C    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  434 xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 37.7 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  291 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            290.6           xxxxxx
ApproachLOS:         *                *                F                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  313  825     0     0 1114     7     4    0   677     0    0     0
ApproachDel:    xxxxxx           xxxxxx            290.6           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=55.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=681]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2940]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

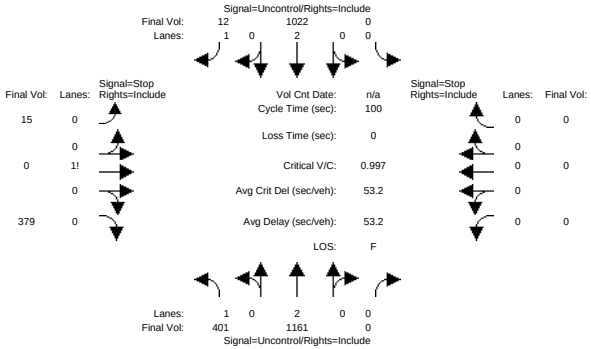
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  313  825     0     0 1114     7     4    0   677     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2259
Minor Approach Volume:           681
Minor Approach Volume Threshold: 4 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #16: Santa Fe Dr / W Ave 2




```
Street Name:           Santa Fe Drive                        W Ave 2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     401 1161     0     0 1022    12    15    0   379     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  401 1161     0     0 1022    12    15    0   379     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  401 1161     0     0 1022    12    15    0   379     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   401 1161     0     0 1022    12    15    0   379     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  401 1161     0     0 1022    12    15    0   379     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1034 xxxx xxxxx  xxxx xxxx xxxxx  2405 2985   511  xxxx xxxx xxxxx
Potent Cap.:  680 xxxx xxxxx  xxxx xxxx xxxxx    28   14   513  xxxx xxxx xxxxx
Move Cap.:    680 xxxx xxxxx  xxxx xxxx xxxxx    15    6   513  xxxx xxxx xxxxx
Volume/Cap:  0.59 xxxx  xxxx  xxxx xxxx  xxxx  1.00 0.00  0.74  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    3.9 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 17.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    C    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  227 xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 26.5 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  386 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            385.8           xxxxxx
ApproachLOS:         *                *                F                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  401 1161     0     0 1022    12    15    0   379     0    0     0
ApproachDel:    xxxxxx           xxxxxx            385.8           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=42.2]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=394]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2990]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

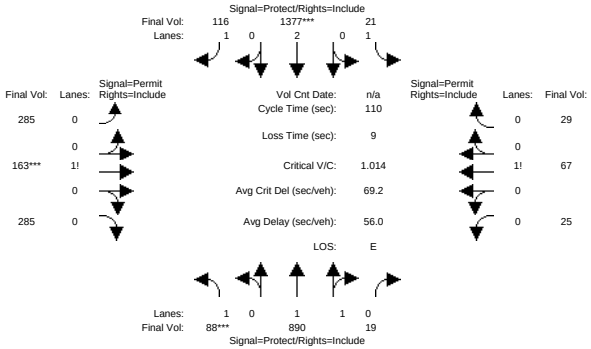
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  401 1161     0     0 1022    12    15    0   379     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2596
Minor Approach Volume:           394
Minor Approach Volume Threshold: -44 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #17: Santa Fe Dr / N Franklin Rd



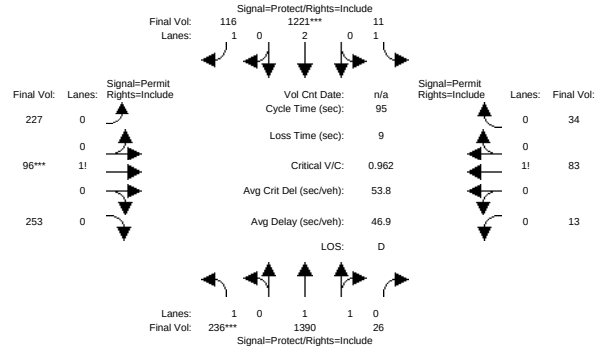
Street Name:	Santa Fe Drive						N Franklin Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	890	19	21	1377	116	285	163	285	25	67	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	890	19	21	1377	116	285	163	285	25	67	29
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	890	19	21	1377	116	285	163	285	25	67	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	890	19	21	1377	116	285	163	285	25	67	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	890	19	21	1377	116	285	163	285	25	67	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	890	19	21	1377	116	285	163	285	25	67	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.95	0.85	0.77	0.77	0.77	0.81	0.81	0.81
Lanes:	1.00	1.96	0.04	1.00	2.00	1.00	0.39	0.22	0.39	0.21	0.55	0.24
Final Sat.:	1805	3524	75	1805	3610	1615	569	326	569	319	855	370
Capacity Analysis Module:												
Vol/Sat:	0.05	0.25	0.25	0.01	0.38	0.07	0.50	0.50	0.50	0.08	0.08	0.08
Crit Moves:	****				****			****				
Green/Cycle:	0.06	0.35	0.35	0.09	0.37	0.37	0.48	0.48	0.48	0.48	0.48	0.48
Volume/Cap:	0.77	0.73	0.73	0.13	1.03	0.19	1.03	1.03	1.03	0.16	0.16	0.16
Delay/Veh:	76.7	33.7	33.7	46.8	67.9	23.7	70.6	70.6	70.6	15.9	15.9	15.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	76.7	33.7	33.7	46.8	67.9	23.7	70.6	70.6	70.6	15.9	15.9	15.9
LOS by Move:	E	C	C	D	E	C	E	E	E	B	B	B
HCM2kAvgQ:	5	15	15	1	33	3	33	33	33	2	2	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #17: Santa Fe Dr / N Franklin Rd



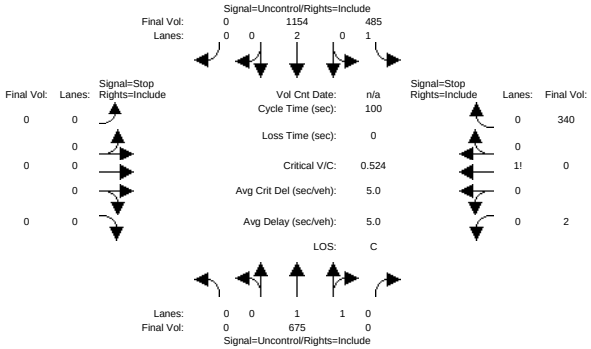
Street Name:	Santa Fe Drive						N Franklin Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	236	1390	26	11	1221	116	227	96	253	13	83	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	236	1390	26	11	1221	116	227	96	253	13	83	34
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	236	1390	26	11	1221	116	227	96	253	13	83	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	236	1390	26	11	1221	116	227	96	253	13	83	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	236	1390	26	11	1221	116	227	96	253	13	83	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	236	1390	26	11	1221	116	227	96	253	13	83	34
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.95	0.85	0.75	0.75	0.75	0.91	0.91	0.91
Lanes:	1.00	1.96	0.04	1.00	2.00	1.00	0.39	0.17	0.44	0.10	0.64	0.26
Final Sat.:	1805	3533	66	1805	3610	1615	565	239	630	173	1104	452
Capacity Analysis Module:												
Vol/Sat:	0.13	0.39	0.39	0.01	0.34	0.07	0.40	0.40	0.40	0.08	0.08	0.08
Crit Moves:	****				****			****				
Green/Cycle:	0.14	0.41	0.41	0.08	0.35	0.35	0.42	0.42	0.42	0.42	0.42	0.42
Volume/Cap:	0.96	0.96	0.96	0.08	0.96	0.20	0.96	0.96	0.96	0.18	0.18	0.18
Delay/Veh:	87.5	41.8	41.8	41.0	47.1	21.7	54.3	54.3	54.3	17.5	17.5	17.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.5	41.8	41.8	41.0	47.1	21.7	54.3	54.3	54.3	17.5	17.5	17.5
LOS by Move:	F	D	D	D	D	C	D	D	D	B	B	B
HCM2kAvgQ:	11	27	27	0	24	2	22	22	22	2	2	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #19: Santa Fe Dr / Belcher Ave




```
Street Name:           Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  675     0   485 1154     0     0    0     0     2    0   340
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  675     0   485 1154     0     0    0     0     2    0   340
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  675     0   485 1154     0     0    0     0     2    0   340
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  675     0   485 1154     0     0    0     0     2    0   340
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  675     0   485 1154     0     0    0     0     2    0   340
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   675 xxxx xxxxx  xxxx xxxx xxxxx  2222 2799   338
Potent Cap.: xxxx xxxx xxxxx   926 xxxx xxxxx  xxxx xxxx xxxxx    38   19   664
Move Cap.:   xxxx xxxx xxxxx   926 xxxx xxxxx  xxxx xxxx xxxxx    22    9   664
Volume/Cap:  xxxx xxxx  xxxx  0.52 xxxx  xxxx  xxxx xxxx  xxxx  0.09 0.00  0.51
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   3.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  13.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     B    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  568 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  4.0 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 20.5 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             20.5
ApproachLOS:         *                *                *                C
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  675     0   485 1154     0     0    0     0     2    0   340
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             20.5
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=342]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2656]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

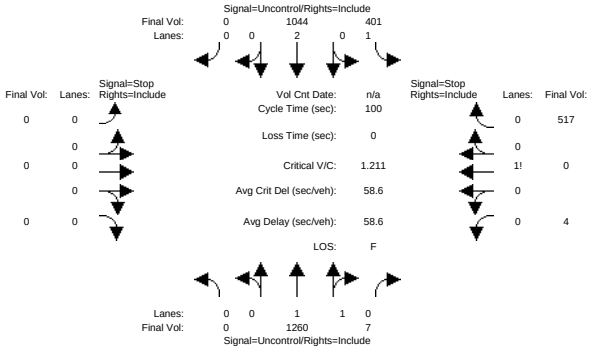
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  675     0   485 1154     0     0    0     0     2    0   340
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2314
Minor Approach Volume:           342
Minor Approach Volume Threshold: -4 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #19: Santa Fe Dr / Belcher Ave




```
Street Name:           Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1260     7   401 1044     0     0    0     0     4    0   517
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1260     7   401 1044     0     0    0     0     4    0   517
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0 1260     7   401 1044     0     0    0     0     4    0   517
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1260     7   401 1044     0     0    0     0     4    0   517
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0 1260     7   401 1044     0     0    0     0     4    0   517
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1267 xxxx xxxxx  xxxx xxxx xxxxx  2588 3110   634
Potent Cap.: xxxx xxxx xxxxx   555 xxxx xxxxx  xxxx xxxx xxxxx    21   12   427
Move Cap.:   xxxx xxxx xxxxx   555 xxxx xxxxx  xxxx xxxx xxxxx     9    3   427
Volume/Cap:  xxxx xxxx  xxxx  0.72 xxxx  xxxx  xxxx xxxx  xxxx  0.46 0.00  1.21
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   6.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  26.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     D    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  312 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 32.2 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  344 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    F     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx            343.5
ApproachLOS:         *                *                *                F
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0 1260     7   401 1044     0     0    0     0     4    0   517
ApproachDel:    xxxxxx           xxxxxx           xxxxxx            343.5
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=49.7]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=521]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3233]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

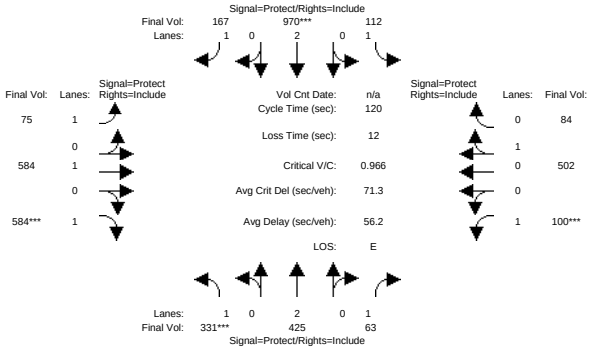
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0 1260     7   401 1044     0     0    0     0     4    0   517
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2712
Minor Approach Volume:           521
Minor Approach Volume Threshold: -59 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

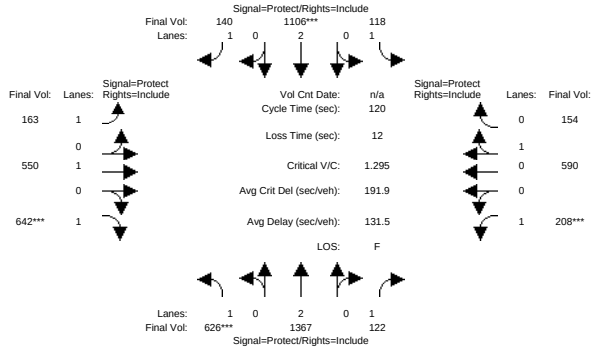



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     331 425  63   112 970 167    75 584 584   100 502  84
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  331 425  63   112 970 167    75 584 584   100 502  84
Added Vol:      0   0   0     0   0   0     0   0   0     0   0   0
PasserByVol:    0   0   0     0   0   0     0   0   0     0   0   0
Initial Fut:  331 425  63   112 970 167    75 584 584   100 502  84
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   331 425  63   112 970 167    75 584 584   100 502  84
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  331 425  63   112 970 167    75 584 584   100 502  84
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  331 425  63   112 970 167    75 584 584   100 502  84
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 1.00 0.85 0.95 0.98 0.98
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 1.00 1.00 1.00 0.86 0.14
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 1900 1615 1805 1593  267
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.12 0.04 0.06 0.27 0.10 0.04 0.31 0.36 0.06 0.32 0.32
Crit Moves:  ****                ****                ****  ****
Green/Cycle: 0.19 0.31 0.31 0.16 0.28 0.28 0.07 0.37 0.37 0.06 0.36 0.36
Volume/Cap:  0.97 0.38 0.13 0.38 0.97 0.37 0.62 0.82 0.97 0.95 0.86 0.86
Delay/Veh:   87.9 33.0 30.2 45.8 63.5 35.4 63.5 41.6 65.2 127.8 46.4 46.4
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  87.9 33.0 30.2 45.8 63.5 35.4 63.5 41.6 65.2 127.8 46.4 46.4
LOS by Move:    F    C    C    D    E    D    E    D    E    F    D    D
HCM2kAvgQ:    359  155   40   99  594  127   93  533  662  164  566  566
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

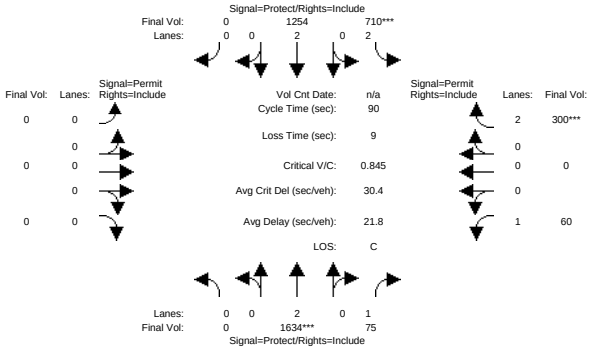



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     626 1367 122   118 1106 140   163 550 642   208 590 154
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  626 1367 122   118 1106 140   163 550 642   208 590 154
Added Vol:      0    0   0     0    0   0     0   0   0     0   0   0
PasserByVol:    0    0   0     0    0   0     0   0   0     0   0   0
Initial Fut:  626 1367 122   118 1106 140   163 550 642   208 590 154
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   626 1367 122   118 1106 140   163 550 642   208 590 154
Reduct Vol:     0    0   0     0    0   0     0   0   0     0   0   0
Reduced Vol:  626 1367 122   118 1106 140   163 550 642   208 590 154
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  626 1367 122   118 1106 140   163 550 642   208 590 154
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 1.00 0.85 0.95 0.97 0.97
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 1.00 1.00 1.00 0.79 0.21
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 1900 1615 1805 1460  381
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35 0.38 0.08 0.07 0.31 0.09 0.09 0.29 0.40 0.12 0.40 0.40
Crit Moves:  ****                ****                ****  ****
Green/Cycle: 0.27 0.43 0.43 0.07 0.24 0.24 0.07 0.31 0.31 0.09 0.32 0.32
Volume/Cap:  1.30 0.88 0.18 0.88 1.30 0.37 1.25 0.94 1.30 1.30 1.25 1.25
Delay/Veh:  191.6 37.6 21.2 99.1  187 38.9 216.1 64.6 188.9 225.8  166 166.2
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 191.6 37.6 21.2 99.1  187 38.9 216.1 64.6 188.9 225.8  166 166.2
LOS by Move:    F    D    C    F    F    D    F    E    F    F    F    F
HCM2kAvgQ:    973  562   63  172  990  112  310  609 1084  395 1186 1186
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #21: Santa Fe Dr/ AM Express WB Ramps

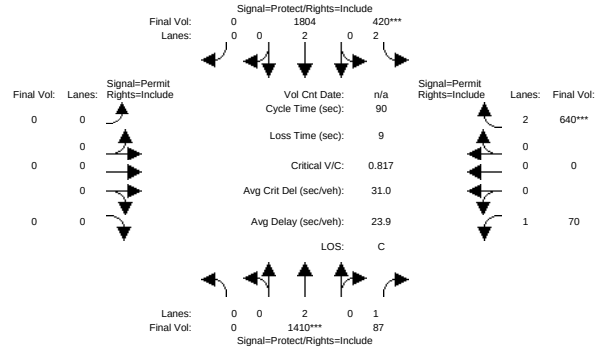



```
Street Name:            Santa Fe Dr                     AM Express WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1634    75   710 1254     0     0    0     0    60    0   300
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1634    75   710 1254     0     0    0     0    60    0   300
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0 1634    75   710 1254     0     0    0     0    60    0   300
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1634    75   710 1254     0     0    0     0    60    0   300
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1634    75   710 1254     0     0    0     0    60    0   300
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0 1634    75   710 1254     0     0    0     0    60    0   300
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.95  0.85  0.92 0.95  1.00  1.00 1.00  1.00  0.77 1.00  0.75
Lanes:       0.00 2.00  1.00  2.00 2.00  0.00  0.00 0.00  0.00  1.00 0.00  2.00
Final Sat.:     0 3610  1615  3502 3610     0     0    0     0  1467    0  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.45  0.05  0.20 0.35  0.00  0.00 0.00  0.00  0.04 0.00  0.11
Crit Moves:        ****        ****                                      ****
Green/Cycle: 0.00 0.54  0.54  0.24 0.78  0.00  0.00 0.00  0.00  0.12 0.00  0.12
Volume/Cap:  0.00 0.85  0.09  0.85 0.45  0.00  0.00 0.00  0.00  0.33 0.00  0.85
Delay/Veh:    0.0 21.4  10.2  40.5  3.6   0.0   0.0  0.0   0.0  37.0  0.0  55.4
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 21.4  10.2  40.5  3.6   0.0   0.0  0.0   0.0  37.0  0.0  55.4
LOS by Move:    A    C     B     D    A     A     A    A     A     D    A     E
HCM2kAvgQ:      0   20     1    10    6     0     0    0     0     2    0     7
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #21: Santa Fe Dr/ AM Express WB Ramps

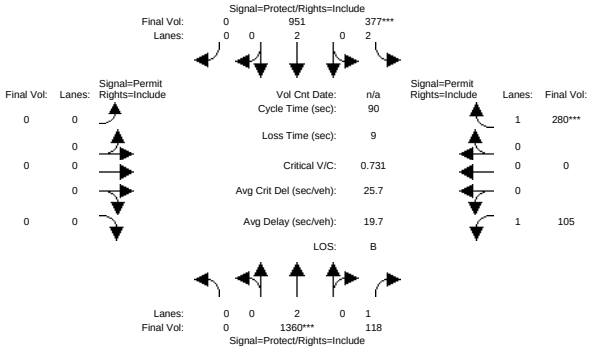



```
Street Name:            Santa Fe Dr                     AM Express WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1410    87   420 1804     0     0    0     0    70    0   640
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1410    87   420 1804     0     0    0     0    70    0   640
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0 1410    87   420 1804     0     0    0     0    70    0   640
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1410    87   420 1804     0     0    0     0    70    0   640
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1410    87   420 1804     0     0    0     0    70    0   640
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0 1410    87   420 1804     0     0    0     0    70    0   640
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.95  0.85  0.92 0.95  1.00  1.00 1.00  1.00  0.80 1.00  0.75
Lanes:       0.00 2.00  1.00  2.00 2.00  0.00  0.00 0.00  0.00  1.00 0.00  2.00
Final Sat.:     0 3610  1615  3502 3610     0     0    0     0  1522    0  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.39  0.05  0.12 0.50  0.00  0.00 0.00  0.00  0.05 0.00  0.23
Crit Moves:        ****        ****                                      ****
Green/Cycle: 0.00 0.48  0.48  0.15 0.62  0.00  0.00 0.00  0.00  0.28 0.00  0.28
Volume/Cap:  0.00 0.82  0.11  0.82 0.80  0.00  0.00 0.00  0.00  0.17 0.00  0.82
Delay/Veh:    0.0 23.3  13.0  47.1 14.8   0.0   0.0  0.0   0.0  25.0  0.0  37.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 23.3  13.0  47.1 14.8   0.0   0.0  0.0   0.0  25.0  0.0  37.2
LOS by Move:    A    C     B     D    B     A     A    A     A     C    A     D
HCM2kAvgQ:      0   18     1     6   20     0     0    0     0     2    0    12
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #22: Santa Fe Dr/ AM Express EB Ramps

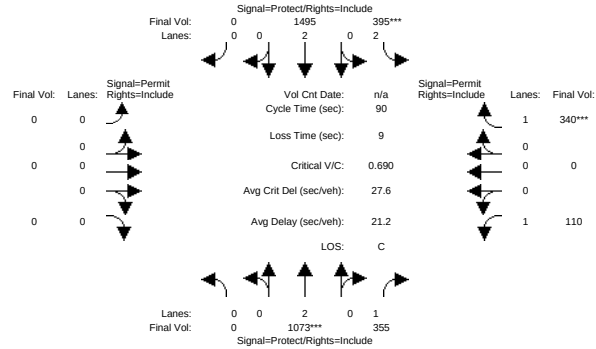



```
Street Name:            Santa Fe Dr                    AM Express EB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10    10   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0   4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1360   118   377  951    0     0    0    0   105    0  280
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0 1360   118   377  951    0     0    0    0   105    0  280
Added Vol:      0    0     0     0    0    0     0    0    0     0    0    0
PasserByVol:    0    0     0     0    0    0     0    0    0     0    0    0
Initial Fut:    0 1360   118   377  951    0     0    0    0   105    0  280
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0 1360   118   377  951    0     0    0    0   105    0  280
Reduct Vol:     0    0     0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0 1360   118   377  951    0     0    0    0   105    0  280
PCE Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0 1360   118   377  951    0     0    0    0   105    0  280
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.95  0.85  0.92 0.95 1.00  1.00 1.00 1.00  0.78 1.00 0.85
Lanes:       0.00 2.00  1.00  2.00 2.00 0.00  0.00 0.00 0.00  1.00 0.00 1.00
Final Sat.:     0 3610  1615  3502 3610    0     0    0    0  1473    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.38  0.07  0.11 0.26 0.00  0.00 0.00 0.00  0.07 0.00 0.17
Crit Moves:        ****        ****                                      ****
Green/Cycle: 0.00 0.52  0.52  0.15 0.66 0.00  0.00 0.00 0.00  0.24 0.00 0.24
Volume/Cap:  0.00 0.73  0.14  0.73 0.40 0.00  0.00 0.00 0.00  0.30 0.00 0.73
Delay/Veh:    0.0 18.5  11.5  42.0  7.1  0.0   0.0  0.0  0.0  28.7  0.0 38.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 18.5  11.5  42.0  7.1  0.0   0.0  0.0  0.0  28.7  0.0 38.7
LOS by Move:    A    B     B     D    A    A     A    A    A     C    A    D
HCM2kAvgQ:      0   16     2     5    6    0     0    0    0     3    0    9
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #22: Santa Fe Dr/ AM Express EB Ramps

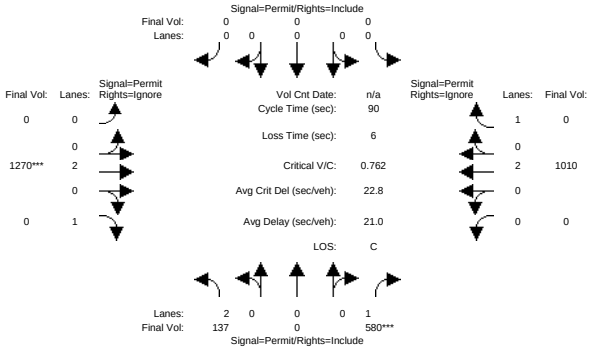



```
Street Name:            Santa Fe Dr                    AM Express EB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10    10   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0   4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1073   355   395 1495    0     0    0    0   110    0  340
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0 1073   355   395 1495    0     0    0    0   110    0  340
Added Vol:      0    0     0     0    0    0     0    0    0     0    0    0
PasserByVol:    0    0     0     0    0    0     0    0    0     0    0    0
Initial Fut:    0 1073   355   395 1495    0     0    0    0   110    0  340
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0 1073   355   395 1495    0     0    0    0   110    0  340
Reduct Vol:     0    0     0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0 1073   355   395 1495    0     0    0    0   110    0  340
PCE Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0 1073   355   395 1495    0     0    0    0   110    0  340
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.95  0.85  0.92 0.95 1.00  1.00 1.00 1.00  0.78 1.00 0.85
Lanes:       0.00 2.00  1.00  2.00 2.00 0.00  0.00 0.00 0.00  1.00 0.00 1.00
Final Sat.:     0 3610  1615  3502 3610    0     0    0    0  1482    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.30  0.22  0.11 0.41 0.00  0.00 0.00 0.00  0.07 0.00 0.21
Crit Moves:        ****        ****                                      ****
Green/Cycle: 0.00 0.43  0.43  0.16 0.59 0.00  0.00 0.00 0.00  0.31 0.00 0.31
Volume/Cap:  0.00 0.69  0.51  0.69 0.70 0.00  0.00 0.00 0.00  0.24 0.00 0.69
Delay/Veh:    0.0 22.1  19.3  39.0 13.6  0.0   0.0  0.0  0.0  23.7  0.0 31.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 22.1  19.3  39.0 13.6  0.0   0.0  0.0  0.0  23.7  0.0 31.6
LOS by Move:    A    C     B     D    B    A     A    A    A     C    A    C
HCM2kAvgQ:      0   14     7     5   14    0     0    0    0     2    0    9
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #23: SR-99 NB Ramps/AM Express



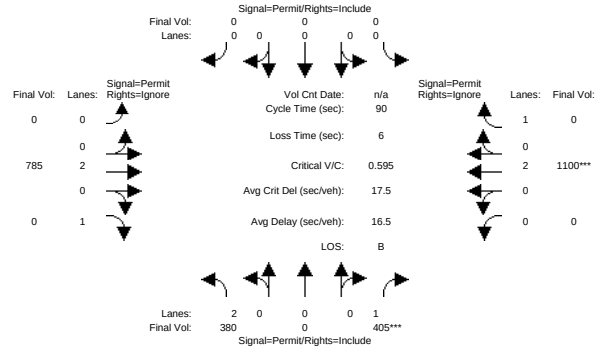
Street Name:	SR-99 NB Ramps									AM Express		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	137	0	580	0	0	0	0	1270	340	0	1010	415
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	137	0	580	0	0	0	0	1270	340	0	1010	415
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	137	0	580	0	0	0	0	1270	340	0	1010	415
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	137	0	580	0	0	0	0	1270	0	0	1010	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	137	0	580	0	0	0	0	1270	0	0	1010	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	137	0	580	0	0	0	0	1270	0	0	1010	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.61	1.00	0.85	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2311	0	1615	0	0	0	0	3610	1900	0	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.36	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.28	0.00
Crit Moves:			****					****				
Green/Cycle:	0.47	0.00	0.47	0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.46	0.00
Volume/Cap:	0.13	0.00	0.76	0.00	0.00	0.00	0.00	0.76	0.00	0.00	0.61	0.00
Delay/Veh:	13.4	0.0	24.2	0.0	0.0	0.0	0.0	22.2	0.0	0.0	18.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.4	0.0	24.2	0.0	0.0	0.0	0.0	22.2	0.0	0.0	18.7	0.0
LOS by Move:	B	A	C	A	A	A	A	C	A	A	B	A
HCM2kAvgQ:	1	0	15	0	0	0	0	15	0	0	11	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #23: SR-99 NB Ramps/AM Express



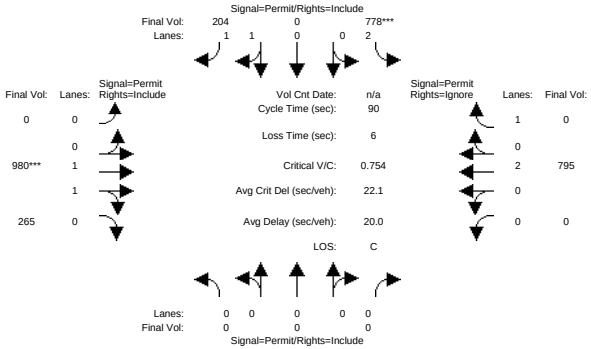
Street Name:	SR-99 NB Ramps									AM Express		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	380	0	405	0	0	0	0	785	400	0	1100	415
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	380	0	405	0	0	0	0	785	400	0	1100	415
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	380	0	405	0	0	0	0	785	400	0	1100	415
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	380	0	405	0	0	0	0	785	0	0	1100	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	380	0	405	0	0	0	0	785	0	0	1100	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	380	0	405	0	0	0	0	785	0	0	1100	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.59	1.00	0.85	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2245	0	1615	0	0	0	0	3610	1900	0	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.17	0.00	0.25	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.30	0.00
Crit Moves:			****								****	
Green/Cycle:	0.42	0.00	0.42	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.51	0.00
Volume/Cap:	0.40	0.00	0.60	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.60	0.00
Delay/Veh:	18.4	0.0	21.5	0.0	0.0	0.0	0.0	13.9	0.0	0.0	15.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.4	0.0	21.5	0.0	0.0	0.0	0.0	13.9	0.0	0.0	15.9	0.0
LOS by Move:	B	A	C	A	A	A	A	B	A	A	B	A
HCM2kAvgQ:	4	0	9	0	0	0	0	7	0	0	12	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #24: SR-99 SB Ramps/AM Express



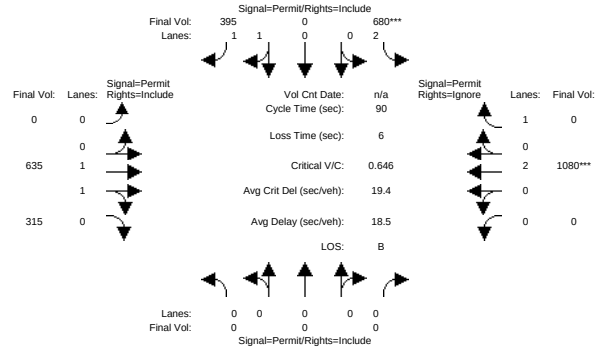
Street Name:	SR-99 SB Ramps												AM Express					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	0	0	0	10	10	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	778	0	204	0	980	265	0	795	325
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	778	0	204	0	980	265	0	795	325
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	778	0	204	0	980	265	0	795	325
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	778	0	204	0	980	265	0	795	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	778	0	204	0	980	265	0	795	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	778	0	204	0	980	265	0	795	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.59	1.00	0.85	1.00	0.92	0.92	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	2.00	0.00	1.57	0.43	0.00	2.00	1.00
Final Sat.:	0	0	0	2241	0	3230	0	2751	744	0	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.35	0.00	0.06	0.00	0.36	0.36	0.00	0.22	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.46	0.00	0.46	0.00	0.47	0.47	0.00	0.47	0.00
Volume/Cap:	0.00	0.00	0.00	0.75	0.00	0.14	0.00	0.75	0.75	0.00	0.47	0.00
Delay/Veh:	0.0	0.0	0.0	23.2	0.0	14.0	0.0	21.4	21.4	0.0	16.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	23.2	0.0	14.0	0.0	21.4	21.4	0.0	16.2	0.0
LOS by Move:	A	A	A	C	A	B	A	C	C	A	B	A
HCM2kAvgQ:	0	0	0	11	0	2	0	16	16	0	8	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #24: SR-99 SB Ramps/AM Express



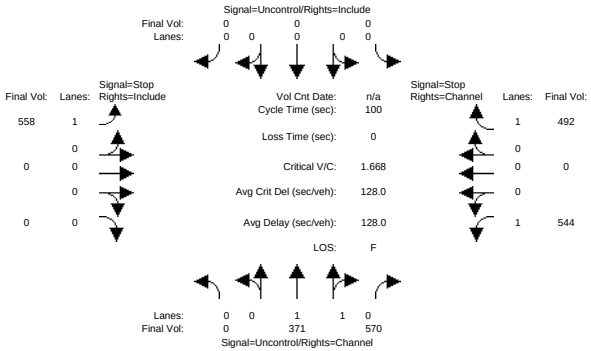
Street Name:	SR-99 SB Ramps												AM Express					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	0	0	0	10	10	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	680	0	395	0	635	315	0	1080	325
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	680	0	395	0	635	315	0	1080	325
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	680	0	395	0	635	315	0	1080	325
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	680	0	395	0	635	315	0	1080	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	680	0	395	0	635	315	0	1080	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	680	0	395	0	635	315	0	1080	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.59	1.00	0.85	1.00	0.90	0.90	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	2.00	0.00	1.34	0.66	0.00	2.00	1.00
Final Sat.:	0	0	0	2241	0	3230	0	2292	1137	0	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.30	0.00	0.12	0.00	0.28	0.28	0.00	0.30	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.47	0.00	0.47	0.00	0.46	0.46	0.00	0.46	0.00
Volume/Cap:	0.00	0.00	0.00	0.65	0.00	0.26	0.00	0.60	0.60	0.00	0.65	0.00
Delay/Veh:	0.0	0.0	0.0	19.5	0.0	14.5	0.0	18.6	18.6	0.0	19.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	19.5	0.0	14.5	0.0	18.6	18.6	0.0	19.4	0.0
LOS by Move:	A	A	A	B	A	B	A	B	B	A	B	A
HCM2kAvgQ:	0	0	0	8	0	3	0	11	11	0	12	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #25: 16th St / SR-59




```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  371   570     0    0     0   558    0     0   544    0   492
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  371   570     0    0     0   558    0     0   544    0   492
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  371   570     0    0     0   558    0     0   544    0   492
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  371   570     0    0     0   558    0     0   544    0   492
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  371   570     0    0     0   558    0     0   544    0   492
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   186 xxxx xxxxx   656 xxxx   186
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   780 xxxx xxxxx   382 xxxx   862
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   335 xxxx xxxxx   382 xxxx   862
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  1.67 xxxx  xxxx  1.43 xxxx  0.57
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   852 xxxx xxxxx   692 xxxx  92.4
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 341.0 xxxx xxxxx 233.7 xxxx  14.6
LOS by Move:    *    *     *     *    *     *     F    *     *     F    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            341.0           129.6
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  371   570     0    0     0   558    0     0   544    0   492
ApproachDel:    xxxxxx           xxxxxx            341.0           129.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=52.9]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=558]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2535]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=37.3]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1036]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2535]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

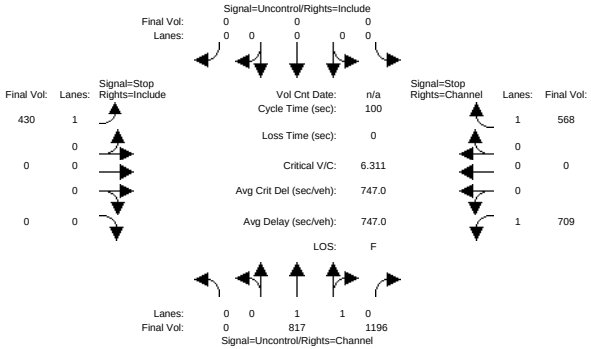
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  371   570     0    0     0   558    0     0   544    0   492
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             941
Minor Approach Volume:           1036
Minor Approach Volume Threshold: 400
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #25: 16th St / SR-59




```
Street Name:            16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  817  1196     0    0     0   430    0     0   709    0   568
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  817  1196     0    0     0   430    0     0   709    0   568
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  817  1196     0    0     0   430    0     0   709    0   568
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  817  1196     0    0     0   430    0     0   709    0   568
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  817  1196     0    0     0   430    0     0   709    0   568
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   409 xxxx xxxxx  1415 xxxx   409
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   557 xxxx xxxxx   116 xxxx   647
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx    68 xxxx xxxxx   116 xxxx   647
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  6.31 xxxx  xxxx  6.10 xxxx  0.88
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  1214 xxxx xxxxx  1938 xxxx 261.5
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  2509 xxxx xxxxx  2368 xxxx  37.4
LOS by Move:    *    *     *     *    *     *     F    *     *     F    *     E
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           2509.1           1331.3
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  817  1196     0    0     0   430    0     0   709    0   568
ApproachDel:    xxxxxx           xxxxxx           2509.1           1331.3
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=299.7]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=430]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3720]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=472.2]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1277]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3720]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

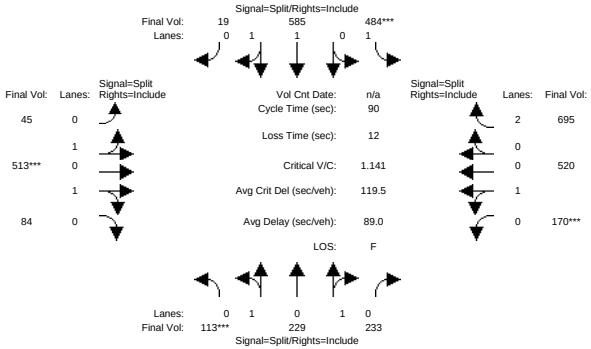
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  817  1196     0    0     0   430    0     0   709    0   568
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2013
Minor Approach Volume:           1277
Minor Approach Volume Threshold: 73 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

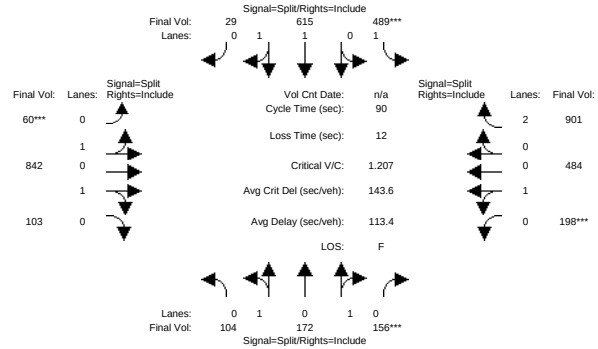



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     113  229   233  484  585    19   45  513    84  170  520   695
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  113  229   233  484  585    19   45  513    84  170  520   695
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  113  229   233  484  585    19   45  513    84  170  520   695
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   113  229   233  484  585    19   45  513    84  170  520   695
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  113  229   233  484  585    19   45  513    84  170  520   695
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  113  229   233  484  585    19   45  513    84  170  520   695
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.88 0.88  0.88 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.39 0.80  0.81 1.00 1.94  0.06 0.14 1.60  0.26 0.25 0.75  2.00
Final Sat.:   660 1337  1360 1805 3479   113  247 2818   462  462 1415  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.17  0.17 0.27 0.17  0.17 0.18 0.18  0.18 0.37 0.37  0.24
Crit Moves:  ****            ****                 ****        ****
Green/Cycle: 0.15 0.15  0.15 0.23 0.23  0.23 0.16 0.16  0.16 0.32 0.32  0.32
Volume/Cap:  1.14 1.14  1.14 1.14 0.72  0.72 1.14 1.14  1.14 1.14 1.14  0.76
Delay/Veh:  123.4  123 123.4 122.7 34.6  34.6 121.1  121 121.1 112.7  113  31.1
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 123.4  123 123.4 122.7 34.6  34.6 121.1  121 121.1 112.7  113  31.1
LOS by Move:    F    F     F     F    C     C     F    F     F     F    F     C
HCM2kAvgQ:    412  412   412   612  238   238   452  452   452   832  832   289
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

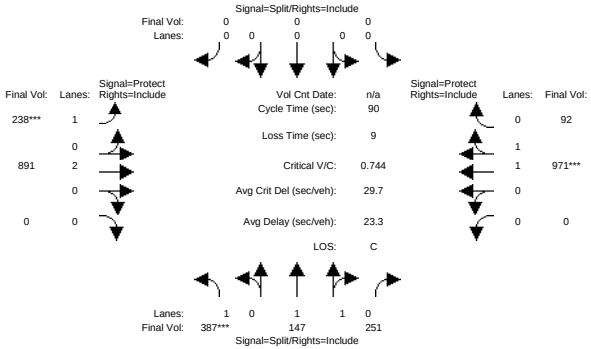



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     104  172   156  489  615    29   60  842   103  198  484   901
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  104  172   156  489  615    29   60  842   103  198  484   901
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  104  172   156  489  615    29   60  842   103  198  484   901
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   104  172   156  489  615    29   60  842   103  198  484   901
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  104  172   156  489  615    29   60  842   103  198  484   901
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  104  172   156  489  615    29   60  842   103  198  484   901
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.89 0.89  0.89 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.48 0.80  0.72 1.00 1.91  0.09 0.12 1.68  0.20 0.29 0.71  2.00
Final Sat.:   812 1343  1218 1805 3423   161  212 2970   363  544 1330  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.13 0.27 0.18  0.18 0.28 0.28  0.28 0.36 0.36  0.32
Crit Moves:             ****  ****             ****             ****
Green/Cycle: 0.11 0.11  0.11 0.22 0.22  0.22 0.23 0.23  0.23 0.30 0.30  0.30
Volume/Cap:  1.15 1.15  1.15 1.22 0.81  0.81 1.22 1.22  1.22 1.22 1.22  1.06
Delay/Veh:  134.8  135 134.8 152.8 39.2  39.2 142.5  143 142.5 144.1  144  79.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 134.8  135 134.8 152.8 39.2  39.2 142.5  143 142.5 144.1  144  79.0
LOS by Move:    F    F     F     F    D     D     F    F     F     F    F     E
HCM2kAvgQ:    330  330   330   679  280   280   728  728   728   914  914   569
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #27: 14th St - SR-99 NB Onramp / V St

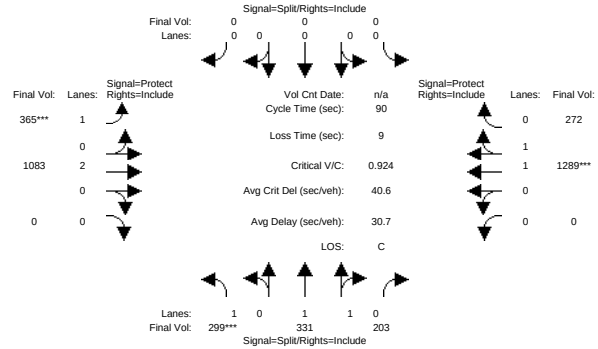



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     387  147   251     0    0     0   238  891     0     0  971    92
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  387  147   251     0    0     0   238  891     0     0  971    92
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  387  147   251     0    0     0   238  891     0     0  971    92
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   387  147   251     0    0     0   238  891     0     0  971    92
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  387  147   251     0    0     0   238  891     0     0  971    92
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  387  147   251     0    0     0   238  891     0     0  971    92
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.86  0.86  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       1.00 1.00  1.00  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.83  0.17
Final Sat.:  1615 1634  1634     0    0     0  1805 3610     0     0 3255   308
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24 0.09  0.15  0.00 0.00  0.00  0.13 0.25  0.00  0.00 0.30  0.30
Crit Moves:  ****                             ****                 ****
Green/Cycle: 0.32 0.32  0.32  0.00 0.00  0.00  0.18 0.58  0.00  0.00 0.40  0.40
Volume/Cap:  0.74 0.28  0.48  0.00 0.00  0.00  0.74 0.43  0.00  0.00 0.74  0.74
Delay/Veh:   33.0 22.8  24.9   0.0  0.0   0.0  44.2 10.8   0.0   0.0 25.2  25.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  33.0 22.8  24.9   0.0  0.0   0.0  44.2 10.8   0.0   0.0 25.2  25.2
LOS by Move:    C    C     C     A    A     A     D    B     A     A    C     C
HCM2kAvgQ:    279   82   155     0    0     0   200  183     0     0  333   333
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #27: 14th St - SR-99 NB Onramp / V St

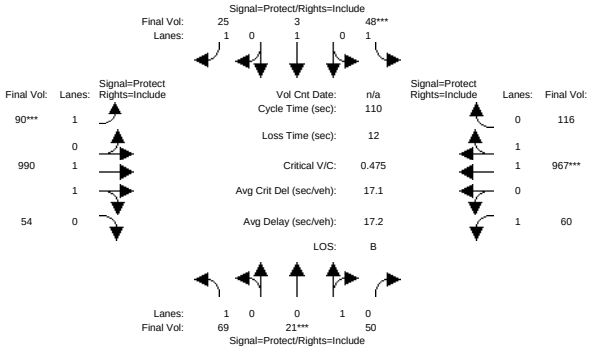



```
Street Name:    14th St - SR-99 NB Onramp                  V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     299  331   203     0    0     0   365 1083     0     0 1289   272
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  299  331   203     0    0     0   365 1083     0     0 1289   272
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  299  331   203     0    0     0   365 1083     0     0 1289   272
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   299  331   203     0    0     0   365 1083     0     0 1289   272
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  299  331   203     0    0     0   365 1083     0     0 1289   272
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  299  331   203     0    0     0   365 1083     0     0 1289   272
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.90  0.90  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.93  0.93
Lanes:       1.00 1.24  0.76  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.65  0.35
Final Sat.:  1615 2110  1294     0    0     0  1805 3610     0     0 2903   613
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.16  0.16  0.00 0.00  0.00  0.20 0.30  0.00  0.00 0.44  0.44
Crit Moves:  ****                             ****                 ****
Green/Cycle: 0.20 0.20  0.20  0.00 0.00  0.00  0.22 0.70  0.00  0.00 0.48  0.48
Volume/Cap:  0.92 0.78  0.78  0.00 0.00  0.00  0.92 0.43  0.00  0.00 0.92  0.92
Delay/Veh:   66.3 40.0  40.0   0.0  0.0   0.0  61.5  5.9   0.0   0.0 30.8  30.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  66.3 40.0  40.0   0.0  0.0   0.0  61.5  5.9   0.0   0.0 30.8  30.8
LOS by Move:    E    D     D     A    A     A     E    A     A     A    C     C
HCM2kAvgQ:    302  237   237     0    0     0   352  172     0     0  572   572
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #28: 15th St / V St



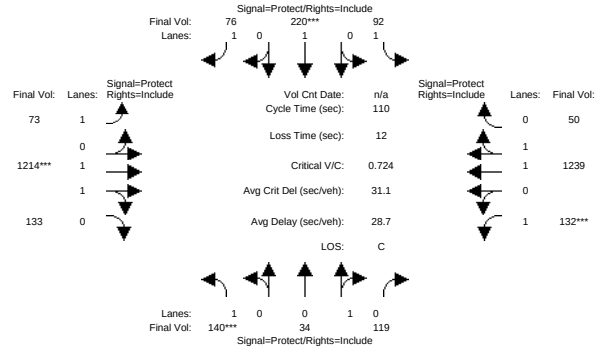
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	69	21	50	48	3	25	90	990	54	60	967	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	21	50	48	3	25	90	990	54	60	967	116
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	21	50	48	3	25	90	990	54	60	967	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	69	21	50	48	3	25	90	990	54	60	967	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	21	50	48	3	25	90	990	54	60	967	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	21	50	48	3	25	90	990	54	60	967	116
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.79	0.21
Final Sat.:	1805	502	1196	1805	1900	1615	1805	3396	185	1805	3172	380
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.03	0.00	0.02	0.05	0.29	0.29	0.03	0.30	0.30
Crit Moves:		****		****			****				****	
Green/Cycle:	0.06	0.09	0.09	0.06	0.09	0.09	0.10	0.60	0.60	0.13	0.63	0.63
Volume/Cap:	0.60	0.46	0.46	0.42	0.02	0.17	0.48	0.48	0.48	0.25	0.48	0.48
Delay/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.5	12.3	12.3	43.4	10.8	10.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.5	12.3	12.3	43.4	10.8	10.8
LOS by Move:	E	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	82	71	71	52	3	23	71	252	252	41	232	232

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #28: 15th St / V St



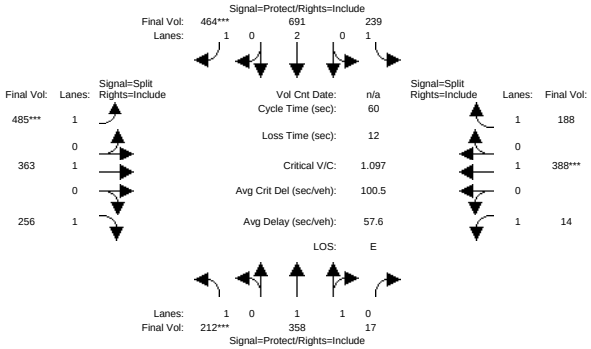
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	140	34	119	92	220	76	73	1214	133	132	1239	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	34	119	92	220	76	73	1214	133	132	1239	50
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	34	119	92	220	76	73	1214	133	132	1239	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	34	119	92	220	76	73	1214	133	132	1239	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	34	119	92	220	76	73	1214	133	132	1239	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	34	119	92	220	76	73	1214	133	132	1239	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.22	0.78	1.00	1.00	1.00	1.00	1.80	0.20	1.00	1.92	0.08
Final Sat.:	1805	373	1305	1805	1900	1615	1805	3205	351	1805	3449	139
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.05	0.12	0.05	0.04	0.38	0.38	0.07	0.36	0.36
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.16	0.16	0.11	0.16	0.16	0.09	0.52	0.52	0.10	0.53	0.53
Volume/Cap:	0.72	0.58	0.58	0.46	0.72	0.29	0.43	0.72	0.72	0.72	0.68	0.68
Delay/Veh:	60.3	46.2	46.2	47.7	52.3	41.4	48.8	21.6	21.6	61.4	20.0	20.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.3	46.2	46.2	47.7	52.3	41.4	48.8	21.6	21.6	61.4	20.0	20.0
LOS by Move:	E	D	D	D	D	D	D	C	C	E	B	B
HCM2kAvgQ:	154	140	140	86	214	61	57	459	459	99	384	384

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #29: 16th St / V St



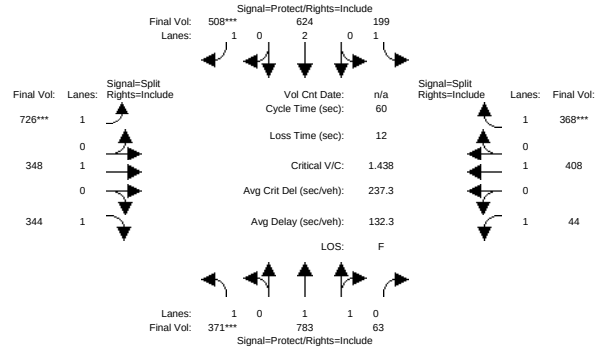
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	212	358	17	239	691	464	485	363	256	14	388	188
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	212	358	17	239	691	464	485	363	256	14	388	188
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	212	358	17	239	691	464	485	363	256	14	388	188
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	212	358	17	239	691	464	485	363	256	14	388	188
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	212	358	17	239	691	464	485	363	256	14	388	188
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	212	358	17	239	691	464	485	363	256	14	388	188
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.91	0.09	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3422	163	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.12	0.10	0.10	0.13	0.19	0.29	0.27	0.19	0.16	0.01	0.20	0.12
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.21	0.21	0.17	0.26	0.26	0.24	0.24	0.24	0.18	0.18	0.18
Volume/Cap:	1.01	0.50	0.50	0.80	0.74	1.11	1.11	0.79	0.66	0.04	1.11	0.63
Delay/Veh:	90.3	21.5	21.5	38.0	23.6	100.5	100.1	30.4	24.5	20.2	107	27.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	90.3	21.5	21.5	38.0	23.6	100.5	100.1	30.4	24.5	20.2	107	27.1
LOS by Move:	F	C	C	D	C	F	F	C	C	C	F	C
HCM2kAvgQ:	147	80	80	167	201	471	408	168	109	6	408	111

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #29: 16th St / V St



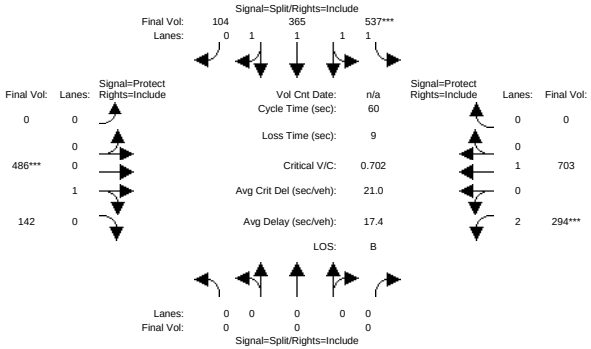
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	371	783	63	199	624	508	726	348	344	44	408	368
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	371	783	63	199	624	508	726	348	344	44	408	368
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	371	783	63	199	624	508	726	348	344	44	408	368
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	371	783	63	199	624	508	726	348	344	44	408	368
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	371	783	63	199	624	508	726	348	344	44	408	368
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	371	783	63	199	624	508	726	348	344	44	408	368
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.85	0.15	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3304	266	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.21	0.24	0.24	0.11	0.17	0.31	0.40	0.18	0.21	0.02	0.21	0.23
Crit Moves:	****					****	****					****
Green/Cycle:	0.14	0.24	0.24	0.12	0.22	0.22	0.28	0.28	0.28	0.17	0.17	0.17
Volume/Cap:	1.46	0.99	0.99	0.94	0.80	1.46	1.46	0.66	0.77	0.15	1.29	1.37
Delay/Veh:	251.6	51.0	51.0	70.1	28.2	244.2	238.0	22.4	28.0	21.6	177	212.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	251.6	51.0	51.0	70.1	28.2	244.2	238.0	22.4	28.0	21.6	177	212.2
LOS by Move:	F	D	D	E	C	F	F	C	C	C	F	F
HCM2kAvgQ:	528	258	258	187	207	779	1030	139	148	20	541	537

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #30: 13th St / R St



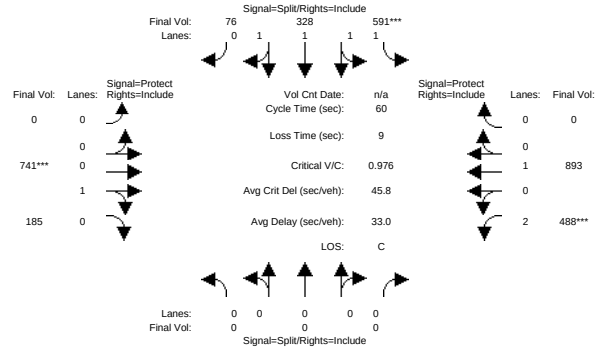
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	537	365	104	0	486	142	294	703	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	537	365	104	0	486	142	294	703	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	537	365	104	0	486	142	294	703	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	537	365	104	0	486	142	294	703	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	537	365	104	0	486	142	294	703	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	537	365	104	0	486	142	294	703	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.56	0.44	0.00	0.77	0.23	2.00	1.00	0.00
Final Sat.:	0	0	0	3134	2439	695	0	1425	416	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.17	0.15	0.15	0.00	0.34	0.34	0.08	0.37	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.24	0.24	0.24	0.00	0.49	0.49	0.12	0.61	0.00
Volume/Cap:	0.00	0.00	0.00	0.70	0.61	0.61	0.00	0.70	0.70	0.70	0.61	0.00
Delay/Veh:	0.0	0.0	0.0	22.3	20.8	20.8	0.0	14.5	14.5	30.7	8.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.3	20.8	20.8	0.0	14.5	14.5	30.7	8.4	0.0
LOS by Move:	A	A	A	C	C	C	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	164	132	132	0	259	259	71	203	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #30: 13th St / R St



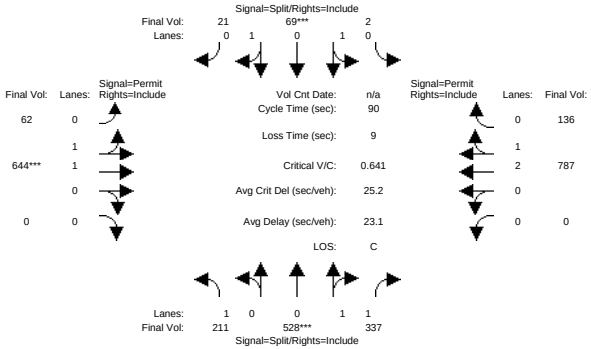
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	591	328	76	0	741	185	488	893	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	591	328	76	0	741	185	488	893	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	591	328	76	0	741	185	488	893	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	591	328	76	0	741	185	488	893	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	591	328	76	0	741	185	488	893	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	591	328	76	0	741	185	488	893	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.62	0.38	0.00	0.80	0.20	2.00	1.00	0.00
Final Sat.:	0	0	0	3116	2529	586	0	1479	369	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.19	0.13	0.13	0.00	0.50	0.50	0.14	0.47	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.19	0.19	0.19	0.00	0.51	0.51	0.14	0.66	0.00
Volume/Cap:	0.00	0.00	0.00	0.98	0.67	0.67	0.00	0.98	0.98	0.98	0.72	0.00
Delay/Veh:	0.0	0.0	0.0	46.6	23.6	23.6	0.0	37.8	37.8	59.7	8.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	46.6	23.6	23.6	0.0	37.8	37.8	59.7	8.7	0.0
LOS by Move:	A	A	A	D	C	C	A	D	D	E	A	A
HCM2kAvgQ:	0	0	0	282	130	130	0	613	613	158	273	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #31: SR-99 NB Off-Ramp - 14th St / R Street

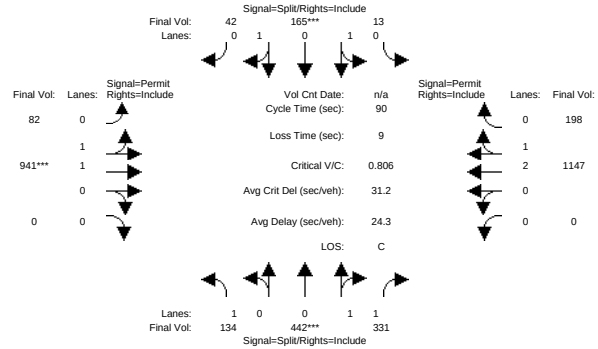



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     211  528   337    2   69    21   62  644     0    0  787   136
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  211  528   337    2   69    21   62  644     0    0  787   136
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  211  528   337    2   69    21   62  644     0    0  787   136
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   211  528   337    2   69    21   62  644     0    0  787   136
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  211  528   337    2   69    21   62  644     0    0  787   136
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  211  528   337    2   69    21   62  644     0    0  787   136
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.92 0.92  0.92 0.73 0.73  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.04 1.50  0.46 0.18 1.82  0.00 0.00 2.56  0.44
Final Sat.:  1805 1790  1790   76 2613   795  243 2522     0    0 4325   747
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.30  0.19 0.03 0.03  0.03 0.26 0.26  0.00 0.00 0.18  0.18
Crit Moves:        ****            ****            ****
Green/Cycle: 0.42 0.42  0.42 0.11 0.11  0.11 0.37 0.37  0.00 0.00 0.37  0.37
Volume/Cap:  0.28 0.70  0.45 0.24 0.24  0.24 0.70 0.70  0.00 0.00 0.50  0.50
Delay/Veh:   17.2 23.0  18.6 36.8 36.8  36.8 26.5 26.5   0.0  0.0 22.3  22.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  17.2 23.0  18.6 36.8 36.8  36.8 26.5 26.5   0.0  0.0 22.3  22.3
LOS by Move:    B    C     B    D    D     D    C    C     A    A    C     C
HCM2kAvgQ:     96  324   170   35   35    35  215  215     0    0  176   176
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #31: SR-99 NB Off-Ramp - 14th St / R Street

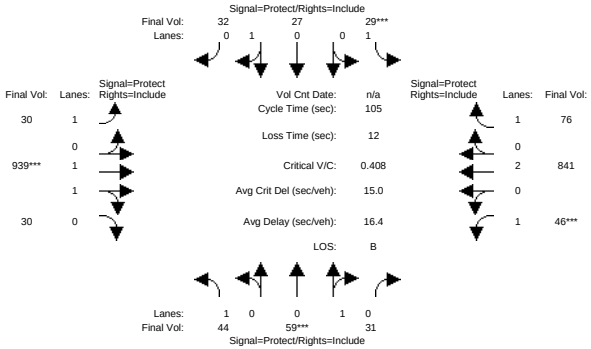



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     134  442   331   13  165    42   82  941     0    0 1147   198
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  134  442   331   13  165    42   82  941     0    0 1147   198
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  134  442   331   13  165    42   82  941     0    0 1147   198
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   134  442   331   13  165    42   82  941     0    0 1147   198
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  134  442   331   13  165    42   82  941     0    0 1147   198
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  134  442   331   13  165    42   82  941     0    0 1147   198
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.92 0.92  0.92 0.65 0.65  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.12 1.50  0.38 0.16 1.84  0.00 0.00 2.56  0.44
Final Sat.:  1805 1778  1778  207 2621   667  198 2271     0    0 4326   747
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.25  0.19 0.06 0.06  0.06 0.41 0.41  0.00 0.00 0.27  0.27
Crit Moves:        ****            ****            ****
Green/Cycle: 0.30 0.30  0.30 0.11 0.11  0.11 0.49 0.49  0.00 0.00 0.49  0.49
Volume/Cap:  0.25 0.84  0.63 0.57 0.57  0.57 0.84 0.84  0.00 0.00 0.54  0.54
Delay/Veh:   24.4 36.7  28.5 39.9 39.9  39.9 25.1 25.1   0.0  0.0 16.0  16.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  24.4 36.7  28.5 39.9 39.9  39.9 25.1 25.1   0.0  0.0 16.0  16.0
LOS by Move:    C    D     C    D    D     D    C    C     A    A    B     B
HCM2kAvgQ:     72  355   219   98   98    98  301  301     0    0  226   226
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #32: 15th St / R St



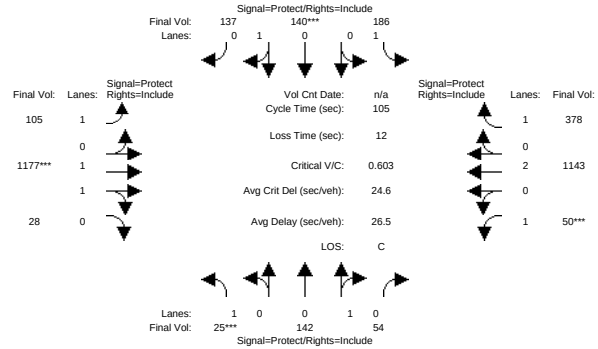
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	44	59	31	29	27	32	30	939	30	46	841	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	59	31	29	27	32	30	939	30	46	841	76
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	59	31	29	27	32	30	939	30	46	841	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	59	31	29	27	32	30	939	30	46	841	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	59	31	29	27	32	30	939	30	46	841	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	59	31	29	27	32	30	939	30	46	841	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.66	0.34	1.00	0.46	0.54	1.00	1.94	0.06	1.00	2.00	1.00
Final Sat.:	1805	1181	620	1805	799	947	1805	3481	111	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.05	0.05	0.02	0.03	0.03	0.02	0.27	0.27	0.03	0.23	0.05
Crit Moves:		****		****				****		****		
Green/Cycle:	0.08	0.12	0.12	0.07	0.11	0.11	0.16	0.63	0.63	0.07	0.55	0.55
Volume/Cap:	0.32	0.42	0.42	0.24	0.31	0.31	0.11	0.42	0.42	0.38	0.43	0.09
Delay/Veh:	47.3	44.4	44.4	47.5	44.1	44.1	38.2	9.7	9.7	49.0	14.3	11.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.3	44.4	44.4	47.5	44.1	44.1	38.2	9.7	9.7	49.0	14.3	11.4
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	42	79	79	28	51	51	19	196	196	35	203	28

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #32: 15th St / R St



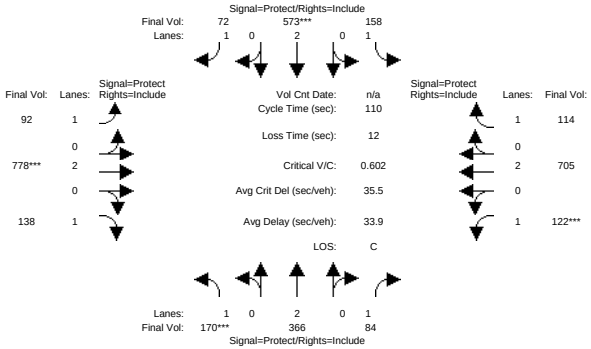
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	25	142	54	186	140	137	105	1177	28	50	1143	378
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	142	54	186	140	137	105	1177	28	50	1143	378
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	142	54	186	140	137	105	1177	28	50	1143	378
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	25	142	54	186	140	137	105	1177	28	50	1143	378
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	25	142	54	186	140	137	105	1177	28	50	1143	378
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	25	142	54	186	140	137	105	1177	28	50	1143	378
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.72	0.28	1.00	0.51	0.49	1.00	1.95	0.05	1.00	2.00	1.00
Final Sat.:	1805	1320	502	1805	889	870	1805	3516	84	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.11	0.11	0.10	0.16	0.16	0.06	0.33	0.33	0.03	0.32	0.23
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.16	0.16	0.15	0.24	0.24	0.10	0.51	0.51	0.07	0.48	0.48
Volume/Cap:	0.21	0.69	0.69	0.69	0.65	0.65	0.58	0.65	0.65	0.42	0.66	0.49
Delay/Veh:	47.2	48.6	48.6	49.4	39.6	39.6	49.7	19.7	19.7	49.4	21.9	19.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.2	48.6	48.6	49.4	39.6	39.6	49.7	19.7	19.7	49.4	21.9	19.2
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	B
HCM2kAvgQ:	24	182	182	175	225	225	77	354	354	37	352	195

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #33: 16th St / R St



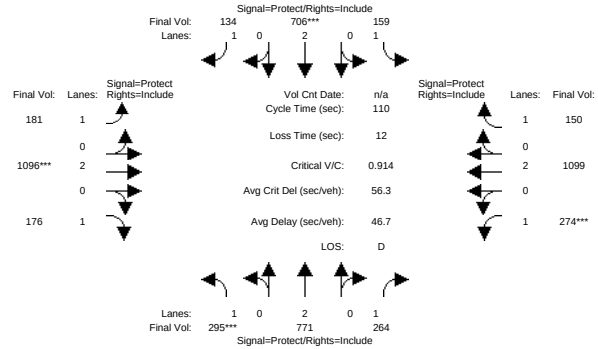
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	170	366	84	158	573	72	92	778	138	122	705	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	170	366	84	158	573	72	92	778	138	122	705	114
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	170	366	84	158	573	72	92	778	138	122	705	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	170	366	84	158	573	72	92	778	138	122	705	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	170	366	84	158	573	72	92	778	138	122	705	114
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	170	366	84	158	573	72	92	778	138	122	705	114
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.10	0.05	0.09	0.16	0.04	0.05	0.22	0.09	0.07	0.20	0.07
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.23	0.23	0.19	0.26	0.12	0.12	0.36	0.36	0.11	0.35	0.35
Volume/Cap:	0.60	0.45	0.23	0.45	0.60	0.17	0.44	0.60	0.24	0.60	0.55	0.20
Delay/Veh:	46.8	37.1	35.1	40.0	36.5	31.4	46.8	29.7	25.0	51.5	29.0	24.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.8	37.1	35.1	40.0	36.5	31.4	46.8	29.7	25.0	51.5	29.0	24.8
LOS by Move:	D	D	D	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	155	147	60	111	213	44	71	277	78	98	243	63

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #33: 16th St / R St



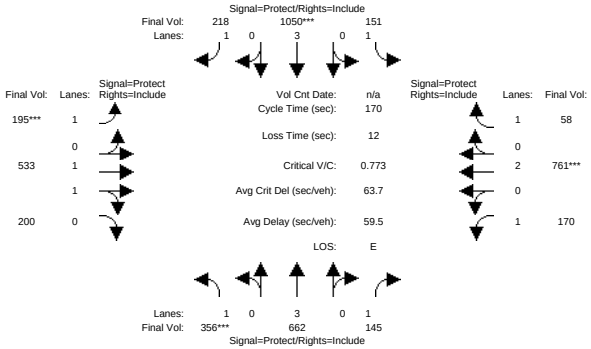
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	295	771	264	159	706	134	181	1096	176	274	1099	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	295	771	264	159	706	134	181	1096	176	274	1099	150
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	295	771	264	159	706	134	181	1096	176	274	1099	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	295	771	264	159	706	134	181	1096	176	274	1099	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	295	771	264	159	706	134	181	1096	176	274	1099	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	295	771	264	159	706	134	181	1096	176	274	1099	150
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.16	0.21	0.16	0.09	0.20	0.08	0.10	0.30	0.11	0.15	0.30	0.09
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.28	0.28	0.11	0.21	0.21	0.12	0.33	0.33	0.17	0.37	0.37
Volume/Cap:	0.91	0.77	0.59	0.77	0.91	0.39	0.81	0.91	0.33	0.91	0.81	0.25
Delay/Veh:	73.5	40.1	36.3	63.2	57.6	37.8	66.8	46.0	27.9	75.8	34.8	23.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	73.5	40.1	36.3	63.2	57.6	37.8	66.8	46.0	27.9	75.8	34.8	23.9
LOS by Move:	E	D	D	E	E	D	E	D	C	E	C	C
HCM2kAvgQ:	336	355	208	130	321	91	156	499	105	246	435	82

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #34: Olive Ave / R St



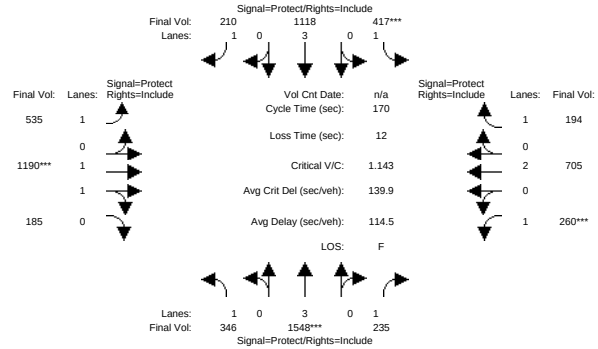
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	356		662		145	151		1050		218	195		533		200	170		761		58
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	356		662		145	151		1050		218	195		533		200	170		761		58
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	356		662		145	151		1050		218	195		533		200	170		761		58
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	356		662		145	151		1050		218	195		533		200	170		761		58
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	356		662		145	151		1050		218	195		533		200	170		761		58
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	356		662		145	151		1050		218	195		533		200	170		761		58
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.91		0.91	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.45		0.55	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		2517		945	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.20		0.13		0.09	0.08		0.20		0.13	0.11		0.21		0.21	0.09		0.21		0.04
Crit Moves:	****							****			****							****		
Green/Cycle:	0.26		0.31		0.31	0.20		0.26		0.26	0.14		0.29		0.29	0.13		0.27		0.27
Volume/Cap:	0.77		0.41		0.29	0.41		0.77		0.52	0.77		0.74		0.74	0.74		0.77		0.13
Delay/Veh:	66.7		46.3		44.5	59.4		60.9		54.6	84.3		58.1		58.1	83.7		60.8		46.8
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	66.7		46.3		44.5	59.4		60.9		54.6	84.3		58.1		58.1	83.7		60.8		46.8
LOS by Move:	E		D		D	E		E		D	F		E		E	F		E		D
HCM2kAvgQ:	412		231		132	156		430		222	285		475		475	249		507		55

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #34: Olive Ave / R St



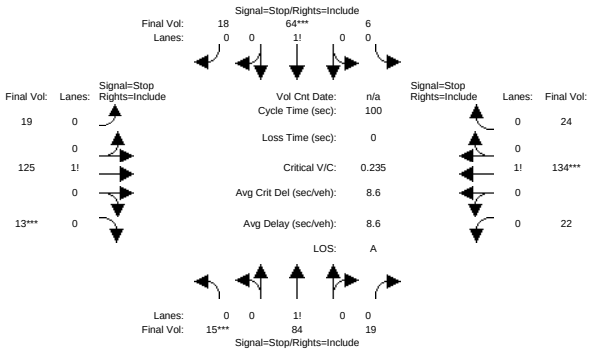
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	346		1548		235	417		1118		210	535		1190		185	260		705		194
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	346		1548		235	417		1118		210	535		1190		185	260		705		194
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	346		1548		235	417		1118		210	535		1190		185	260		705		194
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	346		1548		235	417		1118		210	535		1190		185	260		705		194
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	346		1548		235	417		1118		210	535		1190		185	260		705		194
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	346		1548		235	417		1118		210	535		1190		185	260		705		194
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.93		0.93	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.73		0.27	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		3062		476	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.19		0.30		0.15	0.23		0.22		0.13	0.30		0.39		0.39	0.14		0.20		0.12
Crit Moves:			****			****							****			****				
Green/Cycle:	0.22		0.26		0.26	0.20		0.25		0.25	0.28		0.34		0.34	0.13		0.19		0.19
Volume/Cap:	0.88		1.14		0.56	1.14		0.88		0.53	1.05		1.14		1.14	1.14		1.05		0.65
Delay/Veh:	84.0		136		56.0	159.7		69.0		57.0	116.3		131		130.7	177.9		119		69.1
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	84.0		136		56.0	159.7		69.0		57.0	116.3		131		130.7	177.9		119		69.1
LOS by Move:	F		F		E	F		E		E	F		F		F	F		F		E
HCM2kAvgQ:	404		902		242	665		475		217	884		1272		1272	509		641		253

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #35: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15    84    19     6    64    18    19   125    13    22   134    24
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   15    84    19     6    64    18    19   125    13    22   134    24
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   15    84    19     6    64    18    19   125    13    22   134    24
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    15    84    19     6    64    18    19   125    13    22   134    24
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   15    84    19     6    64    18    19   125    13    22   134    24
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   15    84    19     6    64    18    19   125    13    22   134    24
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.13  0.71  0.16  0.07  0.73  0.20  0.12  0.80  0.08  0.12  0.75  0.13
Final Sat.:    92   513   116    49   522   147    92   602    63    94   571   102
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16  0.16  0.16  0.12  0.12  0.12  0.21  0.21  0.21  0.23  0.23  0.23
Crit Moves:  ****                  ****                  ****        ****
Delay/Veh:    8.5   8.5   8.5   8.3   8.3   8.3   8.7   8.7   8.7   8.8   8.8   8.8
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.5   8.5   8.5   8.3   8.3   8.3   8.7   8.7   8.7   8.8   8.8   8.8
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        8.5               8.3               8.7               8.8
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         8.5               8.3               8.7               8.8
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   4.3   4.3   4.3   3.0   3.0   3.0   5.9   5.9   5.9   6.9   6.9   6.9
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #35 15th St / O St
*******************************************************************************
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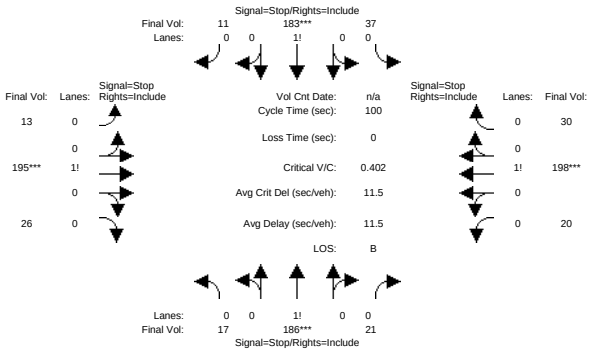
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   15   84    19     6   64    18    19  125    13    22  134    24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             337
Minor Approach Volume:           118
Minor Approach Volume Threshold: 509
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #35: 15th St / O St




```
Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17   186    21    37   183    11    13   195    26    20   198    30
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   17   186    21    37   183    11    13   195    26    20   198    30
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   17   186    21    37   183    11    13   195    26    20   198    30
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    17   186    21    37   183    11    13   195    26    20   198    30
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   17   186    21    37   183    11    13   195    26    20   198    30
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   17   186    21    37   183    11    13   195    26    20   198    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.08  0.83  0.09  0.16  0.79  0.05  0.06  0.83  0.11  0.08  0.80  0.12
Final Sat.:    46   502    57    97   478    29    34   511    68    50   493    75
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.37  0.37  0.37  0.38  0.38  0.38  0.38  0.38  0.38  0.40  0.40  0.40
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   11.4  11.4  11.4  11.6  11.6  11.6  11.4  11.4  11.4  11.7  11.7  11.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  11.4  11.4  11.4  11.6  11.6  11.6  11.4  11.4  11.4  11.7  11.7  11.7
LOS by Move:    B     B     B     B     B     B     B     B     B     B     B     B
ApproachDel:       11.4              11.6              11.4              11.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        11.4              11.6              11.4              11.7
LOS by Appr:          B                 B                 B                 B
AllWayAvgQ:  12.0  12.0  12.0  12.7  12.7  12.7  12.7  12.7  12.7  13.8  13.8  13.8
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #35 15th St / O St
*******************************************************************************
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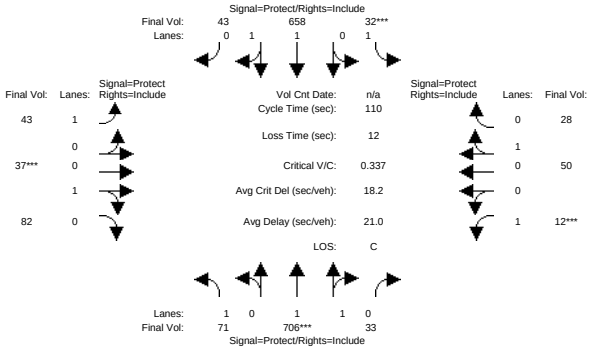
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   17  186    21    37  183    11    13  195    26    20  198    30
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             482
Minor Approach Volume:           231
Minor Approach Volume Threshold: 414
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #36: 16th St / O St



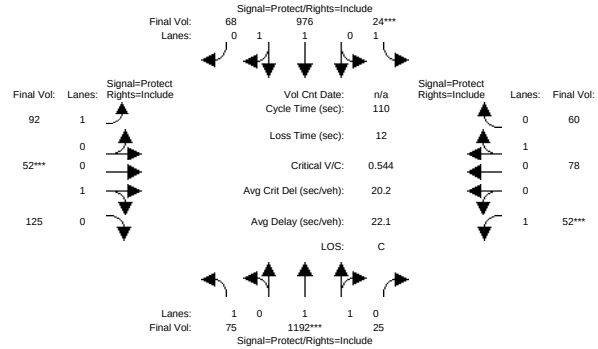
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	71	706	33	32	658	43	43	37	82	12	50	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	706	33	32	658	43	43	37	82	12	50	28
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	706	33	32	658	43	43	37	82	12	50	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	706	33	32	658	43	43	37	82	12	50	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	706	33	32	658	43	43	37	82	12	50	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	71	706	33	32	658	43	43	37	82	12	50	28
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.91	0.09	1.00	1.88	0.12	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3425	160	1805	3358	219	1805	530	1174	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.04	0.21	0.21	0.02	0.20	0.20	0.02	0.07	0.07	0.01	0.04	0.04
Crit Moves:		****		****				****		****		
Green/Cycle:	0.16	0.57	0.57	0.06	0.48	0.48	0.11	0.19	0.19	0.06	0.15	0.15
Volume/Cap:	0.25	0.36	0.36	0.28	0.41	0.41	0.23	0.36	0.36	0.10	0.29	0.29
Delay/Veh:	41.3	12.9	12.9	50.4	18.8	18.8	45.7	39.2	39.2	48.9	42.0	42.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.3	12.9	12.9	50.4	18.8	18.8	45.7	39.2	39.2	48.9	42.0	42.0
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	56	175	175	33	200	200	37	93	93	12	63	63

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #36: 16th St / O St



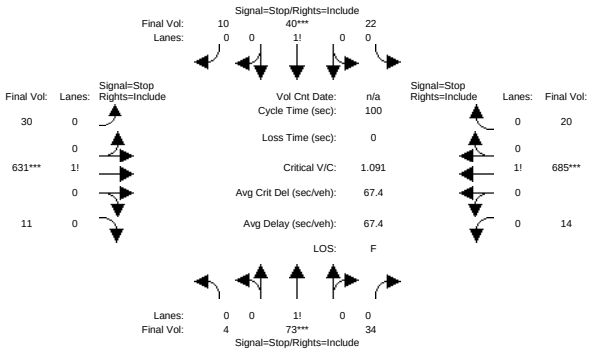
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	75	1192	25	24	976	68	92	52	125	52	78	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	1192	25	24	976	68	92	52	125	52	78	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	1192	25	24	976	68	92	52	125	52	78	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	1192	25	24	976	68	92	52	125	52	78	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	1192	25	24	976	68	92	52	125	52	78	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	1192	25	24	976	68	92	52	125	52	78	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.87	0.13	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3525	74	1805	3341	233	1805	499	1200	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.04	0.34	0.34	0.01	0.29	0.29	0.05	0.10	0.10	0.03	0.08	0.08
Crit Moves:		****		****				****		****		
Green/Cycle:	0.12	0.58	0.58	0.06	0.53	0.53	0.10	0.18	0.18	0.06	0.14	0.14
Volume/Cap:	0.36	0.58	0.58	0.21	0.55	0.55	0.51	0.58	0.58	0.45	0.54	0.54
Delay/Veh:	45.9	14.8	14.8	49.8	17.4	17.4	49.3	44.1	44.1	52.5	46.2	46.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.9	14.8	14.8	49.8	17.4	17.4	49.3	44.1	44.1	52.5	46.2	46.2
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	66	341	341	24	308	308	90	156	156	57	125	125

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #37: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    73    34    22    40    10    30   631    11    14   685    20
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    4    73    34    22    40    10    30   631    11    14   685    20
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    4    73    34    22    40    10    30   631    11    14   685    20
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     4    73    34    22    40    10    30   631    11    14   685    20
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    4    73    34    22    40    10    30   631    11    14   685    20
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    4    73    34    22    40    10    30   631    11    14   685    20
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.03  0.66  0.31  0.30  0.56  0.14  0.04  0.94  0.02  0.02  0.95  0.03
Final Sat.:    18   334   155   148   268    67    29   617    11    13   628    18
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.22  0.22  0.22  0.15  0.15  0.15  1.02  1.02  1.02  1.09  1.09  1.09
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   11.9  11.9  11.9  11.6  11.6  11.6  63.9  63.9  63.9  84.7  84.7  84.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  11.9  11.9  11.9  11.6  11.6  11.6  63.9  63.9  63.9  84.7  84.7  84.7
LOS by Move:    B     B     B     B     B     B     F     F     F     F     F     F
ApproachDel:       11.9              11.6              63.9              84.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        11.9              11.6              63.9              84.7
LOS by Appr:          B                 B                 F                 F
AllWayAvgQ:   6.8   6.8   6.8   4.2   4.2   4.2   253   253 253.1   349   349 349.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #37 15th St / M St
*******************************************************************************
```



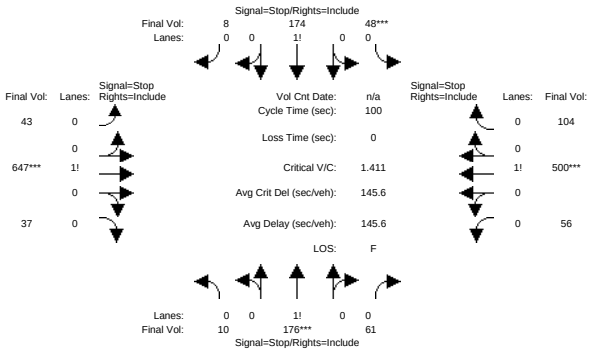
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4   73    34    22   40    10    30  631    11    14  685    20
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1391
Minor Approach Volume:           111
Minor Approach Volume Threshold: 131
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #37: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10   176    61    48   174     8    43   647    37    56   500   104
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   10   176    61    48   174     8    43   647    37    56   500   104
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   10   176    61    48   174     8    43   647    37    56   500   104
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    10   176    61    48   174     8    43   647    37    56   500   104
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   10   176    61    48   174     8    43   647    37    56   500   104
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   10   176    61    48   174     8    43   647    37    56   500   104
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.04  0.71  0.25  0.21  0.76  0.03  0.06  0.89  0.05  0.08  0.76  0.16
Final Sat.:    18   319   111    91   329    15    30   458    26    44   394    82
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.55  0.55  0.55  0.53  0.53  0.53  1.41  1.41  1.41  1.27  1.27  1.27
Crit Moves:        ****        ****                    ****              ****
Delay/Veh:   19.8  19.8  19.8  19.5  19.5  19.5 216.6   217 216.6 158.4   158 158.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  19.8  19.8  19.8  19.5  19.5  19.5 216.6   217 216.6 158.4   158 158.4
LOS by Move:    C     C     C     C     C     C     F     F     F     F     F     F
ApproachDel:       19.8             19.5            216.6            158.4
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:        19.8             19.5            216.6            158.4
LOS by Appr:          C                C                F                F
AllWayAvgQ:  27.7  27.7  27.7  25.3  25.3  25.3   739   739 739.1   535   535 535.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #37 15th St / M St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   10  176    61    48  174     8    43  647    37    56  500   104
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1387
Minor Approach Volume:           247
Minor Approach Volume Threshold: 132
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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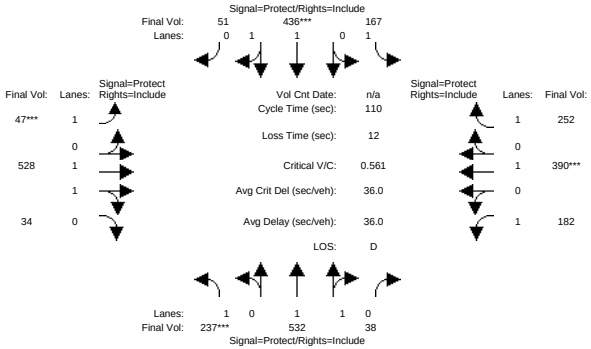
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #38: 16th St / M St



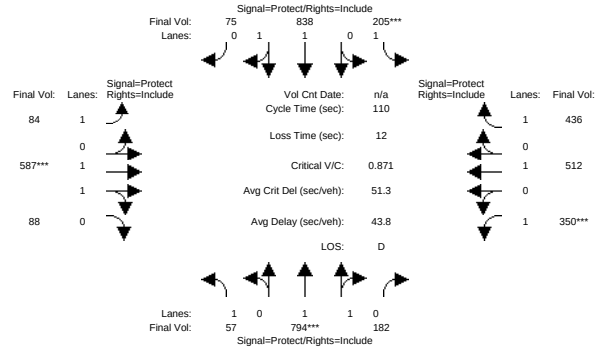
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	237	532	38	167	436	51	47	528	34	182	390	252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	237	532	38	167	436	51	47	528	34	182	390	252
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	237	532	38	167	436	51	47	528	34	182	390	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	237	532	38	167	436	51	47	528	34	182	390	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	237	532	38	167	436	51	47	528	34	182	390	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	237	532	38	167	436	51	47	528	34	182	390	252
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.93	0.93	0.95	0.94	0.94	0.95	1.00	0.85
Lanes:	1.00	1.87	0.13	1.00	1.79	0.21	1.00	1.88	0.12	1.00	1.00	1.00
Final Sat.:	1805	3336	238	1805	3180	372	1805	3361	216	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.16	0.16	0.09	0.14	0.14	0.03	0.16	0.16	0.10	0.21	0.16
Crit Moves:	****				****		****				****	
Green/Cycle:	0.23	0.30	0.30	0.17	0.24	0.24	0.06	0.26	0.26	0.17	0.36	0.36
Volume/Cap:	0.57	0.54	0.54	0.54	0.57	0.57	0.41	0.61	0.61	0.61	0.57	0.44
Delay/Veh:	39.5	32.9	32.9	43.4	37.8	37.8	51.9	37.2	37.2	46.3	29.7	27.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.5	32.9	32.9	43.4	37.8	37.8	51.9	37.2	37.2	46.3	29.7	27.3
LOS by Move:	D	C	C	D	D	D	D	D	D	D	C	C
HCM2kAvgQ:	171	203	203	144	204	204	51	236	236	140	256	155

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #38: 16th St / M St



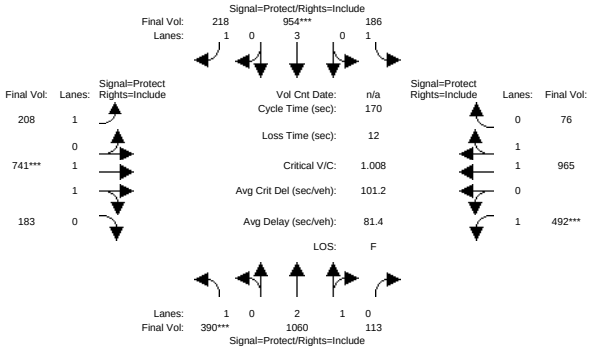
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	57	794	182	205	838	75	84	587	88	350	512	436
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	57	794	182	205	838	75	84	587	88	350	512	436
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	57	794	182	205	838	75	84	587	88	350	512	436
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	57	794	182	205	838	75	84	587	88	350	512	436
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	57	794	182	205	838	75	84	587	88	350	512	436
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	57	794	182	205	838	75	84	587	88	350	512	436
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.94	0.94	0.95	0.93	0.93	0.95	1.00	0.85
Lanes:	1.00	1.63	0.37	1.00	1.84	0.16	1.00	1.74	0.26	1.00	1.00	1.00
Final Sat.:	1805	2855	654	1805	3274	293	1805	3080	462	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.03	0.28	0.28	0.11	0.26	0.26	0.05	0.19	0.19	0.19	0.27	0.27
Crit Moves:		****		****				****		****		
Green/Cycle:	0.09	0.32	0.32	0.13	0.36	0.36	0.08	0.22	0.22	0.22	0.36	0.36
Volume/Cap:	0.35	0.87	0.87	0.87	0.71	0.71	0.55	0.87	0.87	0.87	0.75	0.76
Delay/Veh:	48.4	42.9	42.9	74.7	32.2	32.2	52.7	52.0	52.0	59.5	35.9	36.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.4	42.9	42.9	74.7	32.2	32.2	52.7	52.0	52.0	59.5	35.9	36.8
LOS by Move:	D	D	D	E	C	C	D	D	D	E	D	D
HCM2kAvgQ:	41	378	378	241	372	372	89	366	366	287	365	312

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #39: Olive Ave / M St



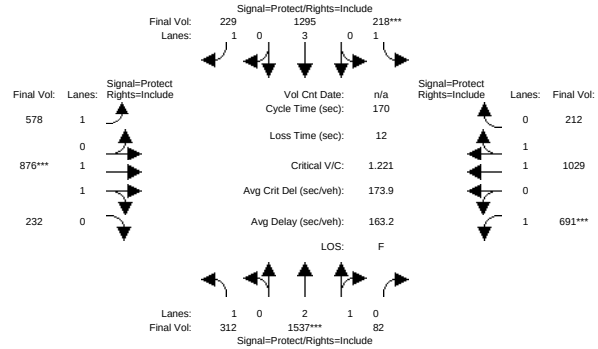
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	390	1060		113	186	954		218	208	741		183	492	965		76
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	390	1060		113	186	954		218	208	741		183	492	965		76
Added Vol:	0	0		0	0	0		0	0	0		0	0	0		0
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	390	1060		113	186	954		218	208	741		183	492	965		76
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	390	1060		113	186	954		218	208	741		183	492	965		76
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	390	1060		113	186	954		218	208	741		183	492	965		76
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	390	1060		113	186	954		218	208	741		183	492	965		76
Saturation Flow Module:																
Sat/Lane:	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900
Adjustment:	0.95	0.90		0.90	0.95	0.91		0.85	0.95	0.92		0.92	0.95	0.94		0.94
Lanes:	1.00	2.71		0.29	1.00	3.00		1.00	1.00	1.60		0.40	1.00	1.85		0.15
Final Sat.:	1805	4622		493	1805	5187		1615	1805	2808		694	1805	3310		261
Capacity Analysis Module:																
Vol/Sat:	0.22	0.23		0.23	0.10	0.18		0.13	0.12	0.26		0.26	0.27	0.29		0.29
Crit Moves:	****					****				****			****			
Green/Cycle:	0.21	0.27		0.27	0.12	0.18		0.18	0.15	0.26		0.26	0.27	0.38		0.38
Volume/Cap:	1.01	0.84		0.84	0.84	1.01		0.74	0.76	1.01		1.01	1.01	0.76		0.76
Delay/Veh:	114.4	62.8		62.8	96.3	101		75.2	81.4	94.3		94.3	104.6	48.5		48.5
User DelAdj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
AdjDel/Veh:	114.4	62.8		62.8	96.3	101		75.2	81.4	94.3		94.3	104.6	48.5		48.5
LOS by Move:	F	E		E	F	F		E	F	F		F	F	D		D
HCM2kAvgQ:	505	486		486	238	506		261	298	775		775	783	636		636

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #39: Olive Ave / M St



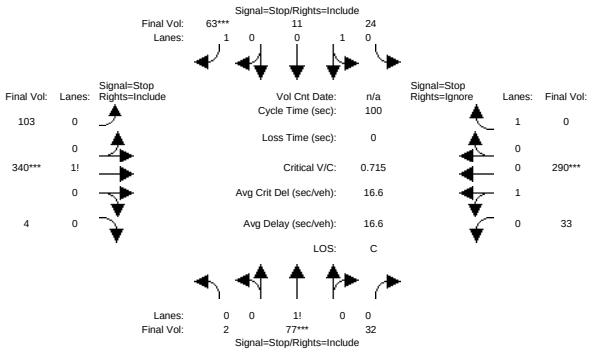
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	312	1537		82	218	1295		229	578	876		232	691	1029		212
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	312	1537		82	218	1295		229	578	876		232	691	1029		212
Added Vol:	0	0		0	0	0		0	0	0		0	0	0		0
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	312	1537		82	218	1295		229	578	876		232	691	1029		212
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	312	1537		82	218	1295		229	578	876		232	691	1029		212
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	312	1537		82	218	1295		229	578	876		232	691	1029		212
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	312	1537		82	218	1295		229	578	876		232	691	1029		212
Saturation Flow Module:																
Sat/Lane:	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900
Adjustment:	0.95	0.90		0.90	0.95	0.91		0.85	0.95	0.92		0.92	0.95	0.93		0.93
Lanes:	1.00	2.85		0.15	1.00	3.00		1.00	1.00	1.58		0.42	1.00	1.66		0.34
Final Sat.:	1805	4885		261	1805	5187		1615	1805	2766		732	1805	2915		601
Capacity Analysis Module:																
Vol/Sat:	0.17	0.31		0.31	0.12	0.25		0.14	0.32	0.32		0.32	0.38	0.35		0.35
Crit Moves:		****			****					****			****			
Green/Cycle:	0.15	0.26		0.26	0.10	0.21		0.21	0.27	0.26		0.26	0.31	0.30		0.30
Volume/Cap:	1.19	1.22		1.22	1.22	1.19		0.67	1.18	1.22		1.22	1.22	1.18		1.18
Delay/Veh:	187.6	170		169.6	215.9	160		66.9	160.3	172		172.4	173.1	148		148.4
User DelAdj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
AdjDel/Veh:	187.6	170		169.6	215.9	160		66.9	160.3	172		172.4	173.1	148		148.4
LOS by Move:	F	F		F	F	F		E	F	F		F	F	F		F
HCM2kAvgQ:	527	1044		1044	396	821		258	1068	1123		1123	1315	1195		1195

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #40: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue             Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   77    32    24   11    63   103  340     4    33  290   102
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   77    32    24   11    63   103  340     4    33  290   102
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   77    32    24   11    63   103  340     4    33  290   102
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2   77    32    24   11    63   103  340     4    33  290     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   77    32    24   11    63   103  340     4    33  290     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    2   77    32    24   11    63   103  340     4    33  290     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.69  0.29  0.69 0.31  1.00  0.23 0.76  0.01  0.10 0.90  1.00
Final Sat.:     9  343   143   315  144   530   144  476     6    63  550   702
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.22 0.22  0.22  0.08 0.08  0.12  0.71 0.71  0.71  0.53 0.53  0.00
Crit Moves:       ****                    ****       ****              ****
Delay/Veh:   11.2 11.2  11.2  10.3 10.3   9.4  21.1 21.1  21.1  14.3 14.3   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.2 11.2  11.2  10.3 10.3   9.4  21.1 21.1  21.1  14.3 14.3   0.0
LOS by Move:    B    B     B     B    B     A     C    C     C     B    B     *
ApproachDel:      11.2              9.7             21.1             14.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       11.2              9.7             21.1             14.3
LOS by Appr:         B                A                C                B
AllWayAvgQ:   5.7  5.7   5.7   1.7  1.7   2.6  53.9 53.9  53.9  25.0 25.0   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #40 2nd St / Grogan Ave / Northwest Ave
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Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   77    32    24   11    63   103  340     4    33  290   102
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             872
Minor Approach Volume:           111
Minor Approach Volume Threshold: 332
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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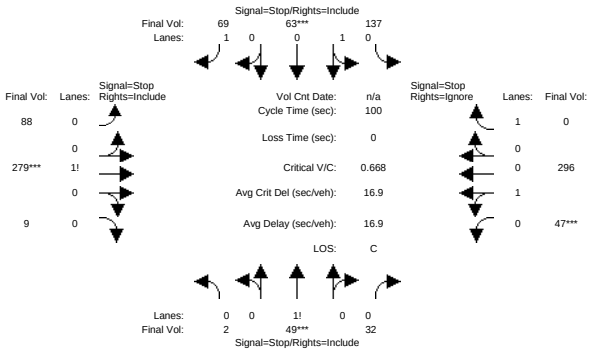
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #40: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   49    32   137   63    69    88  279     9    47  296    88
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   49    32   137   63    69    88  279     9    47  296    88
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   49    32   137   63    69    88  279     9    47  296    88
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2   49    32   137   63    69    88  279     9    47  296     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   49    32   137   63    69    88  279     9    47  296     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    2   49    32   137   63    69    88  279     9    47  296     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.69 0.31  1.00  0.23 0.75  0.02  0.14 0.86  1.00
Final Sat.:    11  267   175   329  151   557   132  417    13    77  483   632
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18  0.18  0.42 0.42  0.12  0.67 0.67  0.67  0.61 0.61  0.00
Crit Moves:        ****               ****               ****        ****
Delay/Veh:   11.3 11.3  11.3  14.2 14.2   9.5  20.2 20.2  20.2  17.7 17.7   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.3 11.3  11.3  14.2 14.2   9.5  20.2 20.2  20.2  17.7 17.7   0.0
LOS by Move:    B    B     B     B    B     A     C    C     C     C    C     *
ApproachDel:       11.3              13.0              20.2              17.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        11.3              13.0              20.2              17.7
LOS by Appr:          B                 B                 C                 C
AllWayAvgQ:   4.2  4.2   4.2  15.0 15.0   3.0  43.0 43.0  43.0  34.1 34.1   0.0
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #40 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



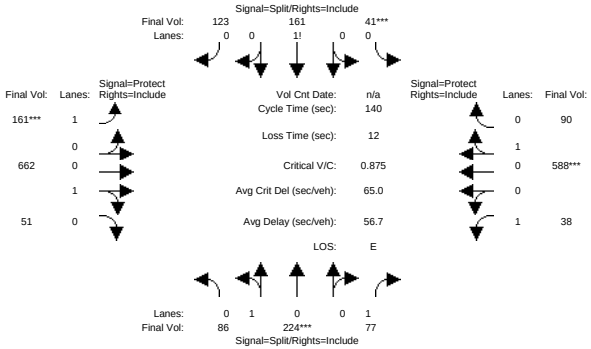
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   49    32   137   63    69    88  279     9    47  296    88
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             807
Minor Approach Volume:           269
Minor Approach Volume Threshold: 466
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #41: Childs Ave / Martin Luther King Wy



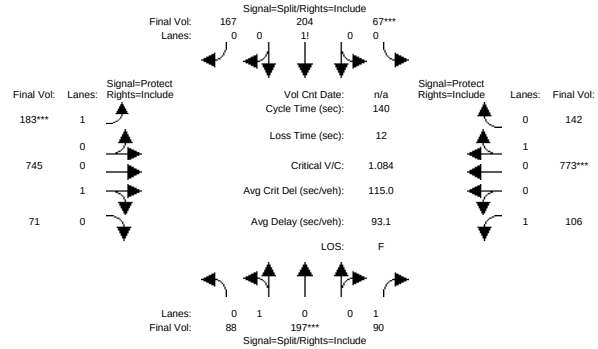
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	224	77	41	161	123	161	662	51	38	588	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	224	77	41	161	123	161	662	51	38	588	90
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	86	224	77	41	161	123	161	662	51	38	588	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	224	77	41	161	123	161	662	51	38	588	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	224	77	41	161	123	161	662	51	38	588	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	224	77	41	161	123	161	662	51	38	588	90
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.13	0.49	0.38	1.00	0.93	0.07	1.00	0.87	0.13
Final Sat.:	520	1354	1615	226	888	678	1805	1745	134	1805	1615	247
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.05	0.18	0.18	0.18	0.09	0.38	0.38	0.02	0.36	0.36
Crit Moves:		****		****			****				****	
Green/Cycle:	0.19	0.19	0.19	0.21	0.21	0.21	0.10	0.46	0.46	0.06	0.42	0.42
Volume/Cap:	0.88	0.88	0.25	0.88	0.88	0.88	0.88	0.83	0.83	0.35	0.88	0.88
Delay/Veh:	76.0	76.0	48.8	73.8	73.8	73.8	96.1	40.0	40.0	65.1	48.4	48.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	76.0	76.0	48.8	73.8	73.8	73.8	96.1	40.0	40.0	65.1	48.4	48.4
LOS by Move:	E	E	D	E	E	E	F	D	D	E	D	D
HCM2kAvgQ:	394	394	72	409	409	409	236	705	705	38	687	687

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #41: Childs Ave / Martin Luther King Wy



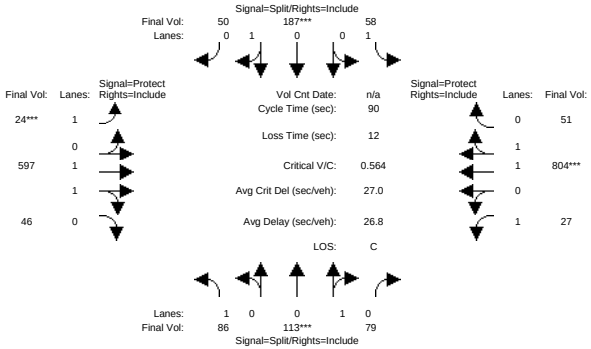
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	197	90	67	204	167	183	745	71	106	773	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	197	90	67	204	167	183	745	71	106	773	142
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	197	90	67	204	167	183	745	71	106	773	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	197	90	67	204	167	183	745	71	106	773	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	197	90	67	204	167	183	745	71	106	773	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	197	90	67	204	167	183	745	71	106	773	142
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.94	0.94	0.94	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.31	0.69	1.00	0.15	0.47	0.38	1.00	0.91	0.09	1.00	0.84	0.16
Final Sat.:	578	1294	1615	274	833	682	1805	1712	163	1805	1568	288
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.06	0.24	0.24	0.24	0.10	0.44	0.44	0.06	0.49	0.49
Crit Moves:		****		****			****				****	
Green/Cycle:	0.14	0.14	0.14	0.23	0.23	0.23	0.09	0.48	0.48	0.07	0.45	0.45
Volume/Cap:	1.08	1.08	0.40	1.08	1.08	1.08	1.08	0.90	0.90	0.90	1.08	1.08
Delay/Veh:	140.0	140	55.9	123.5	124	123.5	157.1	45.1	45.1	118.4	94.6	94.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	140.0	140	55.9	123.5	124	123.5	157.1	45.1	45.1	118.4	94.6	94.6
LOS by Move:	F	F	E	F	F	F	F	D	D	F	F	F
HCM2kAvgQ:	465	465	96	672	672	672	322	875	875	123	1213	1213

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #42: 13th St / Martin Luther King Wy

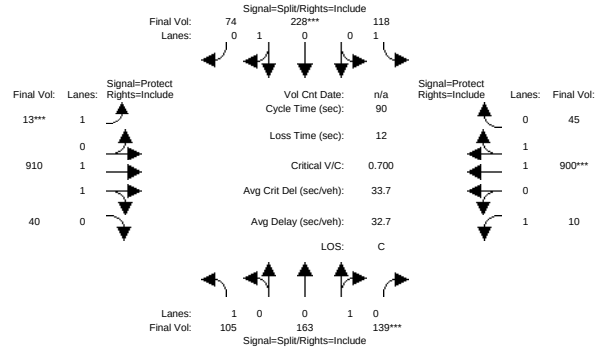



```
Street Name:           13th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10    10   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      86  113    79    58  187    50    24  597    46    27  804    51
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   86  113    79    58  187    50    24  597    46    27  804    51
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   86  113    79    58  187    50    24  597    46    27  804    51
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    86  113    79    58  187    50    24  597    46    27  804    51
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   86  113    79    58  187    50    24  597    46    27  804    51
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   86  113    79    58  187    50    24  597    46    27  804    51
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.94  0.94  0.95 0.97  0.97  0.95 0.94  0.94  0.95 0.94  0.94
Lanes:       1.00 0.59  0.41  1.00 0.79  0.21  1.00 1.86  0.14  1.00 1.88  0.12
Final Sat.:  1805 1049   733  1805 1451   388  1805 3315   255  1805 3364   213
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.11  0.11  0.03 0.13  0.13  0.01 0.18  0.18  0.01 0.24  0.24
Crit Moves:        ****            ****        ****                ****
Green/Cycle: 0.18 0.18  0.18  0.21 0.21  0.21  0.08 0.33  0.33  0.14 0.40  0.40
Volume/Cap:  0.27 0.60  0.60  0.15 0.60  0.60  0.17 0.54  0.54  0.10 0.60  0.60
Delay/Veh:   32.3 37.3  37.3  28.9 34.6  34.6  39.4 25.1  25.1  33.7 22.3  22.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  32.3 37.3  37.3  28.9 34.6  34.6  39.4 25.1  25.1  33.7 22.3  22.3
LOS by Move:    C    D     D     C    C     C     D    C     C     C    C     C
HCM2kAvgQ:     55  145   145    34  169   169    15  179   179    15  242   242
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #42: 13th St / Martin Luther King Wy

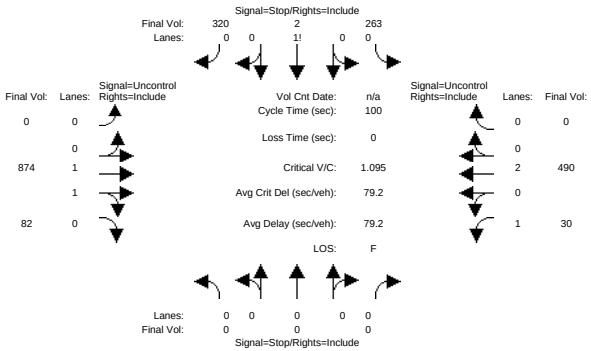



```
Street Name:           13th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10    10   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     105  163   139   118  228    74    13  910    40    10  900    45
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  105  163   139   118  228    74    13  910    40    10  900    45
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  105  163   139   118  228    74    13  910    40    10  900    45
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:  105  163   139   118  228    74    13  910    40    10  900    45
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  105  163   139   118  228    74    13  910    40    10  900    45
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume: 105  163   139   118  228    74    13  910    40    10  900    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.93  0.93  0.95 0.96  0.96  0.95 0.94  0.94  0.95 0.94  0.94
Lanes:       1.00 0.54  0.46  1.00 0.75  0.25  1.00 1.92  0.08  1.00 1.90  0.10
Final Sat.:  1805  955   814  1805 1381   448  1805 3437   151  1805 3414   171
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.17  0.17  0.07 0.17  0.17  0.01 0.26  0.26  0.01 0.26  0.26
Crit Moves:        ****        ****        ****                ****
Green/Cycle: 0.22 0.22  0.22  0.22 0.22  0.22  0.08 0.33  0.33  0.10 0.35  0.35
Volume/Cap:  0.26 0.76  0.76  0.30 0.76  0.76  0.09 0.81  0.81  0.06 0.76  0.76
Delay/Veh:   29.1 40.9  40.9  29.9 41.3  41.3  38.8 31.8  31.8  37.1 28.8  28.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  29.1 40.9  40.9  29.9 41.3  41.3  38.8 31.8  31.8  37.1 28.8  28.8
LOS by Move:    C    D     D     C    D     D     D    C     C     D    C     C
HCM2kAvgQ:     63  241   241    72  242   242     8  302   302     6  304   304
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   263    2   320     0  874    82    30  490     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   263    2   320     0  874    82    30  490     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   263    2   320     0  874    82    30  490     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   263    2   320     0  874    82    30  490     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   263    2   320     0  874    82    30  490     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   987 1506   245  xxxx xxxx xxxxx   956 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   248  122   762  xxxx xxxx xxxxx   727 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   240  117   762  xxxx xxxx xxxxx   727 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.10 0.02  0.42  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  382 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 32.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  279 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            278.6           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   263    2   320     0  874    82    30  490     0
ApproachDel:    xxxxxx            278.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=45.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=585]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2061]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

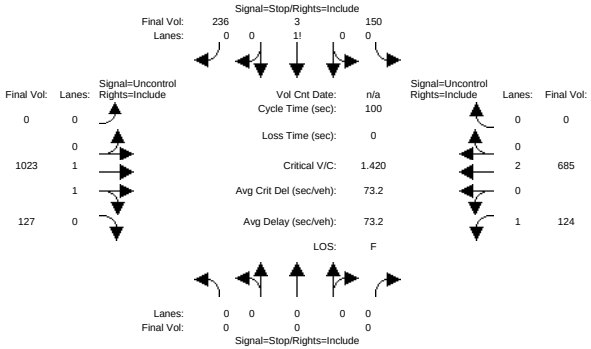
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   263    2   320     0  874    82    30  490     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1476
Minor Approach Volume:           585
Minor Approach Volume Threshold: 151
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   150    3   236     0 1023   127   124  685     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   150    3   236     0 1023   127   124  685     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   150    3   236     0 1023   127   124  685     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   150    3   236     0 1023   127   124  685     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   150    3   236     0 1023   127   124  685     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1445 2083   343  xxxx xxxx xxxxx  1150 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   125   54   659  xxxx xxxx xxxxx   615 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   106   43   659  xxxx xxxx xxxxx   615 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.42 0.07  0.36  xxxx xxxx  xxxx  0.20 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  18.7 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  12.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  211 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 27.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  438 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            437.7            xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   150    3   236     0 1023   127   124  685     0
ApproachDel:    xxxxxx            437.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=47.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=389]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2348]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

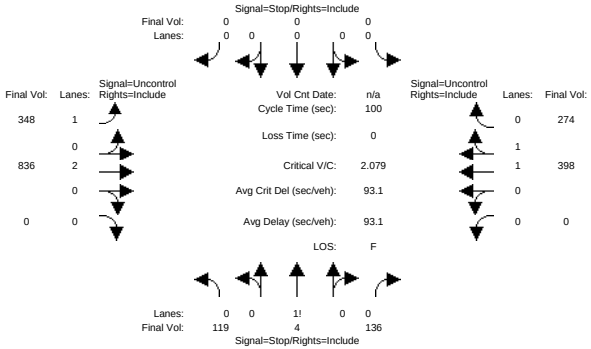
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   150    3   236     0 1023   127   124  685     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1959
Minor Approach Volume:           389
Minor Approach Volume Threshold: 53 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119    4   136     0    0     0   348  836     0     0  398   274
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  119    4   136     0    0     0   348  836     0     0  398   274
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  119    4   136     0    0     0   348  836     0     0  398   274
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   119    4   136     0    0     0   348  836     0     0  398   274
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  119    4   136     0    0     0   348  836     0     0  398   274
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1731 2204   418  xxxx xxxx xxxxx   672 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   81   45   589  xxxx xxxx xxxxx   928 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     57   28   589  xxxx xxxx xxxxx   928 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  2.08 0.14  0.23  xxxx xxxx  xxxx  0.37 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  43.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  106 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 23.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  745 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     745.4           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:  119    4   136     0    0     0   348  836     0     0  398   274
ApproachDel:     745.4           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=53.6]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=259]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2115]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

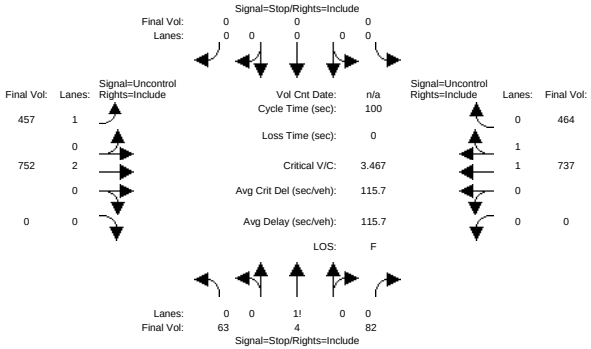
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:  119    4   136     0    0     0   348  836     0     0  398   274
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1856
Minor Approach Volume:           259
Minor Approach Volume Threshold: 72 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63    4    82     0    0     0   457  752     0     0  737   464
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   63    4    82     0    0     0   457  752     0     0  737   464
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   63    4    82     0    0     0   457  752     0     0  737   464
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    63    4    82     0    0     0   457  752     0     0  737   464
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   63    4    82     0    0     0   457  752     0     0  737   464
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2035 2867   376  xxxx xxxx xxxxx  1201 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   51   17   627  xxxx xxxx xxxxx   588 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     18    4   627  xxxx xxxx xxxxx   588 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  3.47 1.06  0.13  xxxx xxxx  xxxx  0.78 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   181 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  29.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     D    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   32 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 17.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 1897 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:    1896.9           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   63    4    82     0    0     0   457  752     0     0  737   464
ApproachDel:    1896.9           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=78.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=149]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2559]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

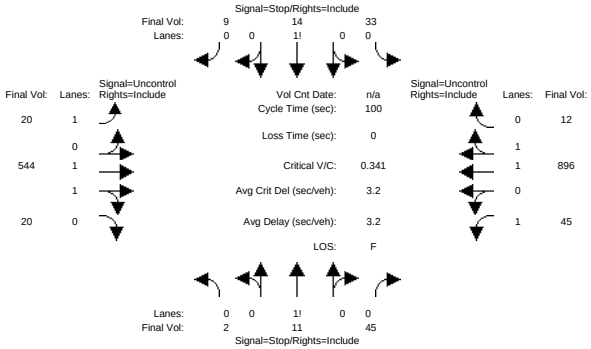
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   63    4    82     0    0     0   457  752     0     0  737   464
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2410
Minor Approach Volume:           149
Minor Approach Volume Threshold: -18 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   11    45    33   14     9    20  544    20    45  896    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   11    45    33   14     9    20  544    20    45  896    12
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   11    45    33   14     9    20  544    20    45  896    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2   11    45    33   14     9    20  544    20    45  896    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2   11    45    33   14     9    20  544    20    45  896    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1139 1592   282  1310 1596   454   908 xxxx xxxxx   564 xxxx xxxxx
Potent Cap.:  159  108   721   119  108   559   758 xxxx xxxxx  1018 xxxx xxxxx
Move Cap.:    132  101   721    97  100   559   758 xxxx xxxxx  1018 xxxx xxxxx
Volume/Cap:  0.02 0.11  0.06  0.34 0.14  0.02  0.03 xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.0 xxxx xxxxx   3.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.9 xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  311 xxxxx  xxxx  113 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.7 xxxxx xxxxx  2.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 19.2 xxxxx xxxxx 65.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    F     *     *    *     *     *    *     *
ApproachDel:      19.2             65.0           xxxxxx           xxxxxx
ApproachLOS:         C                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2   11    45    33   14     9    20  544    20    45  896    12
ApproachDel:      19.2             65.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=58]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1651]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1651]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2   11    45    33   14     9    20  544    20    45  896    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1537
Minor Approach Volume:           58
Minor Approach Volume Threshold: 137
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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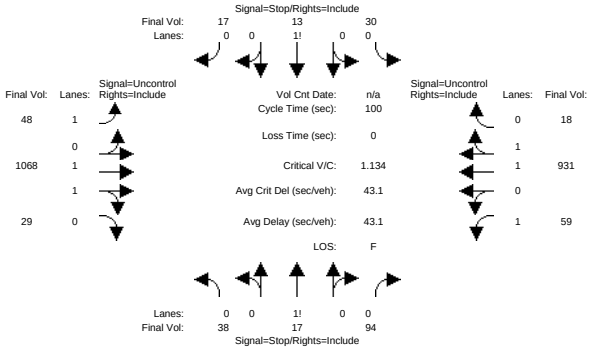
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      38   17    94    30   13    17    48 1068    29    59  931    18
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   38   17    94    30   13    17    48 1068    29    59  931    18
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   38   17    94    30   13    17    48 1068    29    59  931    18
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    38   17    94    30   13    17    48 1068    29    59  931    18
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   38   17    94    30   13    17    48 1068    29    59  931    18
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1769 2246   549  1697 2251   475   949 xxxx xxxxx  1097 xxxx xxxxx
Potent Cap.:   54   42   485    61   42   542   732 xxxx xxxxx   644 xxxx xxxxx
Move Cap.:     34   36   485    28   36   542   732 xxxx xxxxx   644 xxxx xxxxx
Volume/Cap:  1.13 0.47  0.19  1.08 0.36  0.03  0.07 xxxx  xxxx  0.09 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.3 xxxx xxxxx   7.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.3 xxxx xxxxx  11.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   83 xxxxx  xxxx   41 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 12.7 xxxxx xxxxx  6.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  488 xxxxx xxxxx  464 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     *    *     *     *    *     *
ApproachDel:     488.3            464.4           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   38   17    94    30   13    17    48 1068    29    59  931    18
ApproachDel:     488.3            464.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=20.2]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=149]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2362]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=7.7]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=60]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2362]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

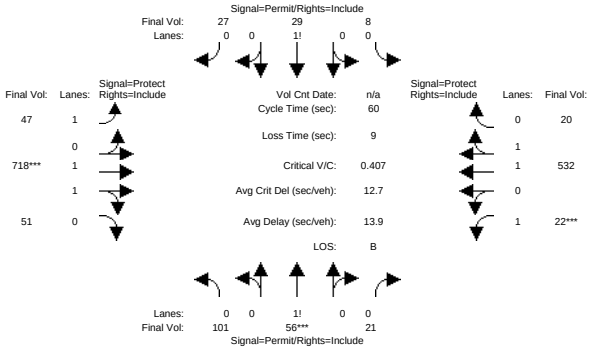
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   38   17    94    30   13    17    48 1068    29    59  931    18
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2153
Minor Approach Volume:           149
Minor Approach Volume Threshold: 21 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #46: 15th St / Martin Luther King Wy



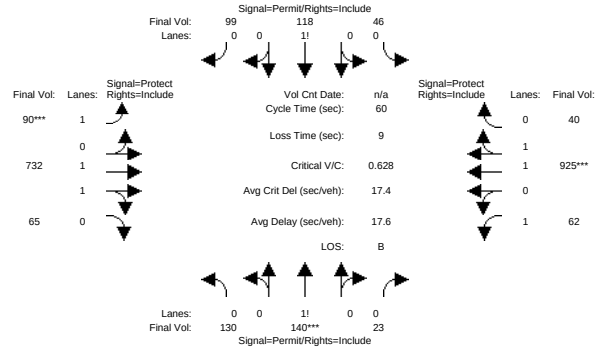
Street Name:	15th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	101		56		21	8		29		27	47		718		51	22		532		20
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	101		56		21	8		29		27	47		718		51	22		532		20
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	101		56		21	8		29		27	47		718		51	22		532		20
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	101		56		21	8		29		27	47		718		51	22		532		20
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	101		56		21	8		29		27	47		718		51	22		532		20
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	101		56		21	8		29		27	47		718		51	22		532		20
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.79		0.79		0.79	0.91		0.91		0.91	0.95		0.94		0.94	0.95		0.95		0.95
Lanes:	0.57		0.31		0.12	0.13		0.45		0.42	1.00		1.87		0.13	1.00		1.93		0.07
Final Sat.:	850		471		177	216		783		729	1805		3337		237	1805		3462		130
Capacity Analysis Module:																				
Vol/Sat:	0.12		0.12		0.12	0.04		0.04		0.04	0.03		0.22		0.22	0.01		0.15		0.15
Crit Moves:			****										****			****				
Green/Cycle:	0.26		0.26		0.26	0.26		0.26		0.26	0.24		0.47		0.47	0.12		0.35		0.35
Volume/Cap:	0.46		0.46		0.46	0.14		0.14		0.14	0.11		0.46		0.46	0.10		0.44		0.44
Delay/Veh:	19.4		19.4		19.4	17.2		17.2		17.2	17.8		10.8		10.8	23.9		15.4		15.4
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	19.4		19.4		19.4	17.2		17.2		17.2	17.8		10.8		10.8	23.9		15.4		15.4
LOS by Move:	B		B		B	B		B		B	B		B		B	C		B		B
HCM2kAvgQ:	83		83		83	25		25		25	16		122		122	9		99		99

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #46: 15th St / Martin Luther King Wy



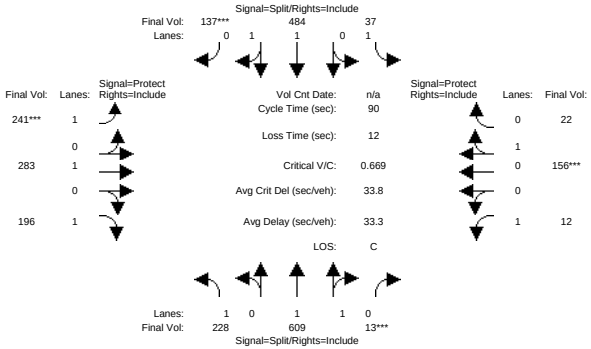
Street Name:	15th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	130		140		23	46		118		99	90		732		65	62		925		40
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	130		140		23	46		118		99	90		732		65	62		925		40
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	130		140		23	46		118		99	90		732		65	62		925		40
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	130		140		23	46		118		99	90		732		65	62		925		40
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	130		140		23	46		118		99	90		732		65	62		925		40
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	130		140		23	46		118		99	90		732		65	62		925		40
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.72		0.72		0.72	0.87		0.87		0.87	0.95		0.94		0.94	0.95		0.94		0.94
Lanes:	0.44		0.48		0.08	0.17		0.45		0.38	1.00		1.84		0.16	1.00		1.92		0.08
Final Sat.:	604		651		107	290		744		624	1805		3276		291	1805		3440		149
Capacity Analysis Module:																				
Vol/Sat:	0.22		0.22		0.22	0.16		0.16		0.16	0.05		0.22		0.22	0.03		0.27		0.27
Crit Moves:			****										****					****		
Green/Cycle:	0.33		0.33		0.33	0.33		0.33		0.33	0.12		0.34		0.34	0.18		0.41		0.41
Volume/Cap:	0.66		0.66		0.66	0.49		0.49		0.49	0.43		0.65		0.65	0.19		0.66		0.66
Delay/Veh:	21.0		21.0		21.0	16.9		16.9		16.9	26.0		17.8		17.8	21.2		15.5		15.5
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	21.0		21.0		21.0	16.9		16.9		16.9	26.0		17.8		17.8	21.2		15.5		15.5
LOS by Move:	C		C		C	B		B		B	C		B		B	C		B		B
HCM2kAvgQ:	149		149		149	111		111		111	37		157		157	22		174		174

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #47: 16th St / Martin Luther King Wy

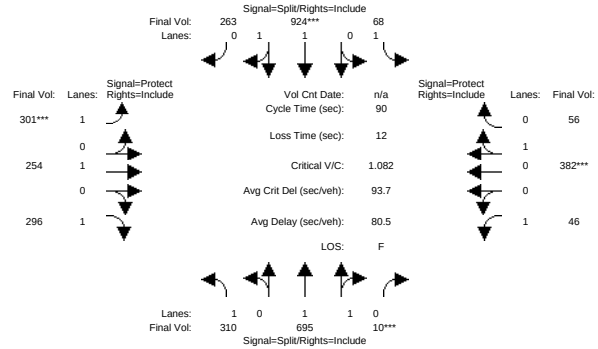



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     228  609    13   37  484   137  241  283   196   12  156    22
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  228  609    13   37  484   137  241  283   196   12  156    22
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  228  609    13   37  484   137  241  283   196   12  156    22
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   228  609    13   37  484   137  241  283   196   12  156    22
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  228  609    13   37  484   137  241  283   196   12  156    22
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  228  609    13   37  484   137  241  283   196   12  156    22
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.92  0.92 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.96  0.04 1.00 1.56  0.44 1.00 1.00  1.00 1.00 0.88  0.12
Final Sat.:  1805 3524    75 1805 2721   770 1805 1900  1615 1805 1634   230
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.17  0.17 0.02 0.18  0.18 0.13 0.15  0.12 0.01 0.10  0.10
Crit Moves:             ****            ****  ****                 ****
Green/Cycle: 0.26 0.26  0.26 0.27 0.27  0.27 0.20 0.22  0.22 0.12 0.14  0.14
Volume/Cap:  0.49 0.67  0.67 0.08 0.67  0.67 0.67 0.66  0.54 0.06 0.67  0.67
Delay/Veh:   29.1 31.8  31.8 24.8 31.4  31.4 38.1 35.6  32.4 35.4 43.0  43.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  29.1 31.8  31.8 24.8 31.4  31.4 38.1 35.6  32.4 35.4 43.0  43.0
LOS by Move:    C    C     C    C    C     C    D    D     C    D    D     D
HCM2kAvgQ:    144  230   230   18  200   200  155  178   118    7  120   120
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #47: 16th St / Martin Luther King Wy

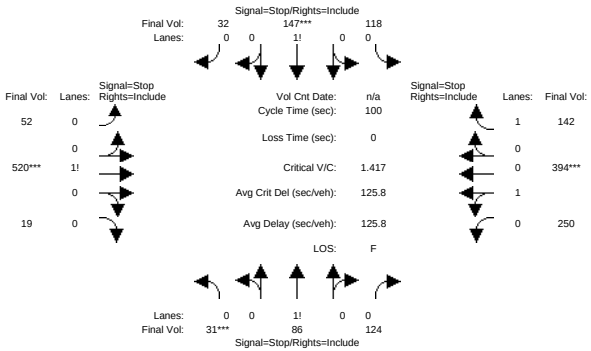



```
Street Name:            16th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     310  695    10   68  924   263  301  254   296   46  382    56
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  310  695    10   68  924   263  301  254   296   46  382    56
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  310  695    10   68  924   263  301  254   296   46  382    56
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   310  695    10   68  924   263  301  254   296   46  382    56
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  310  695    10   68  924   263  301  254   296   46  382    56
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  310  695    10   68  924   263  301  254   296   46  382    56
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.95  0.95 0.95 0.92  0.92 0.95 1.00  0.85 0.95 0.98  0.98
Lanes:       1.00 1.97  0.03 1.00 1.56  0.44 1.00 1.00  1.00 1.00 0.87  0.13
Final Sat.:  1805 3552    51 1805 2717   773 1805 1900  1615 1805 1626   238
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.20  0.20 0.04 0.34  0.34 0.17 0.13  0.18 0.03 0.23  0.23
Crit Moves:             ****       ****        ****                 ****
Green/Cycle: 0.18 0.18  0.18 0.31 0.31  0.31 0.15 0.26  0.26 0.11 0.22  0.22
Volume/Cap:  0.95 1.08  1.08 0.12 1.08  1.08 1.08 0.51  0.70 0.23 1.08  1.08
Delay/Veh:   73.0 96.3  96.3 22.1 82.9  82.9 115.5 29.3  35.4 37.1  104 103.6
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  73.0 96.3  96.3 22.1 82.9  82.9 115.5 29.3  35.4 37.1  104 103.6
LOS by Move:    E    F     F    C    F     F    F    C     D    D    F     F
HCM2kAvgQ:    324  451   451   31  608   608  305  144   184   28  452   452
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #48: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      31    86   124   118   147    32    52   520    19   250   394   142
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   31    86   124   118   147    32    52   520    19   250   394   142
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   31    86   124   118   147    32    52   520    19   250   394   142
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    31    86   124   118   147    32    52   520    19   250   394   142
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   31    86   124   118   147    32    52   520    19   250   394   142
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   31    86   124   118   147    32    52   520    19   250   394   142
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.13  0.36  0.51  0.40  0.49  0.11  0.09  0.88  0.03  0.39  0.61  1.00
Final Sat.:    56   155   224   174   217    47    43   426    16   176   278   512
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.55  0.55  0.55  0.68  0.68  0.68  1.22  1.22  1.22  1.42  1.42  0.28
Crit Moves:  ****                  ****                ****                ****
Delay/Veh:   20.2  20.2  20.2  25.9  25.9  25.9 141.3   141 141.3 222.2   222  12.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  20.2  20.2  20.2  25.9  25.9  25.9 141.3   141 141.3 222.2   222  12.4
LOS by Move:    C     C     C     D     D     D     F     F     F     F     F     B
ApproachDel:      20.2              25.9             141.3             184.3
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       20.2              25.9             141.3             184.3
LOS by Appr:         C                 D                 F                 F
AllWayAvgQ:  27.6  27.6  27.6  45.1  45.1  45.1   440   440 439.7   668   668   9.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #48 13th St / G St
*******************************************************************************
```



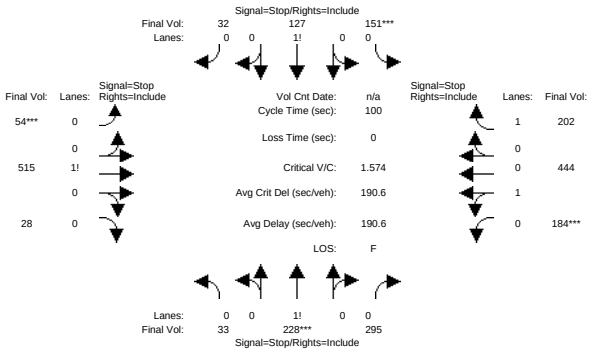
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   31   86   124   118  147    32    52  520    19   250  394   142
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1377
Minor Approach Volume:           297
Minor Approach Volume Threshold: 175
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #48: 13th St / G St



Street Name:	13th Street									G Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:																
Base Vol:	33	228	295	151	127	32	54	515	28	184	444	202				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	33	228	295	151	127	32	54	515	28	184	444	202				
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	33	228	295	151	127	32	54	515	28	184	444	202				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	33	228	295	151	127	32	54	515	28	184	444	202				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	33	228	295	151	127	32	54	515	28	184	444	202				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	33	228	295	151	127	32	54	515	28	184	444	202				
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.06	0.41	0.53	0.49	0.41	0.10	0.09	0.86	0.05	0.29	0.71	1.00				
Final Sat.:	26	177	229	191	161	41	37	356	19	117	282	440				
Capacity Analysis Module:																
Vol/Sat:	1.29	1.29	1.29	0.79	0.79	0.79	1.45	1.45	1.45	1.57	1.57	0.46				
Crit Moves:		****		****			****			****						
Delay/Veh:	170.9	171	170.9	38.8	38.8	38.8	238.5	238	238.5	293.0	293	17.6				
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	170.9	171	170.9	38.8	38.8	38.8	238.5	238	238.5	293.0	293	17.6				
LOS by Move:	F	F	F	E	E	E	F	F	F	F	F	C				
ApproachDel:	170.9			38.8			238.5			226.0						
Delay Adj:	1.00			1.00			1.00			1.00						
ApprAdjDel:	170.9			38.8			238.5			226.0						
LOS by Appr:	F			E			F			F						
AllWayAvgQ:	479	479	478.7	72.8	72.8	72.8	649	649	649.2	779	779	20.6				

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #48 13th St / G St

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0	0	1	0	0 1
Initial Vol:	33	228		295	151	127		32	54	515		28	184	444		202

Major Street Volume: 1427
Minor Approach Volume: 556
Minor Approach Volume Threshold: 162

SIGNAL WARRANT DISCLAIMER

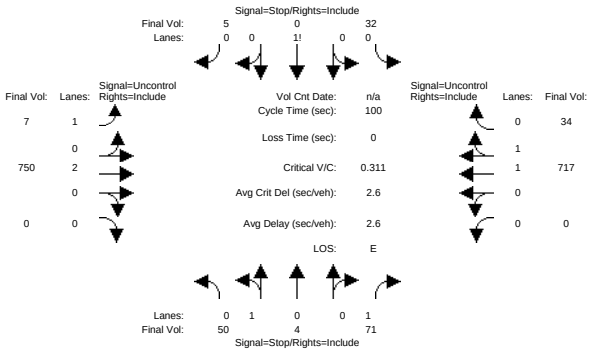
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #49: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      50    4    71    32    0     5     7  750     0     0  717    34
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   50    4    71    32    0     5     7  750     0     0  717    34
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   50    4    71    32    0     5     7  750     0     0  717    34
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    50    4    71    32    0     5     7  750     0     0  717    34
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   50    4    71    32    0     5     7  750     0     0  717    34
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1123 1515   375  1125 1498   376   751 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  163  121   628   162  124   628   868 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    161  120   628   139  123   628   868 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.31 0.03  0.11  0.23 0.00  0.01  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   9.5  xxxx xxxx xxxxx   0.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  11.5 xxxxx xxxx xxxxx   9.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  157 xxxx xxxxx  xxxx  156 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  1.4 xxxx xxxxx xxxxx  0.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 39.6 xxxx xxxxx xxxxx 35.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     E    *     *     *    E     *     *    *     *     *    *     *
ApproachDel:      23.6             35.1           xxxxxx           xxxxxx
ApproachLOS:         C               E                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   50    4    71    32    0     5     7  750     0     0  717    34
ApproachDel:      23.6             35.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=125]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1670]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=37]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1670]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

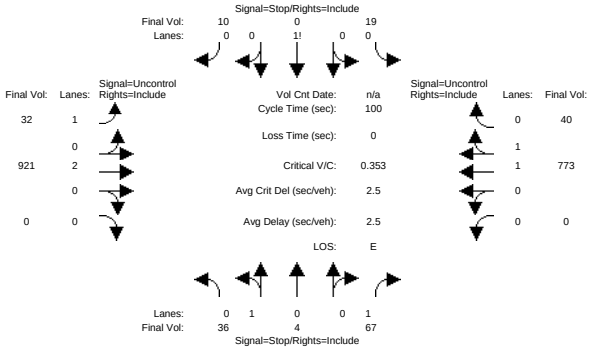
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   50    4    71    32    0     5     7  750     0     0  717    34
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1508
Minor Approach Volume:           125
Minor Approach Volume Threshold: 197
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #49: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36    4    67    19    0    10    32  921     0     0  773    40
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36    4    67    19    0    10    32  921     0     0  773    40
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   36    4    67    19    0    10    32  921     0     0  773    40
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    36    4    67    19    0    10    32  921     0     0  773    40
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   36    4    67    19    0    10    32  921     0     0  773    40
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1372 1798   461  1320 1778   407   813 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  107   81   553   117   83   600   823 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    102   78   553    96   80   600   823 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.35 0.05  0.12  0.20 0.00  0.02  0.04 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  10.3  xxxx xxxx xxxxx   3.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  12.4 xxxxx xxxx xxxxx   9.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:   99 xxxx xxxxx  xxxx  135 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  1.7 xxxx xxxxx xxxxx  0.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 64.1 xxxx xxxxx xxxxx 38.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     F    *     *     *    E     *     *    *     *     *    *     *
ApproachDel:      31.7             38.9           xxxxxx           xxxxxx
ApproachLOS:         D                E                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
******************************************************************************
Intersection #49 SR-99 - 14th St / G St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   36    4    67    19    0    10    32  921     0     0  773    40
ApproachDel:      31.7             38.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=107]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1902]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=29]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1902]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

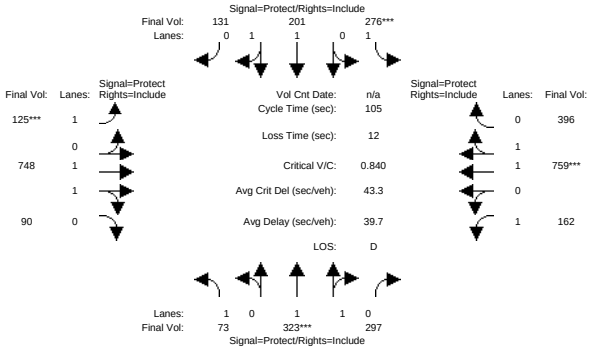
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
******************************************************************************
Intersection #49 SR-99 - 14th St / G St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   36    4    67    19    0    10    32  921     0     0  773    40
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1766
Minor Approach Volume:           107
Minor Approach Volume Threshold: 130 [less than minimum of 150]
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #50: 16th St / G Street



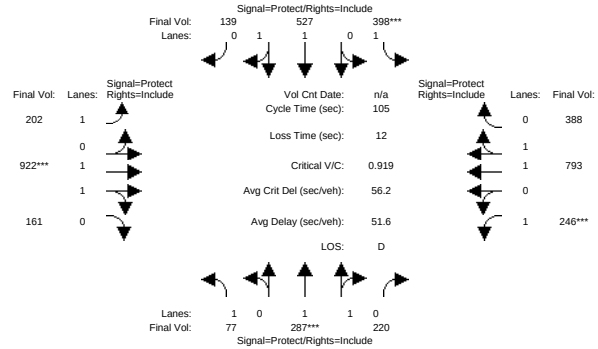
Street Name:	16th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	73	323	297	276	201	131	125	748	90	162	759	396
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	323	297	276	201	131	125	748	90	162	759	396
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	323	297	276	201	131	125	748	90	162	759	396
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	323	297	276	201	131	125	748	90	162	759	396
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	323	297	276	201	131	125	748	90	162	759	396
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	323	297	276	201	131	125	748	90	162	759	396
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	0.89	0.89	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.04	0.96	1.00	1.21	0.79	1.00	1.79	0.21	1.00	1.31	0.69
Final Sat.:	1805	1745	1605	1805	2057	1340	1805	3171	382	1805	2251	1175
Capacity Analysis Module:												
Vol/Sat:	0.04	0.19	0.19	0.15	0.10	0.10	0.07	0.24	0.24	0.09	0.34	0.34
Crit Moves:		****		****			****				****	
Green/Cycle:	0.16	0.22	0.22	0.18	0.24	0.24	0.08	0.35	0.35	0.13	0.40	0.40
Volume/Cap:	0.25	0.84	0.84	0.84	0.41	0.41	0.84	0.67	0.67	0.67	0.84	0.84
Delay/Veh:	38.8	47.7	47.7	58.8	34.0	34.0	80.1	30.5	30.5	50.6	33.2	33.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.8	47.7	47.7	58.8	34.0	34.0	80.1	30.5	30.5	50.6	33.2	33.2
LOS by Move:	D	D	D	E	C	C	F	C	C	D	C	C
HCM2kAvgQ:	55	318	318	281	124	124	158	322	322	156	503	503

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #50: 16th St / G Street



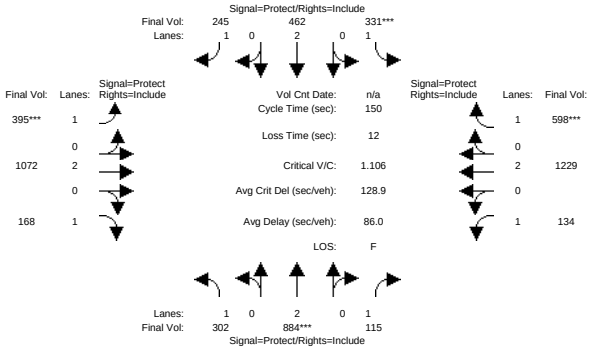
Street Name:	16th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	77	287	220	398	527	139	202	922	161	246	793	388
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	77	287	220	398	527	139	202	922	161	246	793	388
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	77	287	220	398	527	139	202	922	161	246	793	388
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	77	287	220	398	527	139	202	922	161	246	793	388
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	287	220	398	527	139	202	922	161	246	793	388
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	77	287	220	398	527	139	202	922	161	246	793	388
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.13	0.87	1.00	1.58	0.42	1.00	1.70	0.30	1.00	1.34	0.66
Final Sat.:	1805	1911	1465	1805	2768	730	1805	3006	525	1805	2305	1128
Capacity Analysis Module:												
Vol/Sat:	0.04	0.15	0.15	0.22	0.19	0.19	0.11	0.31	0.31	0.14	0.34	0.34
Crit Moves:		****		****				****		****		
Green/Cycle:	0.10	0.16	0.16	0.24	0.30	0.30	0.12	0.33	0.33	0.15	0.36	0.36
Volume/Cap:	0.41	0.92	0.92	0.92	0.64	0.64	0.95	0.92	0.92	0.92	0.95	0.95
Delay/Veh:	45.4	63.8	63.8	63.4	33.2	33.2	92.2	45.0	45.0	78.3	46.8	46.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.4	63.8	63.8	63.4	33.2	33.2	92.2	45.0	45.0	78.3	46.8	46.8
LOS by Move:	D	E	E	E	C	C	F	D	D	E	D	D
HCM2kAvgQ:	69	304	304	413	263	263	255	546	546	286	611	611

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #51: Olive Ave / G St



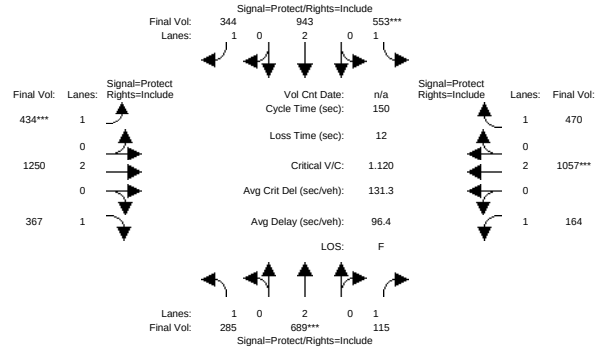
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	302	884	115	331	462	245	395	1072	168	134	1229	598
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	302	884	115	331	462	245	395	1072	168	134	1229	598
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	302	884	115	331	462	245	395	1072	168	134	1229	598
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	302	884	115	331	462	245	395	1072	168	134	1229	598
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	302	884	115	331	462	245	395	1072	168	134	1229	598
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	302	884	115	331	462	245	395	1072	168	134	1229	598
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.17	0.24	0.07	0.18	0.13	0.15	0.22	0.30	0.10	0.07	0.34	0.37
Crit Moves:		****		****			****					****
Green/Cycle:	0.20	0.22	0.22	0.17	0.18	0.18	0.20	0.43	0.43	0.11	0.33	0.33
Volume/Cap:	0.82	1.11	0.32	1.11	0.69	0.82	1.11	0.70	0.24	0.70	1.02	1.11
Delay/Veh:	71.2	123	49.5	146.0	60.5	75.6	139.4	36.5	27.7	75.3	80.0	120.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	71.2	123	49.5	146.0	60.5	75.6	139.4	36.5	27.7	75.3	80.0	120.9
LOS by Move:	E	F	D	F	E	E	F	D	C	E	F	F
HCM2kAvgQ:	384	757	112	454	240	250	656	533	120	181	916	946

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #51: Olive Ave / G St



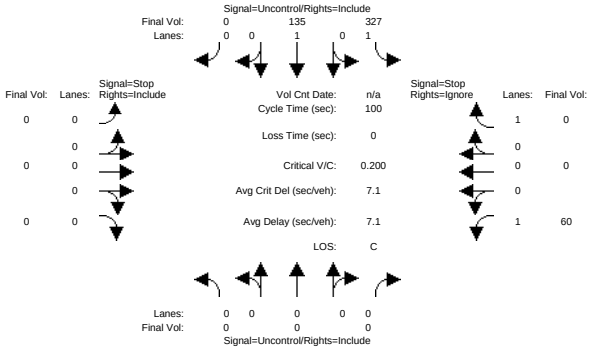
Street Name:	Olive Avenue						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	285	689	115	553	943	344	434	1250	367	164	1057	470
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	285	689	115	553	943	344	434	1250	367	164	1057	470
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	285	689	115	553	943	344	434	1250	367	164	1057	470
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	285	689	115	553	943	344	434	1250	367	164	1057	470
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	285	689	115	553	943	344	434	1250	367	164	1057	470
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	285	689	115	553	943	344	434	1250	367	164	1057	470
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.16	0.19	0.07	0.31	0.26	0.21	0.24	0.35	0.23	0.09	0.29	0.29
Crit Moves:		****		****			****					****
Green/Cycle:	0.17	0.17	0.17	0.27	0.28	0.28	0.21	0.38	0.38	0.10	0.26	0.26
Volume/Cap:	0.94	1.12	0.42	1.12	0.94	0.77	1.12	0.92	0.60	0.92	1.12	1.11
Delay/Veh:	98.8	136	56.6	132.2	69.8	57.8	141.3	54.6	39.4	111.5	124	133.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	98.8	136	56.6	132.2	69.8	57.8	141.3	54.6	39.4	111.5	124	133.7
LOS by Move:	F	F	E	F	E	E	F	D	D	F	F	F
HCM2kAvgQ:	419	617	124	773	526	334	723	806	344	262	901	770

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #52: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   327  135     0     0    0     0    60    0   979
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   327  135     0     0    0     0    60    0   979
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   327  135     0     0    0     0    60    0   979
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   327  135     0     0    0     0    60    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   327  135     0     0    0     0    60    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   789 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   362 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   307 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.20 xxxx  xxxx  xxxx xxxx  xxxx  0.20 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  18.6 xxxx xxxxx  xxxx xxxx xxxxx  17.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.7 xxxx xxxxx xxxxx xxxx xxxxx  19.6 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             19.6
ApproachLOS:         *                *                *                C
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   327  135     0     0    0     0    60    0   979
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             19.6
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1039]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=1501]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

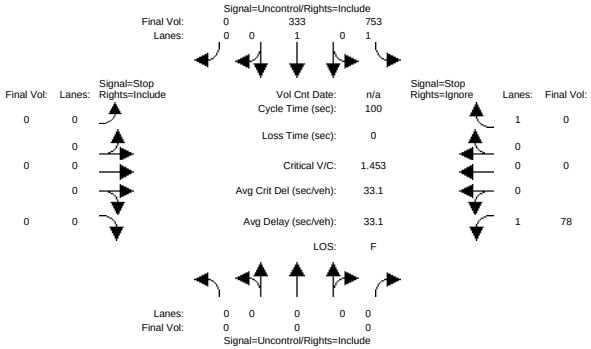
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   327  135     0     0    0     0    60    0   979
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             462
Minor Approach Volume:           1039
Minor Approach Volume Threshold: 706
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #52: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   753  333     0     0    0     0    78    0   564
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   753  333     0     0    0     0    78    0   564
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   753  333     0     0    0     0    78    0   564
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   753  333     0     0    0     0    78    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   753  333     0     0    0     0    78    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx  1839 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx    84 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx    54 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.46 xxxx  xxxx  xxxx xxxx  xxxx  1.45 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  62.5 xxxx xxxxx  xxxx xxxx xxxxx   178 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   9.1 xxxx xxxxx xxxxx xxxx xxxxx 406.8 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     F    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           406.8
ApproachLOS:         *                *                *                F
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   753  333     0     0    0     0    78    0   564
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             406.8
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=72.5]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=642]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=1728]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

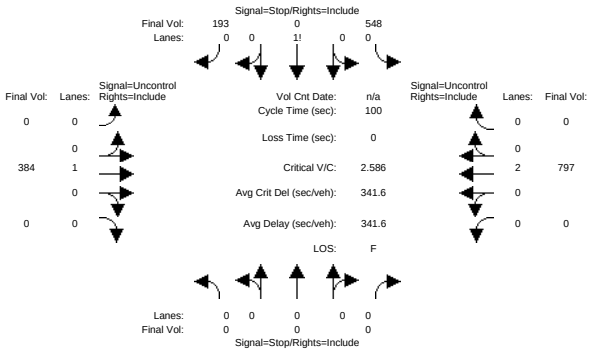
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   753  333     0     0    0     0    78    0   564
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1086
Minor Approach Volume:           642
Minor Approach Volume Threshold: 339
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #53: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   548    0   193     0  384     0     0  797     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   548    0   193     0  384     0     0  797     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   548    0   193     0  384     0     0  797     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   548    0   193     0  384     0     0  797     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   548    0   193     0  384     0     0  797     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1181 1181   399  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   212  192   656  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   212  192   656  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  2.59 0.00  0.29  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  257 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 64.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  886 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            886.1           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0   193     0  384     0     0  797     0
ApproachDel:    xxxxxx            886.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=182.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=741]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1922]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0   193     0  384     0     0  797     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1181
Minor Approach Volume:           741
Minor Approach Volume Threshold: 228
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
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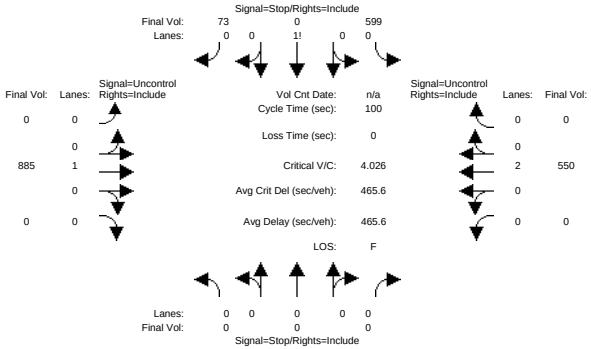
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #53: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   599    0    73     0  885     0     0  550     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   599    0    73     0  885     0     0  550     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   599    0    73     0  885     0     0  550     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   599    0    73     0  885     0     0  550     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   599    0    73     0  885     0     0  550     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1435 1435   275  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   149  135   769  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   149  135   769  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  4.03 0.00  0.09  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  163 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 67.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 1460 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           1460.0           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    73     0  885     0     0  550     0
ApproachDel:    xxxxxx           1460.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=272.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=672]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2107]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

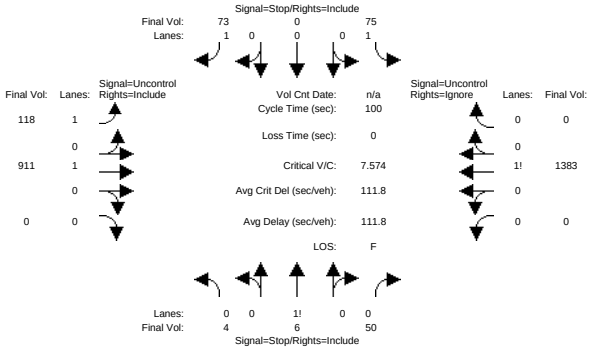
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    73     0  885     0     0  550     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1435
Minor Approach Volume:           672
Minor Approach Volume Threshold: 160
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    6    50    75    0    73   118  911     0     0 1383   340
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4    6    50    75    0    73   118  911     0     0 1383   340
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4    6    50    75    0    73   118  911     0     0 1383   340
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     4    6    50    75    0    73   118  911     0     0 1383     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4    6    50    75    0    73   118  911     0     0 1383     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2567 2530   911  2558 xxxx  1383  1383 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   18   28   335    18 xxxx   178   502 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:      9   21   335    10 xxxx   178   502 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.47 0.28  0.15  7.57 xxxx  0.41  0.24 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   269 xxxx  45.8  22.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  3699 xxxx  38.7  14.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     E     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   67 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  4.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  185 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     185.2           1893.5           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    4    6    50    75    0    73   118  911     0     0 1383   340
ApproachDel:     185.2           1893.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=60]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2960]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=77.8]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=148]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2960]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

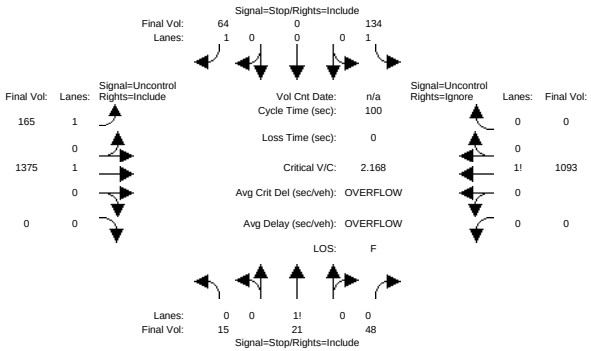
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    4    6    50    75    0    73   118  911     0     0 1383   340
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2752
Minor Approach Volume:           148
Minor Approach Volume Threshold: -61 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   21    48   134    0    64   165 1375     0     0 1093   302
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15   21    48   134    0    64   165 1375     0     0 1093   302
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   15   21    48   134    0    64   165 1375     0     0 1093   302
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:    15   21    48   134    0    64   165 1375     0     0 1093     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   15   21    48   134    0    64   165 1375     0     0 1093     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2830 2798  1375  2833 xxxx  1093  1093 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   11   19   180    11 xxxx   263   646 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:      7   14   180     0 xxxx   263   646 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  2.17 1.51  0.27  xxxx xxxx  0.24  0.26 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx  23.3  25.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  23.0  12.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     C     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   21 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 10.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 1694 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:    1694.2             +Inf            xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:   15   21    48   134    0    64   165 1375     0     0 1093   302
ApproachDel:    1694.2             +Inf            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=39.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=84]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3217]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=198]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3217]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

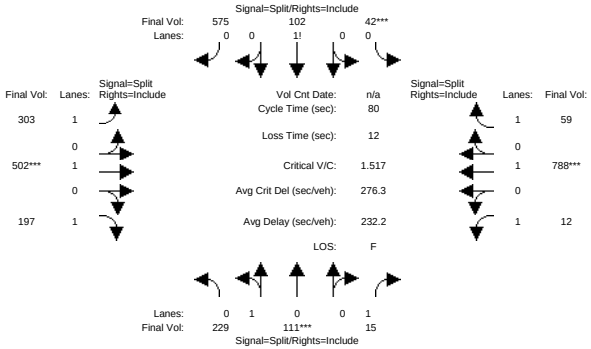
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:   15   21    48   134    0    64   165 1375     0     0 1093   302
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2935
Minor Approach Volume:           198
Minor Approach Volume Threshold: -89 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)



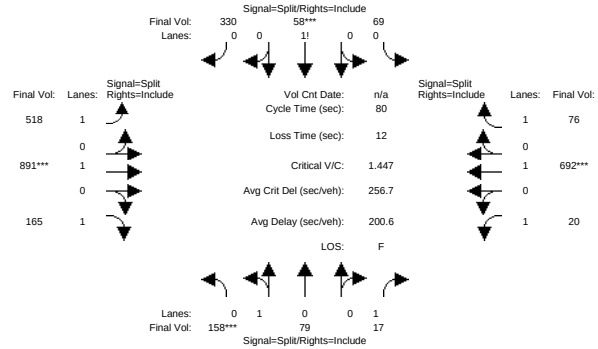
Street Name:	Motel Drive - Glen Avenue						Yosemite Parkway (SR-140)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	229	111	15	42	102	575	303	502	197	12	788	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	229	111	15	42	102	575	303	502	197	12	788	59
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	229	111	15	42	102	575	303	502	197	12	788	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	229	111	15	42	102	575	303	502	197	12	788	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	229	111	15	42	102	575	303	502	197	12	788	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	229	111	15	42	102	575	303	502	197	12	788	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.89	0.89	0.89	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	0.67	0.33	1.00	0.06	0.14	0.80	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1237	600	1615	99	240	1351	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.01	0.43	0.43	0.43	0.17	0.26	0.12	0.01	0.41	0.04
Crit Moves:		****		****				****			****	
Green/Cycle:	0.13	0.13	0.13	0.28	0.28	0.28	0.17	0.17	0.17	0.27	0.27	0.27
Volume/Cap:	1.48	1.48	0.07	1.52	1.52	1.52	0.97	1.52	0.70	0.02	1.52	0.13
Delay/Veh:	273.1	273	31.1	275.0	275	275.0	74.9	284	39.0	21.3	274	22.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	273.1	273	31.1	275.0	275	275.0	74.9	284	39.0	21.3	274	22.1
LOS by Move:	F	F	C	F	F	F	E	F	D	C	F	C
HCM2kAvgQ:	599	599	9	1238	1238	1238	306	883	153	6	1351	29

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)



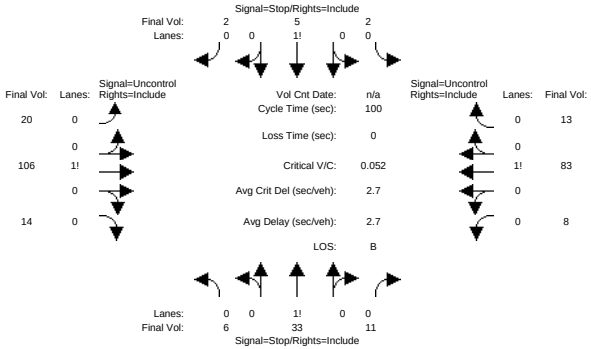
Street Name:	Motel Drive - Glen Avenue						Yosemite Parkway (SR-140)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	158	79	17	69	58	330	518	891	165	20	692	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	158	79	17	69	58	330	518	891	165	20	692	76
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	158	79	17	69	58	330	518	891	165	20	692	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	158	79	17	69	58	330	518	891	165	20	692	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	158	79	17	69	58	330	518	891	165	20	692	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	158	79	17	69	58	330	518	891	165	20	692	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.90	0.90	0.90	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	0.67	0.33	1.00	0.15	0.13	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1226	613	1615	257	216	1230	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.01	0.27	0.27	0.27	0.29	0.47	0.10	0.01	0.36	0.05
Crit Moves:	****				****			****			****	
Green/Cycle:	0.13	0.13	0.13	0.18	0.18	0.18	0.31	0.31	0.31	0.24	0.24	0.24
Volume/Cap:	1.03	1.03	0.08	1.52	1.52	1.52	0.93	1.52	0.33	0.05	1.52	0.20
Delay/Veh:	102.6	103	31.1	282.9	283	282.9	49.1	270	21.7	23.4	275	24.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	102.6	103	31.1	282.9	283	282.9	49.1	270	21.7	23.4	275	24.5
LOS by Move:	F	F	C	F	F	F	D	F	C	C	F	C
HCM2kAvgQ:	279	279	11	807	807	807	428	1515	83	10	1191	40

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   33    11     2    5     2    20  106    14     8   83    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   33    11     2    5     2    20  106    14     8   83    13
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6   33    11     2    5     2    20  106    14     8   83    13
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6   33    11     2    5     2    20  106    14     8   83    13
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6   33    11     2    5     2    20  106    14     8   83    13
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  262  265   113   281  266    90    96 xxxx xxxxx   120 xxxx xxxxx
Potent Cap.:  695  644   945   676  643   974  1510 xxxx xxxxx  1480 xxxx xxxxx
Move Cap.:    680  632   945   632  631   974  1510 xxxx xxxxx  1480 xxxx xxxxx
Volume/Cap:  0.01 0.05  0.01  0.00 0.01  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  688 xxxxx  xxxx  685 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.6 xxxxx xxxxx 10.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      10.6             10.3            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6   33    11     2    5     2    20  106    14     8   83    13
ApproachDel:      10.6             10.3            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=50]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=303]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=303]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

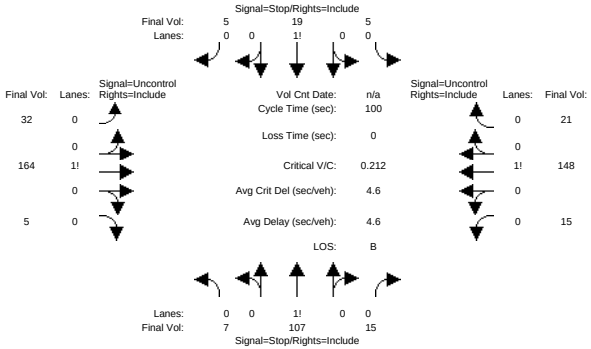
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6   33    11     2    5     2    20  106    14     8   83    13
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             244
Minor Approach Volume:           50
Minor Approach Volume Threshold: 596
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  107    15     5   19     5    32  164     5    15  148    21
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7  107    15     5   19     5    32  164     5    15  148    21
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7  107    15     5   19     5    32  164     5    15  148    21
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7  107    15     5   19     5    32  164     5    15  148    21
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7  107    15     5   19     5    32  164     5    15  148    21
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  431  430   167   480  422   159   169 xxxx xxxxx   169 xxxx xxxxx
Potent Cap.:  538  521   883   499  527   892  1421 xxxx xxxxx  1421 xxxx xxxxx
Move Cap.:    507  504   883   401  509   892  1421 xxxx xxxxx  1421 xxxx xxxxx
Volume/Cap:  0.01 0.21  0.02  0.01 0.04  0.01  0.02 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.7 xxxx xxxxx   0.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx   7.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  530 xxxxx  xxxx  523 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 14.0 xxxxx xxxxx 12.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      14.0             12.3            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  107    15     5   19     5    32  164     5    15  148    21
ApproachDel:      14.0             12.3            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=129]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=543]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=29]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=543]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

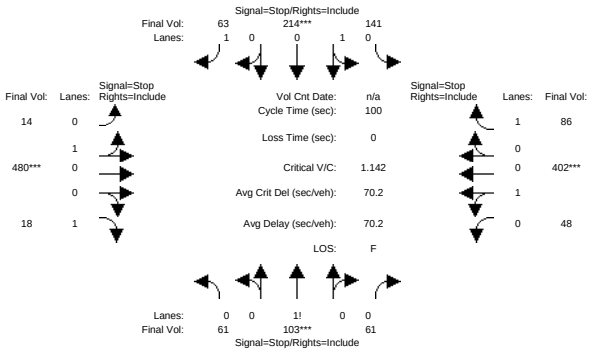
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  107    15     5   19     5    32  164     5    15  148    21
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             385
Minor Approach Volume:           129
Minor Approach Volume Threshold: 474
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #57: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61   103    61   141   214    63    14   480    18    48   402    86
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   61   103    61   141   214    63    14   480    18    48   402    86
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   61   103    61   141   214    63    14   480    18    48   402    86
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    61   103    61   141   214    63    14   480    18    48   402    86
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   61   103    61   141   214    63    14   480    18    48   402    86
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   61   103    61   141   214    63    14   480    18    48   402    86
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.27  0.46  0.27  0.40  0.60  1.00  0.03  0.97  1.00  0.11  0.89  1.00
Final Sat.:   103   174   103   163   248   458    12   420   470    46   386   473
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.59  0.59  0.59  0.86  0.86  0.14  1.14  1.14  0.04  1.04  1.04  0.18
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   24.6  24.6  24.6  46.1  46.1  11.8 115.9   116  10.6  83.6  83.6  11.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  24.6  24.6  24.6  46.1  46.1  11.8 115.9   116  10.6  83.6  83.6  11.9
LOS by Move:    C     C     C     E     E     B     F     F     B     F     F     B
ApproachDel:       24.6              40.9             112.2              72.1
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        24.6              40.9             112.2              72.1
LOS by Appr:          C                 E                 F                 F
AllWayAvgQ:  32.4  32.4  32.4  98.9  98.9   3.9   315   315   1.0   218   218   5.5
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #57 13th St / M St
*******************************************************************************
```



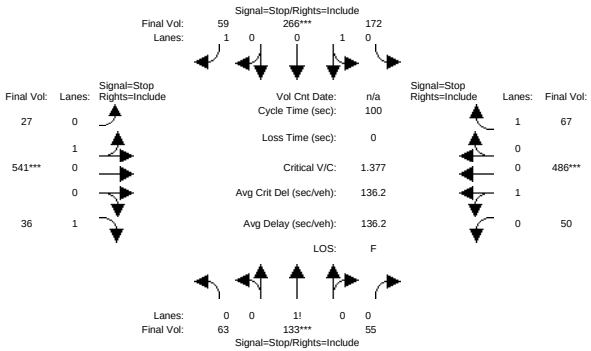
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   61  103    61   141  214    63    14  480    18    48  402    86
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1048
Minor Approach Volume:           418
Minor Approach Volume Threshold: 354
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #57: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63  133    55   172  266    59    27  541    36    50  486    67
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   63  133    55   172  266    59    27  541    36    50  486    67
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   63  133    55   172  266    59    27  541    36    50  486    67
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    63  133    55   172  266    59    27  541    36    50  486    67
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   63  133    55   172  266    59    27  541    36    50  486    67
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   63  133    55   172  266    59    27  541    36    50  486    67
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.25 0.53  0.22  0.39 0.61  1.00  0.05 0.95  1.00  0.09 0.91  1.00
Final Sat.:    94  198    82   159  246   451    20  393   450    38  373   450
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.67 0.67  0.67  1.08 1.08  0.13  1.38 1.38  0.08  1.30 1.30  0.15
Crit Moves:        ****               ****               ****               ****
Delay/Veh:   30.3 30.3  30.3  98.0 98.0  11.9 208.6  209  11.4 178.0  178  12.1
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  30.3 30.3  30.3  98.0 98.0  11.9 208.6  209  11.4 178.0  178  12.1
LOS by Move:    D    D     D     F    F     B     F    F     B     F    F     B
ApproachDel:       30.3              87.8             196.9             159.5
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        30.3              87.8             196.9             159.5
LOS by Appr:          D                 F                 F                 F
AllWayAvgQ:  45.8 45.8  45.8   243  243   3.8   565  565   2.2   476  476   4.4
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #57 13th St / M St
*******************************************************************************
```



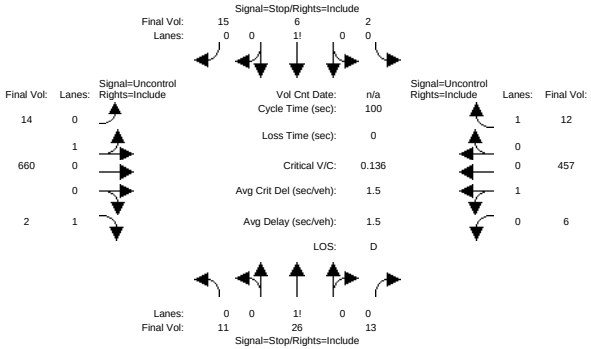
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   63  133    55   172  266    59    27  541    36    50  486    67
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1207
Minor Approach Volume:           497
Minor Approach Volume Threshold: 293
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #58: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      11   26    13     2    6    15    14  660     2     6  457    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   11   26    13     2    6    15    14  660     2     6  457    12
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   11   26    13     2    6    15    14  660     2     6  457    12
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    11   26    13     2    6    15    14  660     2     6  457    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   11   26    13     2    6    15    14  660     2     6  457    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1174 1169   660  1178 1159   457   469 xxxx xxxxx   662 xxxx xxxxx
Potent Cap.:  170  195   467   169  197   608  1103 xxxx xxxxx   936 xxxx xxxxx
Move Cap.:    160  191   467   145  194   608  1103 xxxx xxxxx   936 xxxx xxxxx
Volume/Cap:  0.07 0.14  0.03  0.01 0.03  0.02  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   0.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx   8.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  215 xxxxx  xxxx  331 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx  0.2 xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 26.8 xxxxx xxxxx 16.7 xxxxx   8.3 xxxx xxxxx   8.9 xxxx xxxxx
Shared LOS:     *    D     *     *    C     *     A    *     *     A    *     *
ApproachDel:      26.8             16.7            xxxxxx           xxxxxx
ApproachLOS:         D                C                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:   11   26    13     2    6    15    14  660     2     6  457    12
ApproachDel:      26.8             16.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=50]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1224]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1224]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

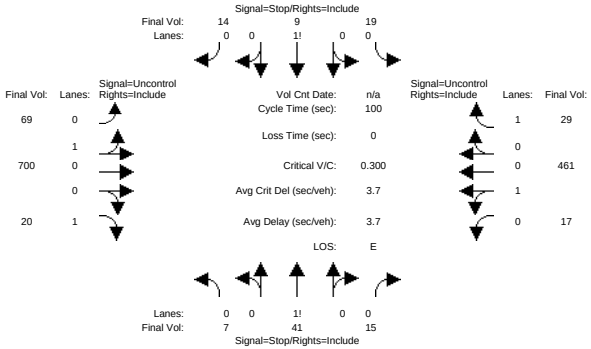
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:   11   26    13     2    6    15    14  660     2     6  457    12
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1151
Minor Approach Volume:           50
Minor Approach Volume Threshold: 236
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #58: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7   41    15    19    9    14    69  700    20    17  461    29
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7   41    15    19    9    14    69  700    20    17  461    29
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7   41    15    19    9    14    69  700    20    17  461    29
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7   41    15    19    9    14    69  700    20    17  461    29
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7   41    15    19    9    14    69  700    20    17  461    29
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1359 1362   700  1371 1353   461   490 xxxx xxxxx   720 xxxx xxxxx
Potent Cap.:  127  149   443   125  151   605  1084 xxxx xxxxx   891 xxxx xxxxx
Move Cap.:    110  137   443    87  138   605  1084 xxxx xxxxx   891 xxxx xxxxx
Volume/Cap:  0.06 0.30  0.03  0.22 0.06  0.02  0.06 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.1 xxxx xxxxx   1.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx   9.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  159 xxxxx  xxxx  137 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.7 xxxxx xxxxx  1.2 xxxxx   0.2 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 41.9 xxxxx xxxxx 42.6 xxxxx   8.5 xxxx xxxxx   9.1 xxxx xxxxx
Shared LOS:     *    E     *     *    E     *     A    *     *     A    *     *
ApproachDel:      41.9             42.6           xxxxxx           xxxxxx
ApproachLOS:         E                E                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    7   41    15    19    9    14    69  700    20    17  461    29
ApproachDel:      41.9             42.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=63]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1401]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=42]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1401]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

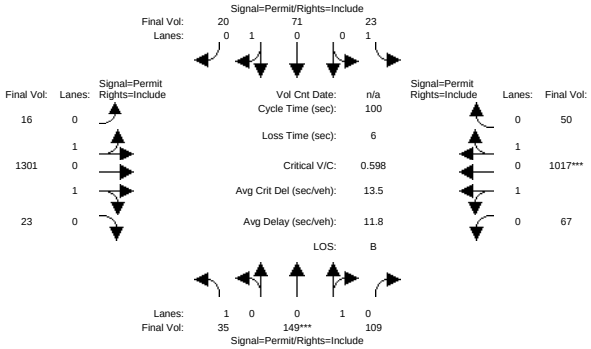
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    7   41    15    19    9    14    69  700    20    17  461    29
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1296
Minor Approach Volume:           63
Minor Approach Volume Threshold: 196
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #59: Main St / M St



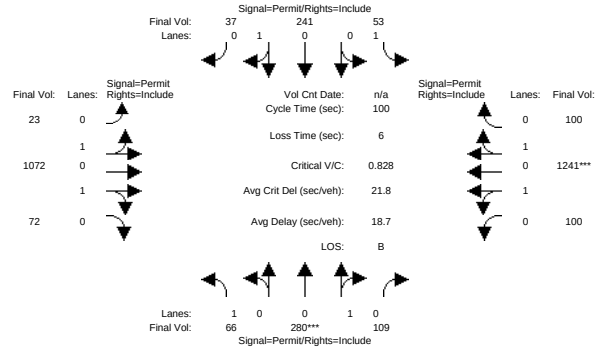
Street Name:	Main Street									M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	35	149	109	23	71	20	16	1301	23	67	1017	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	149	109	23	71	20	16	1301	23	67	1017	50
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	35	149	109	23	71	20	16	1301	23	67	1017	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	149	109	23	71	20	16	1301	23	67	1017	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	149	109	23	71	20	16	1301	23	67	1017	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	149	109	23	71	20	16	1301	23	67	1017	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.67	0.94	0.94	0.36	0.97	0.97	0.88	0.88	0.88	0.72	0.72	0.72
Lanes:	1.00	0.58	0.42	1.00	0.78	0.22	0.02	1.95	0.03	0.12	1.79	0.09
Final Sat.:	1267	1028	752	676	1433	404	40	3264	58	161	2440	120
Capacity Analysis Module:												
Vol/Sat:	0.03	0.14	0.14	0.03	0.05	0.05	0.40	0.40	0.40	0.42	0.42	0.42
Crit Moves:		****									****	
Green/Cycle:	0.24	0.24	0.24	0.24	0.24	0.24	0.70	0.70	0.70	0.70	0.70	0.70
Volume/Cap:	0.11	0.60	0.60	0.14	0.20	0.20	0.57	0.57	0.57	0.60	0.60	0.60
Delay/Veh:	29.7	35.9	35.9	30.1	30.4	30.4	8.0	8.0	8.0	8.4	8.4	8.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.7	35.9	35.9	30.1	30.4	30.4	8.0	8.0	8.0	8.4	8.4	8.4
LOS by Move:	C	D	D	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	22	194	194	17	57	57	267	267	267	237	237	237

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #59: Main St / M St



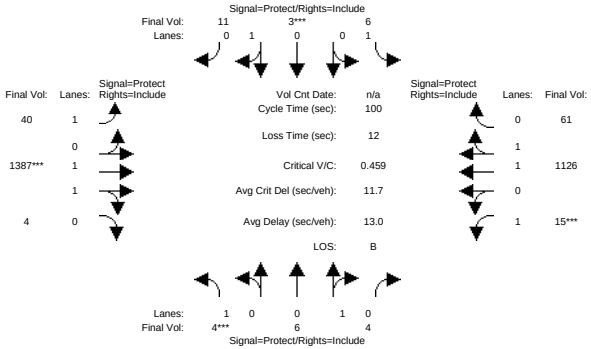
Street Name:	Main Street									M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	66	280	109	53	241	37	23	1072	72	100	1241	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	66	280	109	53	241	37	23	1072	72	100	1241	100
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	66	280	109	53	241	37	23	1072	72	100	1241	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	66	280	109	53	241	37	23	1072	72	100	1241	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	66	280	109	53	241	37	23	1072	72	100	1241	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	66	280	109	53	241	37	23	1072	72	100	1241	100
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.34	0.96	0.96	0.17	0.98	0.98	0.85	0.85	0.85	0.67	0.67	0.67
Lanes:	1.00	0.72	0.28	1.00	0.87	0.13	0.04	1.84	0.12	0.14	1.72	0.14
Final Sat.:	654	1310	510	327	1614	248	64	2964	199	177	2198	177
Capacity Analysis Module:												
Vol/Sat:	0.10	0.21	0.21	0.16	0.15	0.15	0.36	0.36	0.36	0.56	0.56	0.56
Crit Moves:		****									****	
Green/Cycle:	0.26	0.26	0.26	0.26	0.26	0.26	0.68	0.68	0.68	0.68	0.68	0.68
Volume/Cap:	0.39	0.83	0.83	0.63	0.58	0.58	0.53	0.53	0.53	0.83	0.83	0.83
Delay/Veh:	32.1	46.6	46.6	47.0	34.1	34.1	8.2	8.2	8.2	15.1	15.1	15.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.1	46.6	46.6	47.0	34.1	34.1	8.2	8.2	8.2	15.1	15.1	15.1
LOS by Move:	C	D	D	D	C	C	A	A	A	B	B	B
HCM2kAvgQ:	53	344	344	64	201	201	221	221	221	441	441	441

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #60: 18th St / M St



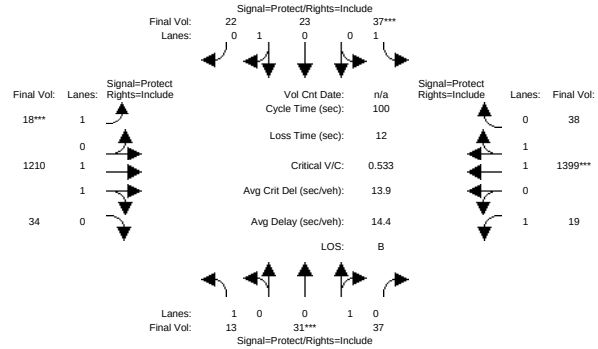
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	4		6	4	6		3	11	40	1387		4	15	1126		61
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	4		6	4	6		3	11	40	1387		4	15	1126		61
Added Vol:	0		0	0	0		0	0	0	0		0	0	0		0
PasserByVol:	0		0	0	0		0	0	0	0		0	0	0		0
Initial Fut:	4		6	4	6		3	11	40	1387		4	15	1126		61
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	4		6	4	6		3	11	40	1387		4	15	1126		61
Reduct Vol:	0		0	0	0		0	0	0	0		0	0	0		0
Reduced Vol:	4		6	4	6		3	11	40	1387		4	15	1126		61
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	4		6	4	6		3	11	40	1387		4	15	1126		61
Saturation Flow Module:																
Sat/Lane:	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900
Adjustment:	0.95	0.94		0.94	0.95	0.88		0.88	0.95	0.95		0.95	0.95	0.94		0.94
Lanes:	1.00	0.60		0.40	1.00	0.21		0.79	1.00	1.99		0.01	1.00	1.90		0.10
Final Sat.:	1805	1072		714	1805	359		1317	1805	3600		10	1805	3397		184
Capacity Analysis Module:																
Vol/Sat:	0.00	0.01		0.01	0.00	0.01		0.01	0.02	0.39		0.39	0.01	0.33		0.33
Crit Moves:	****				****				****				****			
Green/Cycle:	0.07	0.10		0.10	0.07	0.10		0.10	0.12	0.64		0.64	0.07	0.59		0.59
Volume/Cap:	0.03	0.06		0.06	0.05	0.08		0.08	0.18	0.60		0.60	0.12	0.57		0.57
Delay/Veh:	43.4	40.9		40.9	43.5	41.1		41.1	39.6	11.0		11.0	44.0	13.2		13.2
User DelAdj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
AdjDel/Veh:	43.4	40.9		40.9	43.5	41.1		41.1	39.6	11.0		11.0	44.0	13.2		13.2
LOS by Move:	D	D		D	D	D		D	D	B		B	D	B		B
HCM2kAvgQ:	3	8		8	4	9		9	26	322		322	13	300		300

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #60: 18th St / M St



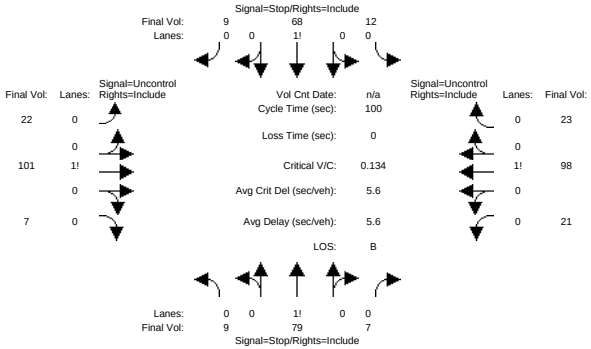
Street Name:	18th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	13		31	37	37		23	22	18	1210		34	19	1399		38
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	13		31	37	37		23	22	18	1210		34	19	1399		38
Added Vol:	0		0	0	0		0	0	0	0		0	0	0		0
PasserByVol:	0		0	0	0		0	0	0	0		0	0	0		0
Initial Fut:	13		31	37	37		23	22	18	1210		34	19	1399		38
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	13		31	37	37		23	22	18	1210		34	19	1399		38
Reduct Vol:	0		0	0	0		0	0	0	0		0	0	0		0
Reduced Vol:	13		31	37	37		23	22	18	1210		34	19	1399		38
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	13		31	37	37		23	22	18	1210		34	19	1399		38
Saturation Flow Module:																
Sat/Lane:	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900
Adjustment:	0.95	0.92		0.92	0.95	0.93		0.93	0.95	0.95		0.95	0.95	0.95		0.95
Lanes:	1.00	0.46		0.54	1.00	0.51		0.49	1.00	1.95		0.05	1.00	1.95		0.05
Final Sat.:	1805	795		949	1805	900		861	1805	3497		98	1805	3500		95
Capacity Analysis Module:																
Vol/Sat:	0.01	0.04		0.04	0.02	0.03		0.03	0.01	0.35		0.35	0.01	0.40		0.40
Crit Moves:		****			****				****				****			
Green/Cycle:	0.07	0.10		0.10	0.07	0.10		0.10	0.07	0.59		0.59	0.12	0.64		0.64
Volume/Cap:	0.10	0.39		0.39	0.29	0.26		0.26	0.14	0.59		0.59	0.09	0.62		0.62
Delay/Veh:	43.9	43.6		43.6	45.4	42.3		42.3	44.2	13.2		13.2	39.4	11.3		11.3
User DelAdj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
AdjDel/Veh:	43.9	43.6		43.6	45.4	42.3		42.3	44.2	13.2		13.2	39.4	11.3		11.3
LOS by Move:	D	D		D	D	D		D	D	B		B	D	B		B
HCM2kAvgQ:	11	59		59	27	31		31	12	307		307	14	355		355

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #61: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9   79     7    12   68     9    22  101     7    21   98    23
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9   79     7    12   68     9    22  101     7    21   98    23
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    9   79     7    12   68     9    22  101     7    21   98    23
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9   79     7    12   68     9    22  101     7    21   98    23
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    9   79     7    12   68     9    22  101     7    21   98    23
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  339  312   105   343  304   110   121 xxxx xxxxx   108 xxxx xxxxx
Potent Cap.:  619  607   956   615  613   950  1479 xxxx xxxxx  1495 xxxx xxxxx
Move Cap.:    547  589   956   536  595   950  1479 xxxx xxxxx  1495 xxxx xxxxx
Volume/Cap:  0.02 0.13  0.01  0.02 0.11  0.01  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx   1.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  602 xxxxx  xxxx  609 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  0.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.1 xxxxx xxxxx 11.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      12.1             11.9            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9   79     7    12   68     9    22  101     7    21   98    23
ApproachDel:      12.1             11.9            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=95]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=456]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=89]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=456]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    9   79     7    12   68     9    22  101     7    21   98    23
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             272
Minor Approach Volume:           95
Minor Approach Volume Threshold: 567
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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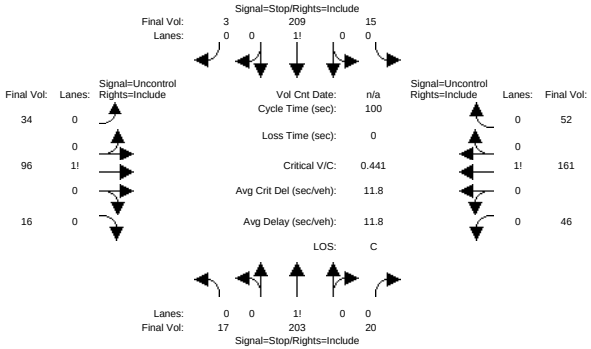
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #61: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17  203    20    15  209     3    34   96    16    46  161    52
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   17  203    20    15  209     3    34   96    16    46  161    52
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   17  203    20    15  209     3    34   96    16    46  161    52
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    17  203    20    15  209     3    34   96    16    46  161    52
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   17  203    20    15  209     3    34   96    16    46  161    52
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  557  477   104   563  459   187   213 xxxx xxxxx   112 xxxx xxxxx
Potent Cap.:  444  490   956   440  502   860  1369 xxxx xxxxx  1490 xxxx xxxxx
Move Cap.:    278  462   956   272  473   860  1369 xxxx xxxxx  1490 xxxx xxxxx
Volume/Cap:  0.06 0.44  0.02  0.06 0.44  0.00  0.02 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.9 xxxx xxxxx   2.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx   7.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  461 xxxxx  xxxx  454 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  2.9 xxxxx xxxxx  2.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 21.0 xxxxx xxxxx 20.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    C     *     *    *     *     *    *     *
ApproachDel:      21.0             20.6            xxxxxx           xxxxxx
ApproachLOS:         C                C                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   17  203    20    15  209     3    34   96    16    46  161    52
ApproachDel:      21.0             20.6            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=240]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=872]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=227]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=872]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

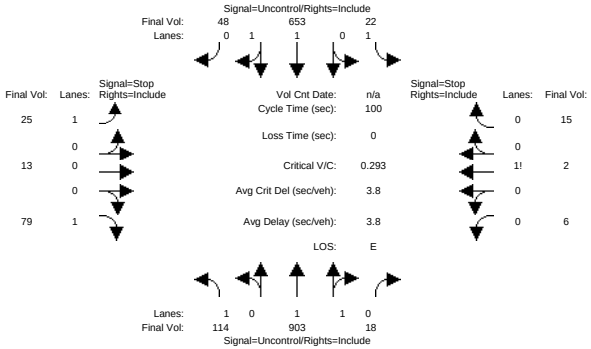
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   17  203    20    15  209     3    34   96    16    46  161    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             405
Minor Approach Volume:           240
Minor Approach Volume Threshold: 460
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     114  903    18    22  653    48    25   13    79     6    2    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  114  903    18    22  653    48    25   13    79     6    2    15
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  114  903    18    22  653    48    25   13    79     6    2    15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   114  903    18    22  653    48    25   13    79     6    2    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  114  903    18    22  653    48    25   13    79     6    2    15
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  701 xxxx xxxxx   921 xxxx xxxxx  1402 1870   351  1517 1885   461
Potent Cap.:  905 xxxx xxxxx   750 xxxx xxxxx   102   73   652    83   71   553
Move Cap.:    905 xxxx xxxxx   750 xxxx xxxxx    85   62   652    55   61   553
Volume/Cap:  0.13 xxxx  xxxx  0.03 xxxx  xxxx  0.29 0.21  0.12  0.11 0.03  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   10.8 xxxx xxxxx   2.3 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.5 xxxx xxxxx   9.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx    76 xxxx   278  xxxx  135 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.1 xxxx   1.4 xxxxx  0.6 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  93.5 xxxx  24.2 xxxxx 37.0 xxxxx
Shared LOS:     *    *     *     *    *     *     F    *     C     *    E     *
ApproachDel:    xxxxxx           xxxxxx             44.5            37.0
ApproachLOS:         *                *               E               E
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:  114  903    18    22  653    48    25   13    79     6    2    15
ApproachDel:    xxxxxx           xxxxxx              44.5            37.0
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=117]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1898]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1898]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

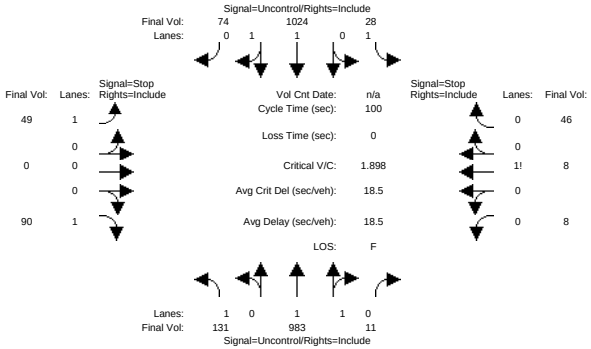
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:  114  903    18    22  653    48    25   13    79     6    2    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1758
Minor Approach Volume:           117
Minor Approach Volume Threshold: 131 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     131  983    11    28 1024    74    49    0    90     8    8    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  131  983    11    28 1024    74    49    0    90     8    8    46
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  131  983    11    28 1024    74    49    0    90     8    8    46
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   131  983    11    28 1024    74    49    0    90     8    8    46
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  131  983    11    28 1024    74    49    0    90     8    8    46
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1098 xxxx xxxxx   994 xxxx xxxxx  1875 xxxx   549  1819 2405   497
Potent Cap.:  643 xxxx xxxxx   704 xxxx xxxxx    45 xxxx   485    50   34   524
Move Cap.:    643 xxxx xxxxx   704 xxxx xxxxx    26 xxxx   485    33   26   524
Volume/Cap:  0.20 xxxx  xxxx  0.04 xxxx  xxxx  1.90 xxxx  0.19  0.24 0.31  0.09
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   19.0 xxxx xxxxx   3.1 xxxx xxxxx   149 xxxx  16.9  xxxx xxxx xxxxx
Control Del: 12.0 xxxx xxxxx  10.3 xxxx xxxxx 746.6 xxxx  14.1 xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx   97 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  3.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 92.8 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    F     *
ApproachDel:    xxxxxx           xxxxxx            272.3            92.8
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:  131  983    11    28 1024    74    49    0    90     8    8    46
ApproachDel:    xxxxxx           xxxxxx            272.3            92.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=10.5]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=139]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2452]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2452]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

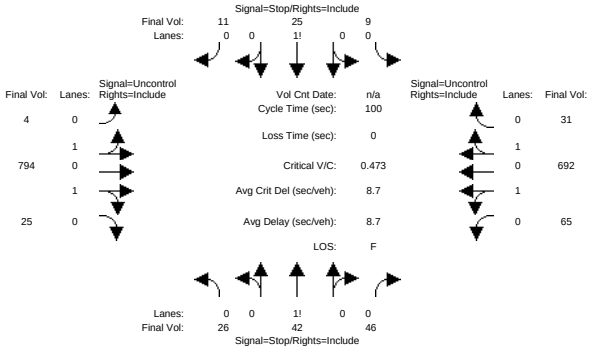
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:  131  983    11    28 1024    74    49    0    90     8    8    46
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2251
Minor Approach Volume:           139
Minor Approach Volume Threshold: 25 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #63: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26   42    46     9   25    11     4  794    25    65  692    31
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26   42    46     9   25    11     4  794    25    65  692    31
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26   42    46     9   25    11     4  794    25    65  692    31
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26   42    46     9   25    11     4  794    25    65  692    31
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26   42    46     9   25    11     4  794    25    65  692    31
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1303 1668   410  1264 1665   362   723 xxxx xxxxx   819 xxxx xxxxx
Potent Cap.:  120   97   597   128   98   641   889 xxxx xxxxx   818 xxxx xxxxx
Move Cap.:     87   89   597    70   89   641   889 xxxx xxxxx   818 xxxx xxxxx
Volume/Cap:  0.30 0.47  0.08  0.13 0.28  0.02  0.00 xxxx  xxxx  0.08 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.3 xxxx xxxxx   6.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.1 xxxx xxxxx   9.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  134 xxxxx  xxxx  106 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  5.4 xxxxx xxxxx  1.8 xxxxx   0.0 xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx  105 xxxxx xxxxx 62.3 xxxxx   9.1 xxxx xxxxx   9.8 xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     A    *     *     A    *     *
ApproachDel:     105.0             62.3           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   26   42    46     9   25    11     4  794    25    65  692    31
ApproachDel:     105.0             62.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=114]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1770]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=45]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1770]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

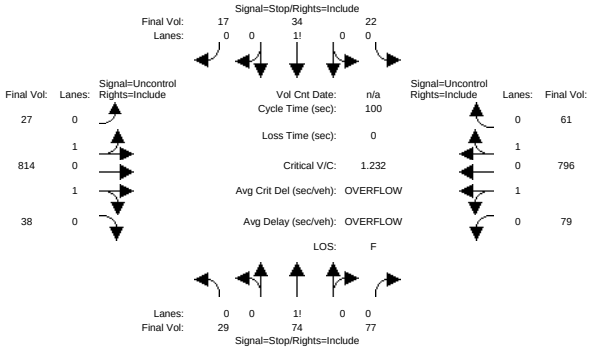
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   26   42    46     9   25    11     4  794    25    65  692    31
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1611
Minor Approach Volume:           114
Minor Approach Volume Threshold: 121
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #63: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      29   74    77    22   34    17    27  814    38    79  796    61
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   29   74    77    22   34    17    27  814    38    79  796    61
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   29   74    77    22   34    17    27  814    38    79  796    61
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    29   74    77    22   34    17    27  814    38    79  796    61
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   29   74    77    22   34    17    27  814    38    79  796    61
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1460 1902   426  1483 1891   429   857 xxxx xxxxx   852 xxxx xxxxx
Potent Cap.:   92   70   582    88   71   580   792 xxxx xxxxx   795 xxxx xxxxx
Move Cap.:     45   60   582     0   61   580   792 xxxx xxxxx   795 xxxx xxxxx
Volume/Cap:  0.64 1.23  0.13  xxxx 0.56  0.03  0.03 xxxx  xxxx  0.10 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.6 xxxx xxxxx   8.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.7 xxxx xxxxx  10.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   90 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 15.6 xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx  568 xxxxx xxxxx xxxx xxxxx   9.7 xxxx xxxxx  10.0 xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     A    *     *     B    *     *
ApproachDel:     567.5           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         F                F                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   29   74    77    22   34    17    27  814    38    79  796    61
ApproachDel:     567.5           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=28.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=180]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2068]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=73]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2068]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

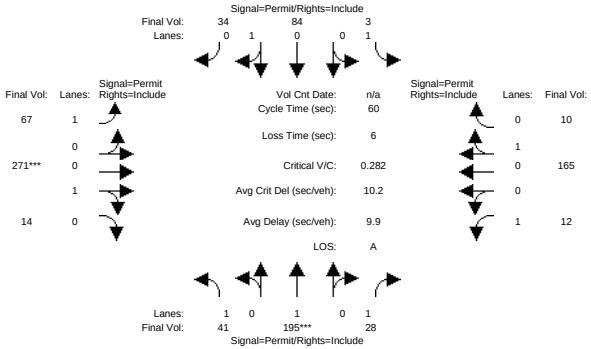
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   29   74    77    22   34    17    27  814    38    79  796    61
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1815
Minor Approach Volume:           180
Minor Approach Volume Threshold: 79 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #64: Main St / Martin Luther King Wy



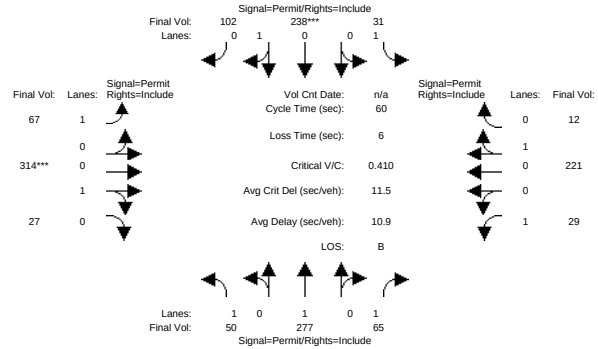
Street Name:	Main Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	41		195		28	3		84		34	67		271		14	12		165		10
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	41		195		28	3		84		34	67		271		14	12		165		10
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	41		195		28	3		84		34	67		271		14	12		165		10
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	41		195		28	3		84		34	67		271		14	12		165		10
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	41		195		28	3		84		34	67		271		14	12		165		10
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	41		195		28	3		84		34	67		271		14	12		165		10
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.68		1.00		0.85	0.58		0.96		0.96	0.64		0.99		0.99	0.54		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.71		0.29	1.00		0.95		0.05	1.00		0.94		0.06
Final Sat.:	1286		1900		1615	1104		1294		524	1216		1794		93	1024		1775		108
Capacity Analysis Module:																				
Vol/Sat:	0.03		0.10		0.02	0.00		0.06		0.06	0.06		0.15		0.15	0.01		0.09		0.09
Crit Moves:			****										****							
Green/Cycle:	0.36		0.36		0.36	0.36		0.36		0.36	0.54		0.54		0.54	0.54		0.54		0.54
Volume/Cap:	0.09		0.28		0.05	0.01		0.18		0.18	0.10		0.28		0.28	0.02		0.17		0.17
Delay/Veh:	12.6		13.7		12.4	12.2		13.1		13.1	6.9		7.8		7.8	6.6		7.2		7.2
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	12.6		13.7		12.4	12.2		13.1		13.1	6.9		7.8		7.8	6.6		7.2		7.2
LOS by Move:	B		B		B	B		B		B	A		A		A	A		A		A
HCM2kAvgQ:	14		67		9	1		39		39	15		69		69	3		43		43

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #64: Main St / Martin Luther King Wy



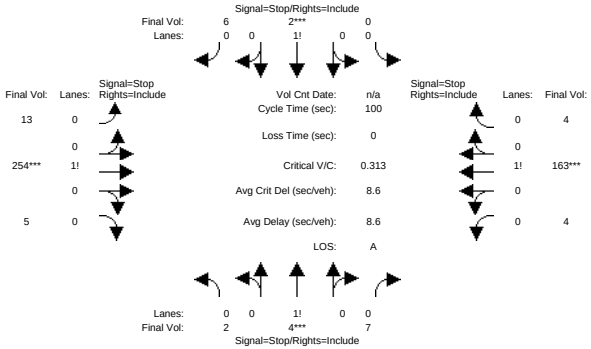
Street Name:	Main Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	50		277		65	31		238		102	67		314		27	29		221		12
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	50		277		65	31		238		102	67		314		27	29		221		12
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	50		277		65	31		238		102	67		314		27	29		221		12
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	50		277		65	31		238		102	67		314		27	29		221		12
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	50		277		65	31		238		102	67		314		27	29		221		12
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	50		277		65	31		238		102	67		314		27	29		221		12
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.46		1.00		0.85	0.52		0.96		0.96	0.56		0.99		0.99	0.45		0.99		0.99
Lanes:	1.00		1.00		1.00	1.00		0.70		0.30	1.00		0.92		0.08	1.00		0.95		0.05
Final Sat.:	874		1900		1615	990		1270		544	1066		1729		149	859		1788		97
Capacity Analysis Module:																				
Vol/Sat:	0.06		0.15		0.04	0.03		0.19		0.19	0.06		0.18		0.18	0.03		0.12		0.12
Crit Moves:								****					****							
Green/Cycle:	0.46		0.46		0.46	0.46		0.46		0.46	0.44		0.44		0.44	0.44		0.44		0.44
Volume/Cap:	0.13		0.32		0.09	0.07		0.41		0.41	0.14		0.41		0.41	0.08		0.28		0.28
Delay/Veh:	9.5		10.6		9.3	9.2		11.2		11.2	10.1		11.7		11.7	9.7		10.8		10.8
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	9.5		10.6		9.3	9.2		11.2		11.2	10.1		11.7		11.7	9.7		10.8		10.8
LOS by Move:	A		B		A	A		B		B	B		B		B	A		B		B
HCM2kAvgQ:	16		85		18	9		112		112	18		104		104	9		71		71

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #65: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2     4     7     0     2     6    13   254     5     4   163     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2     4     7     0     2     6    13   254     5     4   163     4
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    2     4     7     0     2     6    13   254     5     4   163     4
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     2     4     7     0     2     6    13   254     5     4   163     4
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    2     4     7     0     2     6    13   254     5     4   163     4
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    2     4     7     0     2     6    13   254     5     4   163     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.15  0.31  0.54  0.00  0.25  0.75  0.05  0.93  0.02  0.02  0.96  0.02
Final Sat.:   113   225   394     0   188   565    42   812    16    20   809    20
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02  0.02  0.02  xxxx  0.01  0.01  0.31  0.31  0.31  0.20  0.20  0.20
Crit Moves:        ****              ****              ****              ****
Delay/Veh:    7.6   7.6   7.6   0.0   7.4   7.4   8.9   8.9   8.9   8.2   8.2   8.2
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.6   7.6   7.6   0.0   7.4   7.4   8.9   8.9   8.9   8.2   8.2   8.2
LOS by Move:    A     A     A     *     A     A     A     A     A     A     A     A
ApproachDel:       7.6               7.4               8.9               8.2
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:        7.6               7.4               8.9               8.2
LOS by Appr:         A                 A                 A                 A
AllWayAvgQ:   0.4   0.4   0.4   0.2   0.2   0.2  11.1  11.1  11.1   6.1   6.1   6.1
Note: Queue reported is the distance per lane in feet.
          Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #65 18th St / Martin Luther King Wy
*******************************************************************************
```



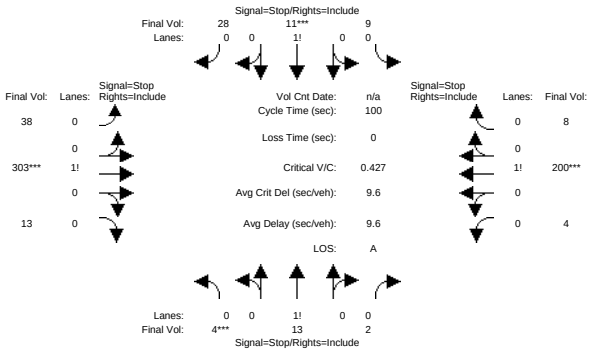
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2     4     7     0     2     6    13   254     5     4   163     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             443
Minor Approach Volume:           13
Minor Approach Volume Threshold: 437
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #65: 18th St / Martin Luther King Wy



Street Name:	18th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	4	13	2	9	11	28	38	303	13	4	200	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	13	2	9	11	28	38	303	13	4	200	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	13	2	9	11	28	38	303	13	4	200	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	13	2	9	11	28	38	303	13	4	200	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	13	2	9	11	28	38	303	13	4	200	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	13	2	9	11	28	38	303	13	4	200	8
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.21	0.68	0.11	0.19	0.23	0.58	0.11	0.85	0.04	0.02	0.94	0.04
Final Sat.:	134	434	67	127	156	397	89	710	30	15	756	30
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.07	0.07	0.07	0.43	0.43	0.43	0.26	0.26	0.26
Crit Moves:	****				****			****			****	
Delay/Veh:	8.3	8.3	8.3	8.1	8.1	8.1	10.4	10.4	10.4	8.9	8.9	8.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.3	8.3	8.3	8.1	8.1	8.1	10.4	10.4	10.4	8.9	8.9	8.9
LOS by Move:	A	A	A	A	A	A	B	B	B	A	A	A
ApproachDel:	8.3			8.1			10.4			8.9		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	8.3			8.1			10.4			8.9		
LOS by Appr:	A			A			B			A		
AllWayAvgQ:	0.6	0.6	0.6	1.5	1.5	1.5	17.7	17.7	17.7	8.5	8.5	8.5

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #65 18th St / Martin Luther King Wy

****

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Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L -	T -	R		L -	T -	R		L -	T -	R		L -	T -	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0	0	0	1!	0	0	0	1!	0	0	0	1!	0
Initial Vol:	4	13		2	9	11		28	38	303		13	4	200		8

Major Street Volume: 566
Minor Approach Volume: 48
Minor Approach Volume Threshold: 371

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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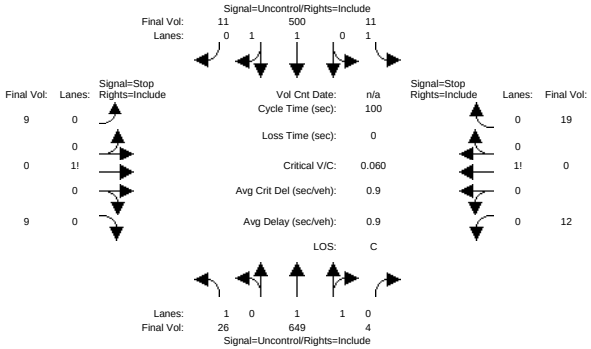
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #66: 16th St / H St




```
Street Name:            16th Street                     H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26  649     4    11  500    11     9    0     9    12    0    19
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26  649     4    11  500    11     9    0     9    12    0    19
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26  649     4    11  500    11     9    0     9    12    0    19
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26  649     4    11  500    11     9    0     9    12    0    19
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26  649     4    11  500    11     9    0     9    12    0    19
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  511 xxxx xxxxx   653 xxxx xxxxx   904 1233   256   975 1236   327
Potent Cap.: 1065 xxxx xxxxx   943 xxxx xxxxx   235  179   750   209  178   675
Move Cap.:   1065 xxxx xxxxx   943 xxxx xxxxx   222  172   750   201  171   675
Volume/Cap:  0.02 xxxx  xxxx  0.01 xxxx  xxxx  0.04 0.00  0.01  0.06 0.00  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.9 xxxx xxxxx   0.9 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.5 xxxx xxxxx   8.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  343 xxxxx  xxxx  353 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.2 xxxxx xxxxx  0.3 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 16.1 xxxxx xxxxx 16.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             16.1            16.2
ApproachLOS:         *                *                C               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #66 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   26  649     4    11  500    11     9    0     9    12    0    19
ApproachDel:    xxxxxx           xxxxxx             16.1            16.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1250]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1250]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

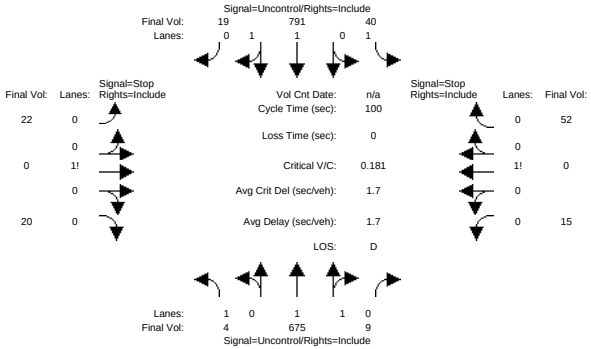
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #66 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   26  649     4    11  500    11     9    0     9    12    0    19
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1201
Minor Approach Volume:           31
Minor Approach Volume Threshold: 222
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #66: 16th St / H St




```
Street Name:            16th Street                          H Street
Approach:      North Bound      South Bound        East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4  675     9    40  791    19    22    0    20    15    0    52
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4  675     9    40  791    19    22    0    20    15    0    52
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4  675     9    40  791    19    22    0    20    15    0    52
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4  675     9    40  791    19    22    0    20    15    0    52
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4  675     9    40  791    19    22    0    20    15    0    52
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  810 xxxx xxxxx   684 xxxx xxxxx  1226 1573   405  1163 1578   342
Potent Cap.:  825 xxxx xxxxx   919 xxxx xxxxx   137  111   601   152  111   660
Move Cap.:    825 xxxx xxxxx   919 xxxx xxxxx   121  106   601   142  105   660
Volume/Cap:  0.00 xxxx  xxxx  0.04 xxxx  xxxx  0.18 0.00  0.03  0.11 0.00  0.08
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.4 xxxx xxxxx   3.4 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.4 xxxx xxxxx   9.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  196 xxxxx  xxxx  363 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.8 xxxxx xxxxx  0.7 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 28.3 xxxxx xxxxx 17.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    D     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx             28.3            17.2
ApproachLOS:         *                *               D               C
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #66 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound        East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  675     9    40  791    19    22    0    20    15    0    52
ApproachDel:    xxxxxx           xxxxxx              28.3             17.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=42]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1647]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=67]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1647]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

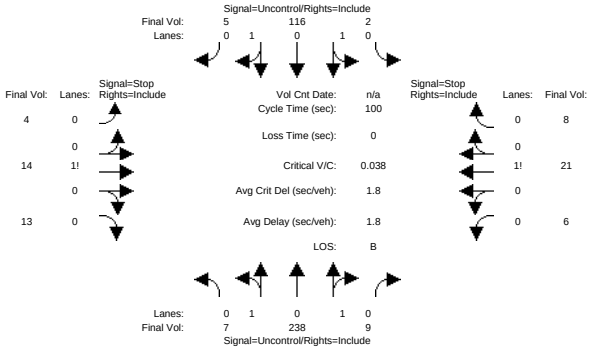
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #66 16th St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound        East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4  675     9    40  791    19    22    0    20    15    0    52
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1538
Minor Approach Volume:           67
Minor Approach Volume Threshold: 137
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  238     9     2  116     5     4   14    13     6   21     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7  238     9     2  116     5     4   14    13     6   21     8
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7  238     9     2  116     5     4   14    13     6   21     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7  238     9     2  116     5     4   14    13     6   21     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7  238     9     2  116     5     4   14    13     6   21     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  121 xxxx xxxxx   247 xxxx xxxxx   266  384    61   326  382   124
Potent Cap.: 1479 xxxx xxxxx  1331 xxxx xxxxx   671  553   999   609  554   911
Move Cap.:   1479 xxxx xxxxx  1331 xxxx xxxxx   642  550   999   587  551   911
Volume/Cap:  0.00 xxxx  xxxx  0.00 xxxx  xxxx  0.01 0.03  0.01  0.01 0.04  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.4 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.4 xxxx xxxxx   7.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  693 xxxxx  xxxx  613 xxxxx
SharedQueue:  0.0 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  0.1 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:  7.4 xxxx xxxxx   7.7 xxxx xxxxx xxxxx 10.4 xxxxx xxxxx 11.2 xxxxx
Shared LOS:     A    *     *     A    *     *     *    B     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             10.4            11.2
ApproachLOS:         *                *                B               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  238     9     2  116     5     4   14    13     6   21     8
ApproachDel:    xxxxxx           xxxxxx             10.4            11.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=443]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=443]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

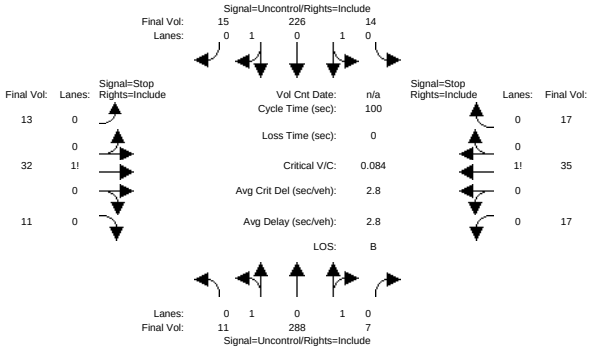
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  238     9     2  116     5     4   14    13     6   21     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             377
Minor Approach Volume:           35
Minor Approach Volume Threshold: 621
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      11  288     7    14  226    15    13   32    11    17   35    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   11  288     7    14  226    15    13   32    11    17   35    17
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   11  288     7    14  226    15    13   32    11    17   35    17
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    11  288     7    14  226    15    13   32    11    17   35    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   11  288     7    14  226    15    13   32    11    17   35    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  241 xxxx xxxxx   295 xxxx xxxxx   445  579   121   471  583   148
Potent Cap.: 1337 xxxx xxxxx  1278 xxxx xxxxx   501  429   915   481  427   879
Move Cap.:   1337 xxxx xxxxx  1278 xxxx xxxxx   454  421   915   441  419   879
Volume/Cap:  0.01 xxxx  xxxx  0.01 xxxx  xxxx  0.03 0.08  0.01  0.04 0.08  0.02
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.6 xxxx xxxxx   0.8 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.7 xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  480 xxxxx  xxxx  488 xxxxx
SharedQueue:  0.0 xxxx xxxxx   0.0 xxxx xxxxx xxxxx  0.4 xxxxx xxxxx  0.5 xxxxx
Shrd ConDel:  7.7 xxxx xxxxx   7.8 xxxx xxxxx xxxxx 13.5 xxxxx xxxxx 13.6 xxxxx
Shared LOS:     A    *     *     A    *     *     *    B     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             13.5            13.6
ApproachLOS:         *                *                B               B
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   11  288     7    14  226    15    13   32    11    17   35    17
ApproachDel:    xxxxxx           xxxxxx             13.5            13.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=686]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=69]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=686]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

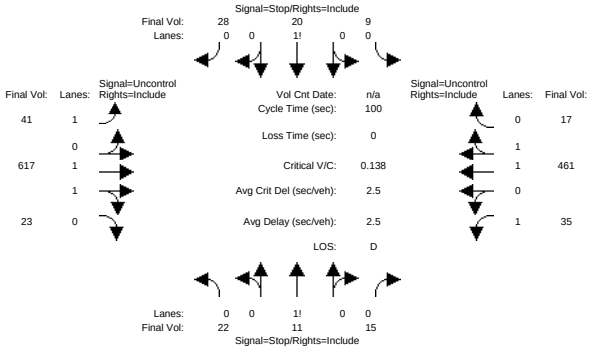
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   11  288     7    14  226    15    13   32    11    17   35    17
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             561
Minor Approach Volume:           69
Minor Approach Volume Threshold: 484
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #68: 15th St / G St




```
Street Name:            15th Street                     G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      22   11    15     9   20    28    41  617    23    35  461    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   22   11    15     9   20    28    41  617    23    35  461    17
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   22   11    15     9   20    28    41  617    23    35  461    17
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    22   11    15     9   20    28    41  617    23    35  461    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   22   11    15     9   20    28    41  617    23    35  461    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1021 1259   320   936 1262   239   478 xxxx xxxxx   640 xxxx xxxxx
Potent Cap.:  193  172   682   223  172   768  1095 xxxx xxxxx   954 xxxx xxxxx
Move Cap.:    159  160   682   195  159   768  1095 xxxx xxxxx   954 xxxx xxxxx
Volume/Cap:  0.14 0.07  0.02  0.05 0.13  0.04  0.04 xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.9 xxxx xxxxx   2.9 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx   8.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  210 xxxxx  xxxx  274 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx  0.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 27.2 xxxxx xxxxx 21.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    C     *     *    *     *     *    *     *
ApproachDel:      27.2             21.6            xxxxxx           xxxxxx
ApproachLOS:         D                C                 *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #68 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   22   11    15     9   20    28    41  617    23    35  461    17
ApproachDel:      27.2             21.6            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=48]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1299]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=57]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1299]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

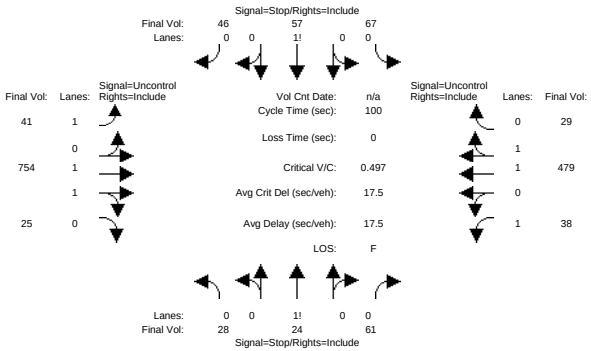
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #68 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   22   11    15     9   20    28    41  617    23    35  461    17
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1194
Minor Approach Volume:           57
Minor Approach Volume Threshold: 224
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #68: 15th St / G St




```
Street Name:            15th Street                     G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      28   24    61    67   57    46    41  754    25    38  479    29
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   28   24    61    67   57    46    41  754    25    38  479    29
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   28   24    61    67   57    46    41  754    25    38  479    29
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    28   24    61    67   57    46    41  754    25    38  479    29
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   28   24    61    67   57    46    41  754    25    38  479    29
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1193 1433   390  1041 1431   254   508 xxxx xxxxx   779 xxxx xxxxx
Potent Cap.:  145  135   615   187  136   752  1067 xxxx xxxxx   847 xxxx xxxxx
Move Cap.:     82  124   615   135  125   752  1067 xxxx xxxxx   847 xxxx xxxxx
Volume/Cap:  0.34 0.19  0.10  0.50 0.46  0.06  0.04 xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.0 xxxx xxxxx   3.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx   9.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  179 xxxxx  xxxx  167 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.6 xxxxx xxxxx  8.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 54.6 xxxxx xxxxx  129 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     *    *     *     *    *     *
ApproachDel:      54.6            129.0           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #68 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   28   24    61    67   57    46    41  754    25    38  479    29
ApproachDel:      54.6            129.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=113]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1649]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=6.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=170]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1649]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

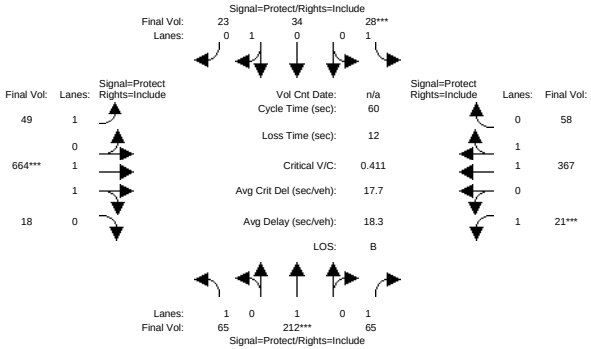
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #68 15th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   28   24    61    67   57    46    41  754    25    38  479    29
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1366
Minor Approach Volume:           170
Minor Approach Volume Threshold: 177
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #69: Main St / G St



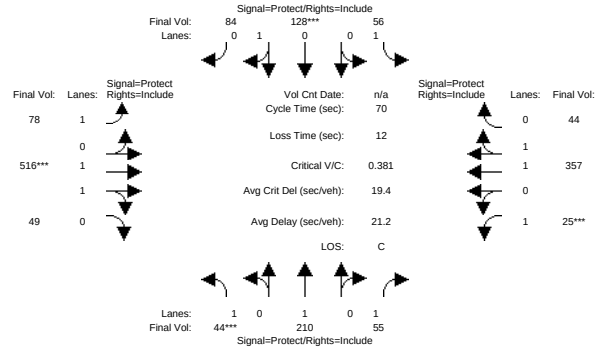
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	65	212	65	28	34	23	49	664	18	21	367	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	65	212	65	28	34	23	49	664	18	21	367	58
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	65	212	65	28	34	23	49	664	18	21	367	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	65	212	65	28	34	23	49	664	18	21	367	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	212	65	28	34	23	49	664	18	21	367	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	65	212	65	28	34	23	49	664	18	21	367	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.95	0.95	0.95	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	0.60	0.40	1.00	1.95	0.05	1.00	1.73	0.27
Final Sat.:	1805	1900	1615	1805	1064	720	1805	3501	95	1805	3055	483
Capacity Analysis Module:												
Vol/Sat:	0.04	0.11	0.04	0.02	0.03	0.03	0.03	0.19	0.19	0.01	0.12	0.12
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.21	0.21	0.12	0.19	0.19	0.19	0.36	0.36	0.12	0.28	0.28
Volume/Cap:	0.27	0.53	0.19	0.13	0.17	0.17	0.14	0.53	0.53	0.10	0.43	0.43
Delay/Veh:	23.9	22.5	19.8	24.1	20.5	20.5	20.2	15.7	15.7	23.9	18.1	18.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.9	22.5	19.8	24.1	20.5	20.5	20.2	15.7	15.7	23.9	18.1	18.1
LOS by Move:	C	C	B	C	C	C	C	B	B	C	B	B
HCM2kAvgQ:	33	106	28	14	25	25	21	146	146	8	83	83

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #69: Main St / G St



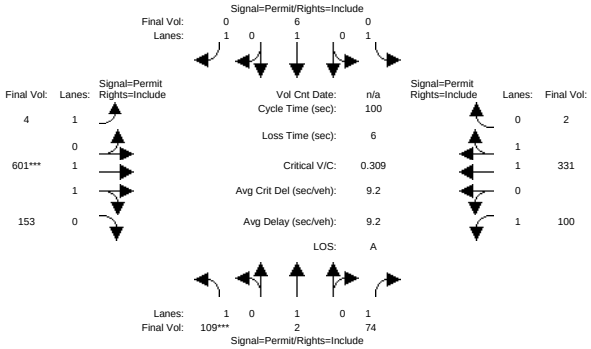
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	44	210	55	56	128	84	78	516	49	25	357	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	210	55	56	128	84	78	516	49	25	357	44
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	210	55	56	128	84	78	516	49	25	357	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	210	55	56	128	84	78	516	49	25	357	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	210	55	56	128	84	78	516	49	25	357	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	210	55	56	128	84	78	516	49	25	357	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	0.60	0.40	1.00	1.83	0.17	1.00	1.78	0.22
Final Sat.:	1805	1900	1615	1805	1079	708	1805	3254	309	1805	3162	390
Capacity Analysis Module:												
Vol/Sat:	0.02	0.11	0.03	0.03	0.12	0.12	0.04	0.16	0.16	0.01	0.11	0.11
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.22	0.22	0.15	0.27	0.27	0.19	0.36	0.36	0.10	0.27	0.27
Volume/Cap:	0.24	0.51	0.16	0.20	0.44	0.44	0.23	0.44	0.44	0.14	0.42	0.42
Delay/Veh:	29.8	25.2	22.4	26.4	21.9	21.9	24.4	17.3	17.3	29.1	21.3	21.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.8	25.2	22.4	26.4	21.9	21.9	24.4	17.3	17.3	29.1	21.3	21.3
LOS by Move:	C	C	C	C	C	C	C	B	B	C	C	C
HCM2kAvgQ:	28	115	26	30	105	105	39	129	129	12	91	91

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build AM

Intersection #70: 18th St / G St



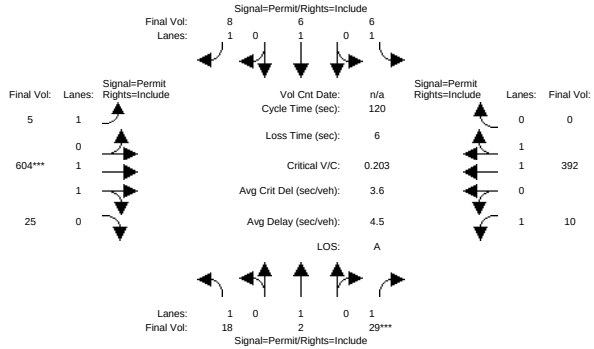
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	109	2	74	0	6	0	4	601	153	100	331	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	109	2	74	0	6	0	4	601	153	100	331	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	109	2	74	0	6	0	4	601	153	100	331	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	109	2	74	0	6	0	4	601	153	100	331	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	109	2	74	0	6	0	4	601	153	100	331	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	109	2	74	0	6	0	4	601	153	100	331	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.85	1.00	1.00	1.00	0.55	0.92	0.92	0.33	0.95	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.59	0.41	1.00	1.99	0.01
Final Sat.:	1452	1900	1615	1900	1900	1900	1036	2791	711	627	3585	22
Capacity Analysis Module:												
Vol/Sat:	0.08	0.00	0.05	0.00	0.00	0.00	0.00	0.22	0.22	0.16	0.09	0.09
Crit Moves:	****							****				
Green/Cycle:	0.24	0.24	0.24	0.00	0.24	0.00	0.70	0.70	0.70	0.70	0.70	0.70
Volume/Cap:	0.31	0.00	0.19	0.00	0.01	0.00	0.01	0.31	0.31	0.23	0.13	0.13
Delay/Veh:	31.5	28.7	30.3	0.0	28.8	0.0	4.6	5.9	5.9	5.7	5.1	5.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.5	28.7	30.3	0.0	28.8	0.0	4.6	5.9	5.9	5.7	5.1	5.1
LOS by Move:	C	C	C	A	C	A	A	A	A	A	A	A
HCM2kAvgQ:	73	1	47	0	3	0	1	114	114	32	44	44

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 No Build PM

Intersection #70: 18th St / G St



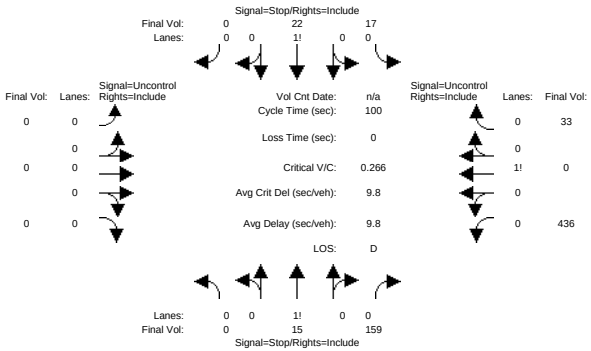
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	18	2	29	6	6	8	5	604	25	10	392	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	18	2	29	6	6	8	5	604	25	10	392	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	18	2	29	6	6	8	5	604	25	10	392	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	2	29	6	6	8	5	604	25	10	392	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	2	29	6	6	8	5	604	25	10	392	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	2	29	6	6	8	5	604	25	10	392	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.85	0.77	1.00	0.85	0.52	0.94	0.94	0.40	0.95	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.92	0.08	1.00	2.00	0.00
Final Sat.:	1452	1900	1615	1457	1900	1615	986	3446	143	768	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.02	0.00	0.00	0.00	0.01	0.18	0.18	0.01	0.11	0.00
Crit Moves:			****					****				
Green/Cycle:	0.09	0.09	0.09	0.09	0.09	0.09	0.86	0.86	0.86	0.86	0.86	0.00
Volume/Cap:	0.14	0.01	0.20	0.05	0.04	0.06	0.01	0.20	0.20	0.02	0.13	0.00
Delay/Veh:	51.0	50.0	51.5	50.2	50.1	50.3	1.2	1.4	1.4	1.2	1.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.0	50.0	51.5	50.2	50.1	50.3	1.2	1.4	1.4	1.2	1.3	0.0
LOS by Move:	D	D	D	D	D	D	A	A	A	A	A	A
HCM2kAvgQ:	18	2	29	6	5	8	1	53	53	2	30	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #71: 15th St / D St




```
Street Name:            15th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   15   159    17   22     0     0    0     0   436    0    33
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   15   159    17   22     0     0    0     0   436    0    33
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   15   159    17   22     0     0    0     0   436    0    33
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   15   159    17   22     0     0    0     0   436    0    33
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   15   159    17   22     0     0    0     0   436    0    33
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  6.5   6.2   7.1  6.5 xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx  4.0   3.3   3.5  4.0 xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx  905     0   896  889 xxxxx  xxxx xxxx xxxxx     0 xxxx xxxxx
Potent Cap.: xxxx  278  1091   263  285 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Move Cap.:   xxxx  181  1091   154  185 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Volume/Cap:  xxxx 0.08  0.15  0.11 0.12  xxxx  xxxx xxxx  xxxx  0.27 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  27.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx   760   170 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx   0.9   0.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx  11.1  32.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     B     D    *     *     *    *     *     *    *     *
ApproachDel:      11.1             32.4            xxxxxx           xxxxxx
ApproachLOS:         B               D                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #71 15th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   15   159    17   22     0     0    0     0   436    0    33
ApproachDel:      11.1             32.4            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=174]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=682]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=39]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=682]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #71 15th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   15   159    17   22     0     0    0     0   436    0    33
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             469
Minor Approach Volume:           174
Minor Approach Volume Threshold: 421
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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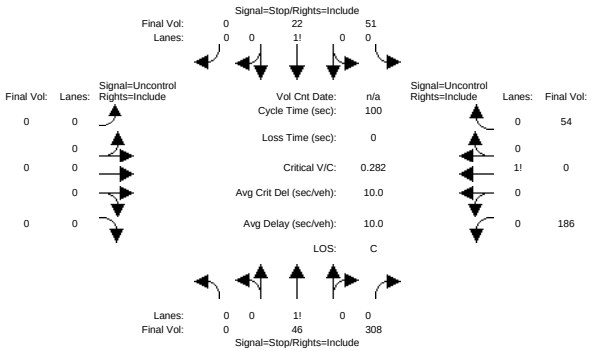
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #71: 15th St / D St




```
Street Name:            15th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   46   308    51   22     0     0    0     0   186    0    54
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   46   308    51   22     0     0    0     0   186    0    54
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   46   308    51   22     0     0    0     0   186    0    54
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   46   308    51   22     0     0    0     0   186    0    54
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   46   308    51   22     0     0    0     0   186    0    54
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  6.5   6.2   7.1  6.5 xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx  4.0   3.3   3.5  4.0 xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx  426     0   422  399 xxxxx  xxxx xxxx xxxxx     0 xxxx xxxxx
Potent Cap.: xxxx  524  1091   546  542 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Move Cap.:   xxxx  457  1091   327  473 xxxxx  xxxx xxxx xxxxx  1636 xxxx xxxxx
Volume/Cap:  xxxx 0.10  0.28  0.16 0.05  xxxx  xxxx xxxx  xxxx  0.11 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   9.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx   924   360 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx   1.8   0.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx  11.3  17.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     B     C    *     *     *    *     *     *    *     *
ApproachDel:      11.3             17.5           xxxxxx           xxxxxx
ApproachLOS:         B               C                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
******************************************************************************
Intersection #71 15th St / D St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   46   308    51   22     0     0    0     0   186    0    54
ApproachDel:      11.3             17.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=354]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=667]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=73]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=667]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
******************************************************************************
Intersection #71 15th St / D St
******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   46   308    51   22     0     0    0     0   186    0    54
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             240
Minor Approach Volume:           354
Minor Approach Volume Threshold: 600
------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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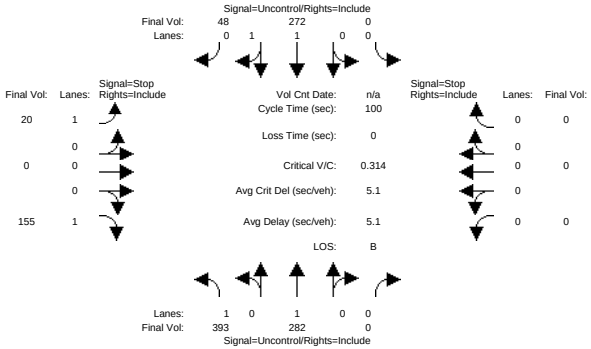
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #72: 16th St / D St




```
Street Name:            16th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     393  282     0     0  272    48    20    0   155     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  393  282     0     0  272    48    20    0   155     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  393  282     0     0  272    48    20    0   155     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   393  282     0     0  272    48    20    0   155     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  393  282     0     0  272    48    20    0   155     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  320 xxxx xxxxx  xxxx xxxx xxxxx  1364 xxxx   160  xxxx xxxx xxxxx
Potent Cap.: 1251 xxxx xxxxx  xxxx xxxx xxxxx   164 xxxx   890  xxxx xxxx xxxxx
Move Cap.:   1251 xxxx xxxxx  xxxx xxxx xxxxx   124 xxxx   890  xxxx xxxx xxxxx
Volume/Cap:  0.31 xxxx  xxxx  xxxx xxxx  xxxx  0.16 xxxx  0.17  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   33.9 xxxx xxxxx  xxxx xxxx xxxxx  13.8 xxxx  15.7  xxxx xxxx xxxxx
Control Del:  9.2 xxxx xxxxx xxxxx xxxx xxxxx  39.4 xxxx   9.9 xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     E    *     A     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             13.3           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #72 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:  393  282     0     0  272    48    20    0   155     0    0     0
ApproachDel:    xxxxxx           xxxxxx             13.3           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=175]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1170]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

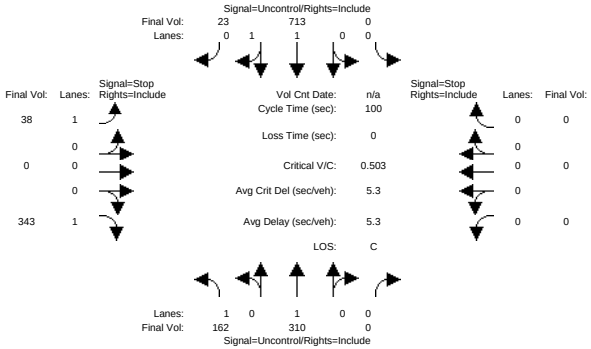
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #72 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:  393  282     0     0  272    48    20    0   155     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             995
Minor Approach Volume:           175
Minor Approach Volume Threshold: 376
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MERCED STATION ANALYSIS

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #72: 16th St / D St




```
Street Name:            16th Street                     D Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     162  310     0     0  713    23    38    0   343     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  162  310     0     0  713    23    38    0   343     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  162  310     0     0  713    23    38    0   343     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   162  310     0     0  713    23    38    0   343     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  162  310     0     0  713    23    38    0   343     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  736 xxxx xxxxx  xxxx xxxx xxxxx  1359 xxxx   368  xxxx xxxx xxxxx
Potent Cap.:  879 xxxx xxxxx  xxxx xxxx xxxxx   166 xxxx   682  xxxx xxxx xxxxx
Move Cap.:    879 xxxx xxxxx  xxxx xxxx xxxxx   142 xxxx   682  xxxx xxxx xxxxx
Volume/Cap:  0.18 xxxx  xxxx  xxxx xxxx  xxxx  0.27 xxxx  0.50  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   16.8 xxxx xxxxx  xxxx xxxx xxxxx  25.4 xxxx  71.1  xxxx xxxx xxxxx
Control Del: 10.0 xxxx xxxxx xxxxx xxxx xxxxx  39.3 xxxx  15.5 xxxxx xxxx xxxxx
LOS by Move:    B    *     *     *    *     *     E    *     C     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             17.9           xxxxxx
ApproachLOS:         *                *                C                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #72 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:  162  310     0     0  713    23    38    0   343     0    0     0
ApproachDel:    xxxxxx           xxxxxx             17.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=381]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1589]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #72 16th St / D St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
Initial Vol:  162  310     0     0  713    23    38    0   343     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1208
Minor Approach Volume:           381
Minor Approach Volume Threshold: 293
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

HEAVY MANTENANCE FACILITY ANALYSIS - CASTLE COMMERCE

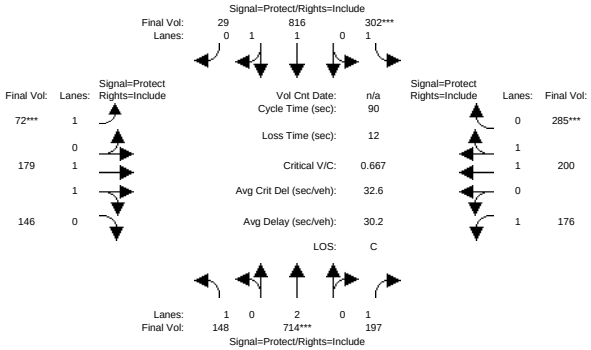
2035 BUILD_OPTION-A CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1: Winton Wy/Bellevue Rd

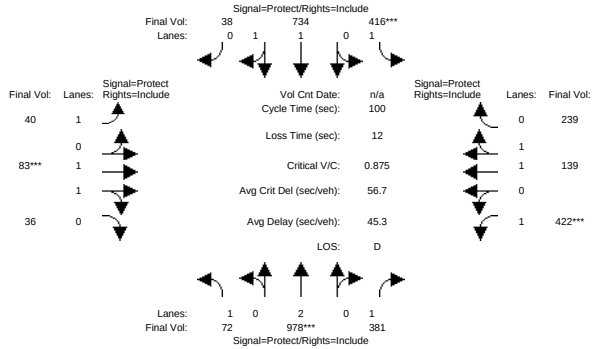



```
Street Name:          N. Winton Way                    Bellevue Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     148  714   174   302  816    29    72  179   146   163  200   285
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  148  714   174   302  816    29    72  179   146   163  200   285
Added Vol:      0    0    23     0    0     0     0    0     0    13    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  148  714   197   302  816    29    72  179   146   176  200   285
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   148  714   197   302  816    29    72  179   146   176  200   285
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  148  714   197   302  816    29    72  179   146   176  200   285
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  148  714   197   302  816    29    72  179   146   176  200   285
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.95  0.95 0.89  0.89  0.95 0.87  0.87
Lanes:       1.00 2.00  1.00  1.00 1.93  0.07  1.00 1.10  0.90  1.00 1.00  1.00
Final Sat.:  1805 3610  1615  1805 3469   123  1805 1855  1513  1805 1646  1646
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.20  0.12  0.17 0.24  0.24  0.04 0.10  0.10  0.10 0.12  0.17
Crit Moves:        ****        ****              ****                     ****
Green/Cycle: 0.14 0.29  0.29  0.25 0.40  0.40  0.08 0.18  0.18  0.15 0.25  0.25
Volume/Cap:  0.59 0.68  0.42  0.68 0.59  0.59  0.51 0.55  0.55  0.63 0.48  0.68
Delay/Veh:   40.2 30.2  26.5  35.1 22.1  22.1  43.1 34.8  34.8  40.1 28.9  33.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  40.2 30.2  26.5  35.1 22.1  22.1  43.1 34.8  34.8  40.1 28.9  33.0
LOS by Move:    D    C     C     D    C     C     D    C     C     D    C     C
HCM2kAvgQ:      5   10     5     9   10    10     3    5     5     6    5     9
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1: Winton Wy/Bellevue Rd

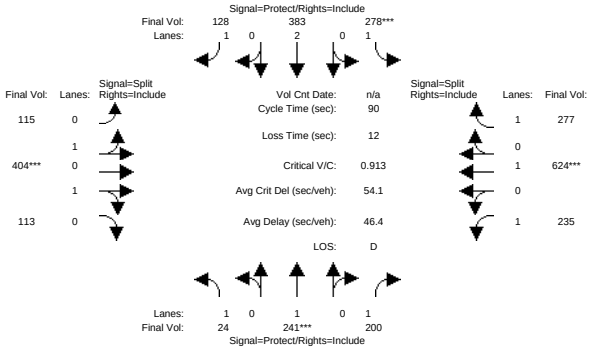



```
Street Name:          N. Winton Way                    Bellevue Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      72  978   368   416  734    38    40   83    36   399  139   239
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   72  978   368   416  734    38    40   83    36   399  139   239
Added Vol:      0    0    13     0    0     0     0    0     0    23    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   72  978   381   416  734    38    40   83    36   422  139   239
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    72  978   381   416  734    38    40   83    36   422  139   239
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   72  978   381   416  734    38    40   83    36   422  139   239
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   72  978   381   416  734    38    40   83    36   422  139   239
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.94  0.94  0.95 0.91  0.91  0.95 0.86  0.86
Lanes:       1.00 2.00  1.00  1.00 1.90  0.10  1.00 1.39  0.61  1.00 1.00  1.00
Final Sat.:  1805 3610  1615  1805 3408   176  1805 2405  1043  1805 1634  1634
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.27  0.24  0.23 0.22  0.22  0.02 0.03  0.03  0.23 0.09  0.15
Crit Moves:        ****        ****              ****         ****
Green/Cycle: 0.13 0.29  0.29  0.24 0.40  0.40  0.11 0.10  0.10  0.25 0.24  0.24
Volume/Cap:  0.31 0.94  0.82  0.94 0.54  0.54  0.20 0.35  0.35  0.94 0.36  0.62
Delay/Veh:   40.1 50.8  44.4  65.8 23.2  23.2  40.7 42.6  42.6  65.4 32.2  36.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  40.1 50.8  44.4  65.8 23.2  23.2  40.7 42.6  42.6  65.4 32.2  36.2
LOS by Move:    D    D     D     E    C     C     D    D     D     E    C     D
HCM2kAvgQ:      2   20    13    17   10    10     1    2     2    17    4     8
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #2: Atwater Blvd / Applegate Rd



Street Name:	Atwater Boulevard									Applegate Road-Winton Way								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	24		241		200	278		383		128	115		381		113	235		611		277
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	24		241		200	278		383		128	115		381		113	235		611		277
Added Vol:	0		0		0	0		0		0	0		23		0	0		13		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	24		241		200	278		383		128	115		404		113	235		624		277
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	24		241		200	278		383		128	115		404		113	235		624		277
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	24		241		200	278		383		128	115		404		113	235		624		277
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	24		241		200	278		383		128	115		404		113	235		624		277
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.95		0.85	0.92		0.92		0.92	0.95		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		2.00		1.00	0.36		1.28		0.36	1.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		3610		1615	633		2225		622	1805		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.01		0.13		0.12	0.15		0.11		0.08	0.18		0.18		0.18	0.13		0.33		0.17
Crit Moves:			****			****							****					****		
Green/Cycle:	0.13		0.14		0.14	0.17		0.18		0.18	0.20		0.20		0.20	0.36		0.36		0.36
Volume/Cap:	0.10		0.91		0.89	0.91		0.59		0.44	0.91		0.91		0.91	0.36		0.91		0.48
Delay/Veh:	35.0		71.4		70.6	66.8		35.1		33.8	51.7		51.7		51.7	21.5		44.1		22.9
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	35.0		71.4		70.6	66.8		35.1		33.8	51.7		51.7		51.7	21.5		44.1		22.9
LOS by Move:	C		E		E	E		D		C	D		D		D	C		D		C
HCM2kAvgQ:	1		10		9	11		6		4	9		9		9	5		21		6

Note: Queue reported is the number of cars per lane.

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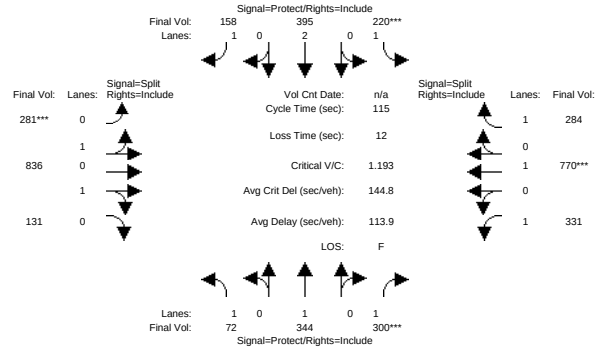
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #2: Atwater Blvd / Applegate Rd



Street Name:	Atwater Boulevard									Applegate Road-Winton Way								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	72		344		300	220		395		158	281		823		131	331		747		284
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	72		344		300	220		395		158	281		823		131	331		747		284
Added Vol:	0		0		0	0		0		0	0		13		0	0		23		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	72		344		300	220		395		158	281		836		131	331		770		284
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	72		344		300	220		395		158	281		836		131	331		770		284
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	72		344		300	220		395		158	281		836		131	331		770		284
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	72		344		300	220		395		158	281		836		131	331		770		284
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.95		0.85	0.92		0.92		0.92	0.95		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		2.00		1.00	0.45		1.34		0.21	1.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		3610		1615	791		2353		369	1805		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.04		0.18		0.19	0.12		0.11		0.10	0.36		0.36		0.36	0.18		0.41		0.18
Crit Moves:					****	****					****							****		
Green/Cycle:	0.09		0.16		0.16	0.10		0.17		0.17	0.30		0.30		0.30	0.34		0.34		0.34
Volume/Cap:	0.43		1.16		1.19	1.19		0.66		0.59	1.19		1.19		1.19	0.54		1.19		0.52
Delay/Veh:	51.2		152		167.5	179.3		47.7		47.8	136.6		137		136.6	31.7		139		31.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	51.2		152		167.5	179.3		47.7		47.8	136.6		137		136.6	31.7		139		31.3
LOS by Move:	D		F		F	F		F		D	D		F		F	F		C		C
HCM2kAvgQ:	3		21		19	15		8		6	35		35		35	10		45		8

Note: Queue reported is the number of cars per lane.

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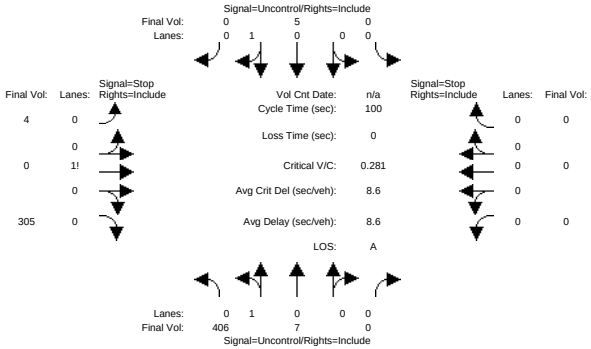
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #3: Sycamore Ave / SR-99 NB Ramps




```
Street Name:         Sycamore Avenue                    SR-99 NB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     393    7     0     0    5     0     4    0   305     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  393    7     0     0    5     0     4    0   305     0    0     0
Added Vol:     13    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  406    7     0     0    5     0     4    0   305     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   406    7     0     0    5     0     4    0   305     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  406    7     0     0    5     0     4    0   305     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:    5 xxxx xxxxx  xxxx xxxx xxxxx   824  824     5  xxxx xxxx xxxxx
Potent Cap.: 1630 xxxx xxxxx  xxxx xxxx xxxxx   346  310  1084  xxxx xxxx xxxxx
Move Cap.:   1630 xxxx xxxxx  xxxx xxxx xxxxx   259  211  1084  xxxx xxxx xxxxx
Volume/Cap:  0.25 xxxx  xxxx  xxxx xxxx  xxxx  0.02 0.00  0.28  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 1041 xxxxx  xxxx xxxx xxxxx
SharedQueue:  1.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  1.2 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.9 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              9.9           xxxxxx
ApproachLOS:         *                *               A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  406    7     0     0    5     0     4    0   305     0    0     0
ApproachDel:    xxxxxx           xxxxxx              9.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=309]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=727]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

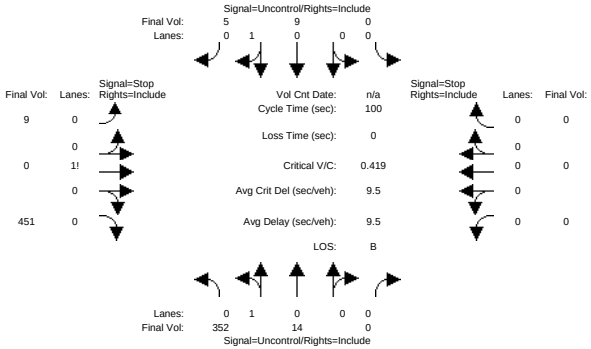
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  406    7     0     0    5     0     4    0   305     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             418
Minor Approach Volume:           309
Minor Approach Volume Threshold: 452
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #3: Sycamore Ave / SR-99 NB Ramps




```
Street Name:         Sycamore Avenue                    SR-99 NB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     329   14     0     0     9     5     9     0   451     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  329   14     0     0     9     5     9     0   451     0     0     0
Added Vol:     23    0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0    0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  352   14     0     0     9     5     9     0   451     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   352   14     0     0     9     5     9     0   451     0     0     0
Reduct Vol:     0    0     0     0     0     0     0     0     0     0     0     0
FinalVolume:  352   14     0     0     9     5     9     0   451     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   14 xxxx xxxxx  xxxx xxxx xxxxx   730  730    12  xxxx xxxx xxxxx
Potent Cap.: 1617 xxxx xxxxx  xxxx xxxx xxxxx   393  352  1075  xxxx xxxx xxxxx
Move Cap.:   1617 xxxx xxxxx  xxxx xxxx xxxxx   311  257  1075  xxxx xxxx xxxxx
Volume/Cap:  0.22 xxxx  xxxx  xxxx xxxx  xxxx  0.03 0.00  0.42  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.8 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 1026 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  2.4 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 11.3 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    B     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             11.3           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  352   14     0     0     9     5     9     0   451     0     0     0
ApproachDel:    xxxxxx           xxxxxx             11.3           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=460]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=840]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

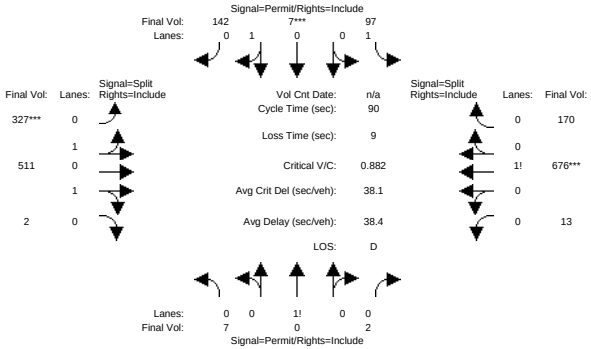
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  352   14     0     0     9     5     9     0   451     0     0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             380
Minor Approach Volume:           460
Minor Approach Volume Threshold: 477
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #4: Sycamore Ave / Applegate Rd



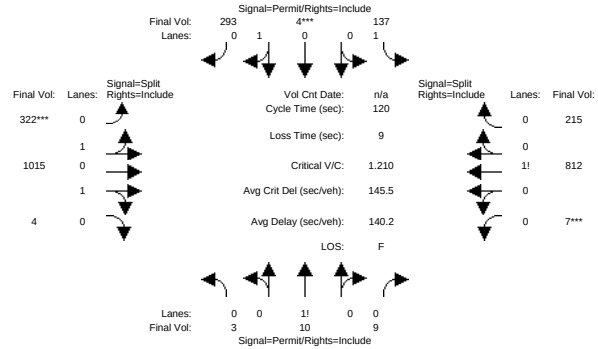
Street Name:	Sycamore Avenue												Applegate Road											
Approach:	North Bound				South Bound				East Bound				West Bound											
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																									
Base Vol:	7		0		2	97		7		142	327		488		2	13		676		157					
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
Initial Bse:	7		0		2	97		7		142	327		488		2	13		676		157					
Added Vol:	0		0		0	0		0		0	0		23		0	0		0		13					
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0					
Initial Fut:	7		0		2	97		7		142	327		511		2	13		676		170					
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Volume:	7		0		2	97		7		142	327		511		2	13		676		170					
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0					
Reduced Vol:	7		0		2	97		7		142	327		511		2	13		676		170					
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
FinalVolume:	7		0		2	97		7		142	327		511		2	13		676		170					
Saturation Flow Module:																									
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900					
Adjustment:	0.74		1.00		0.74	0.76		0.86		0.86	0.93		0.93		0.93	0.97		0.97		0.97					
Lanes:	0.78		0.00		0.22	1.00		0.05		0.95	0.78		1.21		0.01	0.01		0.79		0.20					
Final Sat.:	1095		0		313	1446		76		1552	1379		2154		8	28		1453		366					
Capacity Analysis Module:																									
Vol/Sat:	0.01		0.00		0.01	0.07		0.09		0.09	0.24		0.24		0.24	0.47		0.47		0.47					
Crit Moves:								****			****							****							
Green/Cycle:	0.11		0.00		0.11	0.11		0.11		0.11	0.27		0.27		0.27	0.52		0.52		0.52					
Volume/Cap:	0.06		0.00		0.06	0.60		0.82		0.82	0.89		0.89		0.89	0.89		0.89		0.89					
Delay/Veh:	35.9		0.0		35.9	44.5		64.4		64.4	42.3		42.3		42.3	29.5		29.5		29.5					
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
AdjDel/Veh:	35.9		0.0		35.9	44.5		64.4		64.4	42.3		42.3		42.3	29.5		29.5		29.5					
LOS by Move:	D		A		D	D		E		E	D		D		D	C		C		C					
HCM2kAvgQ:	0		0		0	4		6		6	13		13		13	21		21		21					

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #4: Sycamore Ave / Applegate Rd



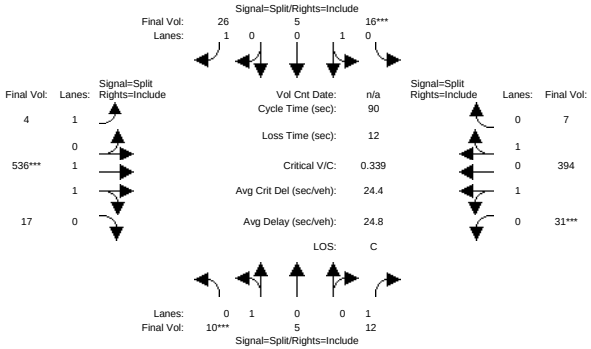
Street Name:	Sycamore Avenue												Applegate Road											
Approach:	North Bound				South Bound				East Bound				West Bound											
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																									
Base Vol:	3		10		9	137		4		293	322		1002		4	7		812		192					
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
Initial Bse:	3		10		9	137		4		293	322		1002		4	7		812		192					
Added Vol:	0		0		0	0		0		0	0		13		0	0		0		23					
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0					
Initial Fut:	3		10		9	137		4		293	322		1015		4	7		812		215					
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Volume:	3		10		9	137		4		293	322		1015		4	7		812		215					
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0					
Reduced Vol:	3		10		9	137		4		293	322		1015		4	7		812		215					
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
FinalVolume:	3		10		9	137		4		293	322		1015		4	7		812		215					
Saturation Flow Module:																									
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900					
Adjustment:	0.62		0.62		0.62	0.75		0.85		0.85	0.94		0.94		0.94	0.97		0.97		0.97					
Lanes:	0.14		0.45		0.41	1.00		0.01		0.99	0.48		1.51		0.01	0.01		0.78		0.21					
Final Sat.:	162		539		485	1433		22		1597	856		2700		11	13		1450		384					
Capacity Analysis Module:																									
Vol/Sat:	0.02		0.02		0.02	0.10		0.18		0.18	0.38		0.38		0.38	0.56		0.56		0.56					
Crit Moves:								****			****							****							
Green/Cycle:	0.15		0.15		0.15	0.15		0.15		0.15	0.31		0.31		0.31	0.46		0.46		0.46					
Volume/Cap:	0.12		0.12		0.12	0.63		1.21		1.21	1.21		1.21		1.21	1.21		1.21		1.21					
Delay/Veh:	44.3		44.3		44.3	53.6		177		177.1	144.5		144		144.5	137.7		138		137.7					
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
AdjDel/Veh:	44.3		44.3		44.3	53.6		177		177.1	144.5		144		144.5	137.7		138		137.7					
LOS by Move:	D		D		D	D		F		F	F		F		F	F		F		F					
HCM2kAvgQ:	1		1		1	6		20		20	41		41		41	57		57		57					

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #5: Bell Ln-Mall Access / SR-99 SB Ramps



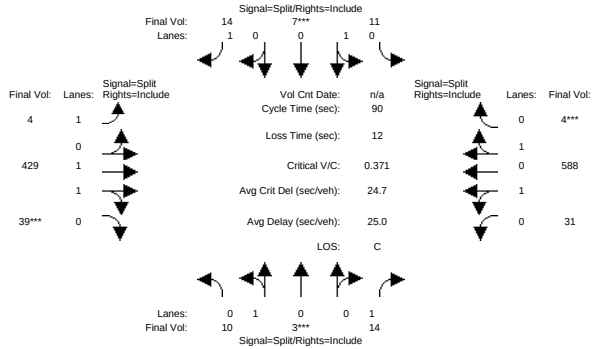
Street Name:	Bell Ln-Mall Access									SR-99 SB Ramps		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	5	12	16	5	26	4	536	17	31	371	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	5	12	16	5	26	4	536	17	31	371	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	23	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	5	12	16	5	26	4	536	17	31	394	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	5	12	16	5	26	4	536	17	31	394	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	5	12	16	5	26	4	536	17	31	394	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	5	12	16	5	26	4	536	17	31	394	7
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.96	0.96	0.85	0.95	0.95	0.95	0.94	0.94	0.94
Lanes:	0.67	0.33	1.00	0.76	0.24	1.00	1.00	1.94	0.06	0.14	1.83	0.03
Final Sat.:	1226	613	1615	1394	436	1615	1805	3482	110	257	3273	58
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.01	0.01	0.02	0.00	0.15	0.15	0.12	0.12	0.12
Crit Moves:	****			****				****		****		
Green/Cycle:	0.11	0.11	0.11	0.11	0.11	0.11	0.36	0.36	0.36	0.28	0.28	0.28
Volume/Cap:	0.07	0.07	0.07	0.10	0.10	0.14	0.01	0.43	0.43	0.43	0.43	0.43
Delay/Veh:	36.0	36.0	36.0	36.2	36.2	36.5	18.4	21.9	21.9	26.6	26.6	26.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.0	36.0	36.0	36.2	36.2	36.5	18.4	21.9	21.9	26.6	26.6	26.6
LOS by Move:	D	D	D	D	D	D	B	C	C	C	C	C
HCM2kAvgQ:	0	0	0	1	1	1	0	6	6	5	5	5

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #5: Bell Ln-Mall Access / SR-99 SB Ramps



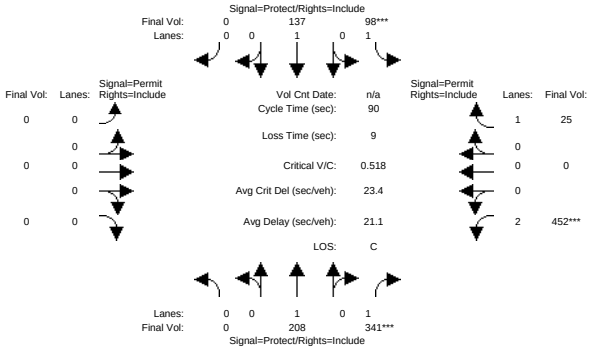
Street Name:	Bell Ln-Mall Access									SR-99 SB Ramps		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	3	14	11	7	14	4	429	39	31	575	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	3	14	11	7	14	4	429	39	31	575	4
Added Vol:	0	0	0	0	0	0	0	0	0	0	13	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	3	14	11	7	14	4	429	39	31	588	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	3	14	11	7	14	4	429	39	31	588	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	3	14	11	7	14	4	429	39	31	588	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	3	14	11	7	14	4	429	39	31	588	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.96	0.96	0.85	0.97	0.97	0.85	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.77	0.23	1.00	0.61	0.39	1.00	1.00	1.83	0.17	0.10	1.89	0.01
Final Sat.:	1407	422	1615	1126	717	1615	1805	3269	297	179	3397	23
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.13	0.13	0.17	0.17	0.17
Crit Moves:		****			****				****			****
Green/Cycle:	0.11	0.11	0.11	0.11	0.11	0.11	0.28	0.28	0.28	0.37	0.37	0.37
Volume/Cap:	0.06	0.06	0.08	0.09	0.09	0.08	0.01	0.47	0.47	0.47	0.47	0.47
Delay/Veh:	35.9	35.9	36.1	36.1	36.1	36.1	23.5	27.4	27.4	22.1	22.1	22.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.9	35.9	36.1	36.1	36.1	36.1	23.5	27.4	27.4	22.1	22.1	22.1
LOS by Move:	D	D	D	D	D	D	C	C	C	C	C	C
HCM2kAvgQ:	0	0	0	0	0	0	0	6	6	7	7	7

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #6: Bell Dr/Bell Ln



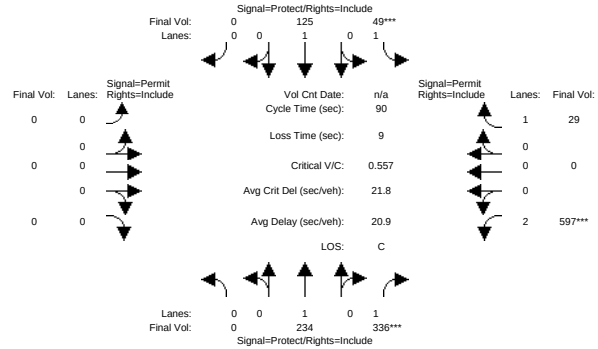
Street Name:	Bell Dr									Bell Ln-SR99 SB Ramp Rd								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0		10		10	7		10		0	0		0		0	10		0		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	0		208		341	98		137		0	0		0		0	429		0		25
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	0		208		341	98		137		0	0		0		0	429		0		25
Added Vol:	0		0		0	0		0		0	0		0		0	23		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	0		208		341	98		137		0	0		0		0	452		0		25
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	0		208		341	98		137		0	0		0		0	452		0		25
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	0		208		341	98		137		0	0		0		0	452		0		25
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	0		208		341	98		137		0	0		0		0	452		0		25
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	1.00		1.00		0.85	0.95		1.00		1.00	1.00		1.00		1.00	0.59		1.00		0.85
Lanes:	0.00		1.00		1.00	1.00		1.00		0.00	0.00		0.00		0.00	2.00		0.00		1.00
Final Sat.:	0		1900		1615	1805		1900		0	0		0		0	2252		0		1615
Capacity Analysis Module:																				
Vol/Sat:	0.00		0.11		0.21	0.05		0.07		0.00	0.00		0.00		0.00	0.20		0.00		0.02
Crit Moves:					****	****										****				
Green/Cycle:	0.00		0.41		0.41	0.10		0.51		0.00	0.00		0.00		0.00	0.39		0.00		0.39
Volume/Cap:	0.00		0.27		0.52	0.52		0.14		0.00	0.00		0.00		0.00	0.52		0.00		0.04
Delay/Veh:	0.0		17.9		20.7	40.6		11.6		0.0	0.0		0.0		0.0	21.7		0.0		17.2
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	0.0		17.9		20.7	40.6		11.6		0.0	0.0		0.0		0.0	21.7		0.0		17.2
LOS by Move:	A		B		C	D		B		A	A		A		A	C		A		B
HCM2kAvgQ:	0		4		7	3		2		0	0		0		0	5		0		0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #6: Bell Dr/Bell Ln



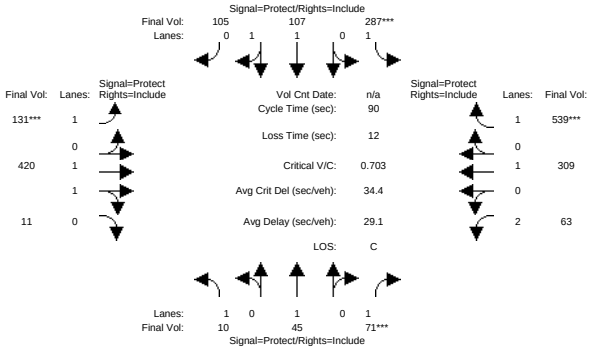
Street Name:	Bell Dr									Bell Ln-SR99 SB Ramp Rd								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0		10		10	7		10		0	0		0		0	10		0		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	0		234		336	49		125		0	0		0		0	584		0		29
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	0		234		336	49		125		0	0		0		0	584		0		29
Added Vol:	0		0		0	0		0		0	0		0		0	13		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	0		234		336	49		125		0	0		0		0	597		0		29
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	0		234		336	49		125		0	0		0		0	597		0		29
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	0		234		336	49		125		0	0		0		0	597		0		29
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	0		234		336	49		125		0	0		0		0	597		0		29
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	1.00		1.00		0.85	0.95		1.00		1.00	1.00		1.00		1.00	0.59		1.00		0.85
Lanes:	0.00		1.00		1.00	1.00		1.00		0.00	0.00		0.00		0.00	2.00		0.00		1.00
Final Sat.:	0		1900		1615	1805		1900		0	0		0		0	2241		0		1615
Capacity Analysis Module:																				
Vol/Sat:	0.00		0.12		0.21	0.03		0.07		0.00	0.00		0.00		0.00	0.27		0.00		0.02
Crit Moves:					****	****										****				
Green/Cycle:	0.00		0.36		0.36	0.08		0.44		0.00	0.00		0.00		0.00	0.46		0.00		0.46
Volume/Cap:	0.00		0.34		0.58	0.35		0.15		0.00	0.00		0.00		0.00	0.58		0.00		0.04
Delay/Veh:	0.0		21.3		24.7	40.8		15.3		0.0	0.0		0.0		0.0	18.6		0.0		13.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	0.0		21.3		24.7	40.8		15.3		0.0	0.0		0.0		0.0	18.6		0.0		13.3
LOS by Move:	A		C		C	D		B		A	A		A		A	B		A		B
HCM2kAvgQ:	0		5		7	2		2		0	0		0		0	6		0		0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #7: Bel Dr-Commerce / Applegate Rd



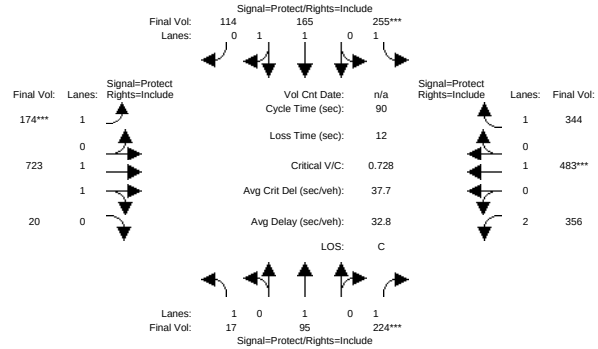
Street Name:	Bell Dr-Commerce						Applegate Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	45	71	264	107	105	131	420	11	63	309	539
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	45	71	264	107	105	131	420	11	63	309	539
Added Vol:	0	0	0	23	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	45	71	287	107	105	131	420	11	63	309	539
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	45	71	287	107	105	131	420	11	63	309	539
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	45	71	287	107	105	131	420	11	63	309	539
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	45	71	287	107	105	131	420	11	63	309	539
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.88	0.88	0.95	0.95	0.95	0.92	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.01	0.99	1.00	1.95	0.05	2.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	1687	1656	1805	3504	92	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.02	0.04	0.16	0.06	0.06	0.07	0.12	0.12	0.02	0.16	0.33
Crit Moves:			****	****			****					****
Green/Cycle:	0.13	0.11	0.11	0.21	0.19	0.19	0.10	0.33	0.33	0.21	0.45	0.45
Volume/Cap:	0.04	0.21	0.40	0.75	0.33	0.33	0.75	0.36	0.36	0.08	0.36	0.75
Delay/Veh:	34.1	36.9	38.6	41.1	31.8	31.8	55.8	23.2	23.2	28.4	16.8	25.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.1	36.9	38.6	41.1	31.8	31.8	55.8	23.2	23.2	28.4	16.8	25.1
LOS by Move:	C	D	D	D	C	C	E	C	C	C	B	C
HCM2kAvgQ:	0	1	2	8	3	3	5	5	5	1	5	12

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #7: Bel Dr-Commerce / Applegate Rd



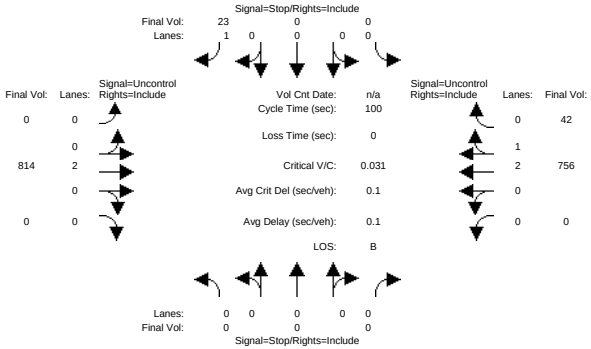
Street Name:	Bell Dr-Commerce						Applegate Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	17	95	224	242	165	114	174	723	20	356	483	344
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	17	95	224	242	165	114	174	723	20	356	483	344
Added Vol:	0	0	0	13	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	17	95	224	255	165	114	174	723	20	356	483	344
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	17	95	224	255	165	114	174	723	20	356	483	344
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	95	224	255	165	114	174	723	20	356	483	344
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	17	95	224	255	165	114	174	723	20	356	483	344
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.89	0.89	0.95	0.95	0.95	0.92	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.18	0.82	1.00	1.95	0.05	2.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	2005	1385	1805	3499	97	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.05	0.14	0.14	0.08	0.08	0.10	0.21	0.21	0.10	0.25	0.21
Crit Moves:			****	****			****				****	
Green/Cycle:	0.16	0.19	0.19	0.19	0.23	0.23	0.13	0.32	0.32	0.16	0.35	0.35
Volume/Cap:	0.06	0.26	0.73	0.73	0.36	0.36	0.73	0.64	0.64	0.64	0.73	0.61
Delay/Veh:	32.3	31.4	42.7	41.5	29.6	29.6	48.2	27.2	27.2	37.9	29.6	26.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	31.4	42.7	41.5	29.6	29.6	48.2	27.2	27.2	37.9	29.6	26.2
LOS by Move:	C	C	D	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	0	2	7	7	3	3	6	10	10	4	11	7

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #8: Mall Access / Applegate Rd




```
Street Name:            Mall Access                     Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0    23     0  791     0     0  756    42
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0    23     0  791     0     0  756    42
Added Vol:      0    0     0     0    0     0     0   23     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0    23     0  814     0     0  756    42
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0    23     0  814     0     0  756    42
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0    23     0  814     0     0  756    42
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   273  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   731  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   731  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.03  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  10.1 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             10.1           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    23     0  814     0     0  756    42
ApproachDel:    xxxxxx             10.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1635]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

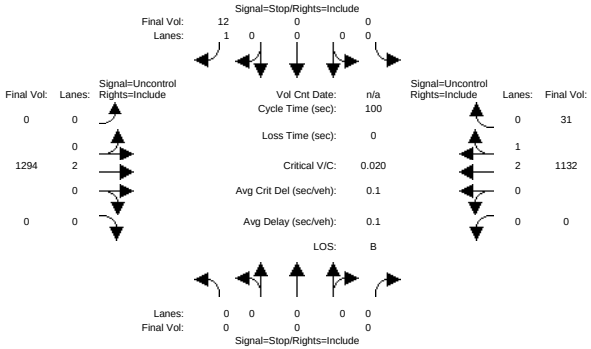
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    23     0  814     0     0  756    42
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1612
Minor Approach Volume:           23
Minor Approach Volume Threshold: 120
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #8: Mall Access / Applegate Rd




```
Street Name:            Mall Access                     Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0    12     0 1281     0     0 1132    31
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0    12     0 1281     0     0 1132    31
Added Vol:      0    0     0     0    0     0     0   13     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0    12     0 1294     0     0 1132    31
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0    12     0 1294     0     0 1132    31
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0    12     0 1294     0     0 1132    31
------------||---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------||---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   393  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   612  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   612  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------||---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  11.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             11.0           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    12     0 1294     0     0 1132    31
ApproachDel:    xxxxxx             11.0           xxxxxx           xxxxxx
------------||---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2469]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

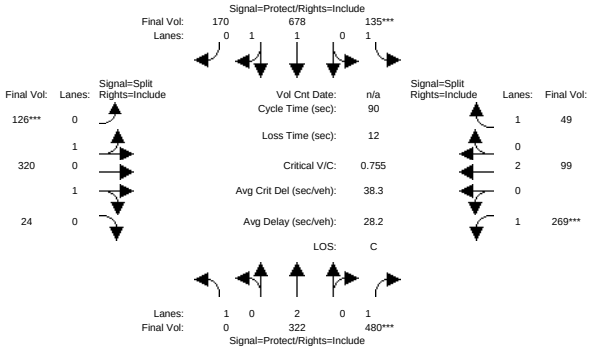
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    12     0 1294     0     0 1132    31
------------||---------------||---------------||---------------||---------------|
Major Street Volume:             2457
Minor Approach Volume:           12
Minor Approach Volume Threshold: -25 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #9: Santa Fe Dr / Buhach Rd-AirdromeEntry



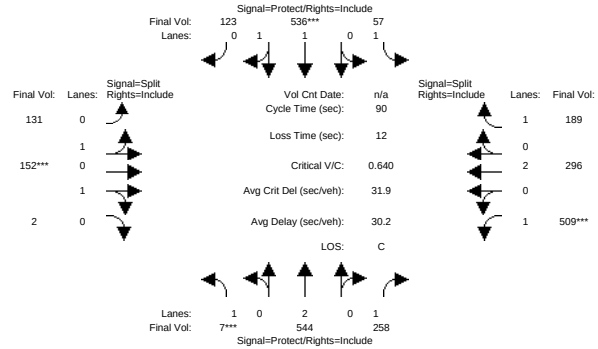
Street Name:	Santa Fe Drive						Buhach Road - Airdrome Entry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	322	74	112	678	170	126	283	24	40	78	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	322	74	112	678	170	126	283	24	40	78	36
Added Vol:	0	0	406	23	0	0	0	37	0	229	21	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	322	480	135	678	170	126	320	24	269	99	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	322	480	135	678	170	126	320	24	269	99	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	322	480	135	678	170	126	320	24	269	99	49
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	322	480	135	678	170	126	320	24	269	99	49
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	0.95	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	1.60	0.40	0.54	1.36	0.10	1.00	2.00	1.00
Final Sat.:	1900	3610	1615	1805	2800	702	948	2407	180	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.30	0.07	0.24	0.24	0.13	0.13	0.13	0.15	0.03	0.03
Crit Moves:			****	****			****			****		
Green/Cycle:	0.00	0.39	0.39	0.10	0.49	0.49	0.18	0.18	0.18	0.20	0.20	0.20
Volume/Cap:	0.00	0.23	0.75	0.75	0.49	0.49	0.75	0.75	0.75	0.75	0.14	0.15
Delay/Veh:	0.0	18.2	28.7	56.1	15.5	15.5	40.5	40.5	40.5	42.9	29.9	30.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	18.2	28.7	56.1	15.5	15.5	40.5	40.5	40.5	42.9	29.9	30.1
LOS by Move:	A	B	C	E	B	B	D	D	D	D	C	C
HCM2kAvgQ:	0	3	12	5	8	8	7	7	7	9	1	1

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #9: Santa Fe Dr / Buhach Rd-AirdromeEntry



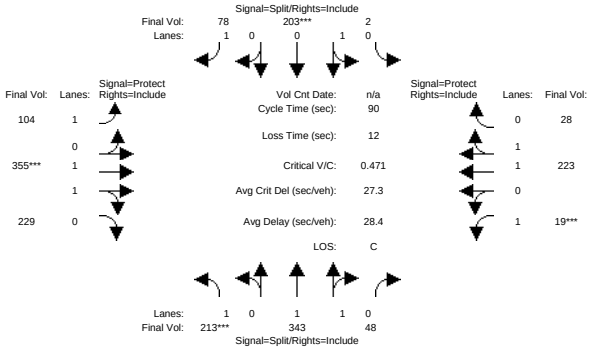
Street Name:	Santa Fe Drive						Buhach Road - Airdrome Entry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	7	544	29	44	536	123	131	131	2	103	259	166
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	544	29	44	536	123	131	131	2	103	259	166
Added Vol:	0	0	229	13	0	0	0	21	0	406	37	23
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	544	258	57	536	123	131	152	2	509	296	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	544	258	57	536	123	131	152	2	509	296	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	544	258	57	536	123	131	152	2	509	296	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	544	258	57	536	123	131	152	2	509	296	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	1.63	0.37	0.92	1.07	0.01	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	2854	655	1621	1881	25	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.15	0.16	0.03	0.19	0.19	0.08	0.08	0.08	0.28	0.08	0.12
Crit Moves:	****				****			****			****	
Green/Cycle:	0.08	0.23	0.23	0.11	0.27	0.27	0.12	0.12	0.12	0.40	0.40	0.40
Volume/Cap:	0.05	0.65	0.68	0.28	0.70	0.70	0.70	0.70	0.70	0.70	0.20	0.29
Delay/Veh:	38.6	32.9	36.6	37.3	31.9	31.9	43.5	43.5	43.5	25.3	17.5	18.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.6	32.9	36.6	37.3	31.9	31.9	43.5	43.5	43.5	25.3	17.5	18.3
LOS by Move:	D	C	D	D	C	C	D	D	D	C	B	B
HCM2kAvgQ:	0	7	7	2	10	10	4	4	4	13	3	4

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #10: Buhach Rd/Bellevue Rd



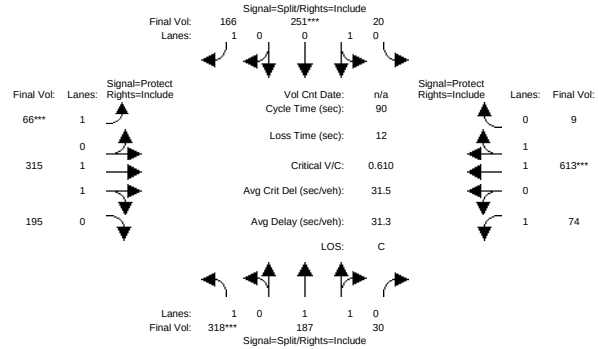
Street Name:	N. Buhach Road						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	213	329	48	2	195	65	81	355	229	19	223	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	213	329	48	2	195	65	81	355	229	19	223	28
Added Vol:	0	14	0	0	8	13	23	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	213	343	48	2	203	78	104	355	229	19	223	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	213	343	48	2	203	78	104	355	229	19	223	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	213	343	48	2	203	78	104	355	229	19	223	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	213	343	48	2	203	78	104	355	229	19	223	28
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	1.00	1.00	0.85	0.95	0.89	0.89	0.95	0.93	0.93
Lanes:	1.00	1.75	0.25	0.01	0.99	1.00	1.00	1.22	0.78	1.00	1.78	0.22
Final Sat.:	1805	3110	435	19	1881	1615	1805	2065	1332	1805	3153	396
Capacity Analysis Module:												
Vol/Sat:	0.12	0.11	0.11	0.11	0.11	0.05	0.06	0.17	0.17	0.01	0.07	0.07
Crit Moves:	****				****			****		****		
Green/Cycle:	0.23	0.23	0.23	0.21	0.21	0.21	0.17	0.34	0.34	0.08	0.25	0.25
Volume/Cap:	0.50	0.47	0.47	0.50	0.50	0.23	0.33	0.50	0.50	0.14	0.29	0.29
Delay/Veh:	30.9	30.1	30.1	32.2	32.2	29.5	33.3	24.0	24.0	39.1	27.7	27.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.9	30.1	30.1	32.2	32.2	29.5	33.3	24.0	24.0	39.1	27.7	27.7
LOS by Move:	C	C	C	C	C	C	C	C	C	D	C	C
HCM2kAvgQ:	6	5	5	5	5	2	3	7	7	0	3	3

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #10: Buhach Rd/Bellevue Rd



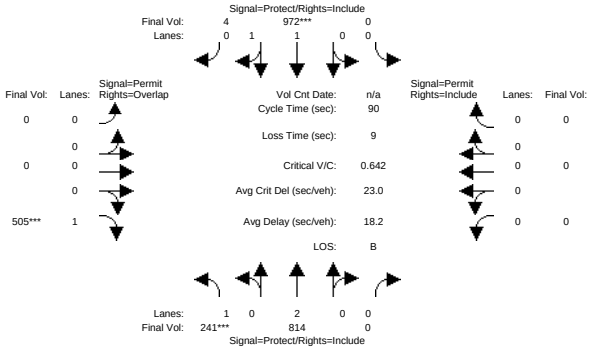
Street Name:	N. Buhach Road						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	318	179	30	20	237	143	53	315	195	74	613	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	318	179	30	20	237	143	53	315	195	74	613	9
Added Vol:	0	8	0	0	14	23	13	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	318	187	30	20	251	166	66	315	195	74	613	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	318	187	30	20	251	166	66	315	195	74	613	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	318	187	30	20	251	166	66	315	195	74	613	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	318	187	30	20	251	166	66	315	195	74	613	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	1.00	1.00	0.85	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.72	0.28	0.07	0.93	1.00	1.00	1.24	0.76	1.00	1.97	0.03
Final Sat.:	1805	3046	489	140	1753	1615	1805	2103	1302	1805	3551	52
Capacity Analysis Module:												
Vol/Sat:	0.18	0.06	0.06	0.14	0.14	0.10	0.04	0.15	0.15	0.04	0.17	0.17
Crit Moves:	****				****		****				****	
Green/Cycle:	0.28	0.28	0.28	0.23	0.23	0.23	0.08	0.23	0.23	0.12	0.28	0.28
Volume/Cap:	0.62	0.22	0.22	0.62	0.62	0.45	0.47	0.64	0.64	0.34	0.62	0.62
Delay/Veh:	30.5	24.8	24.8	34.0	34.0	30.6	42.2	32.9	32.9	37.2	29.7	29.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.5	24.8	24.8	34.0	34.0	30.6	42.2	32.9	32.9	37.2	29.7	29.7
LOS by Move:	C	C	C	C	C	C	D	C	C	D	C	C
HCM2kAvgQ:	8	2	2	7	7	4	2	8	8	2	8	8

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #14: Santa Fe Dr / Bellevue Rd



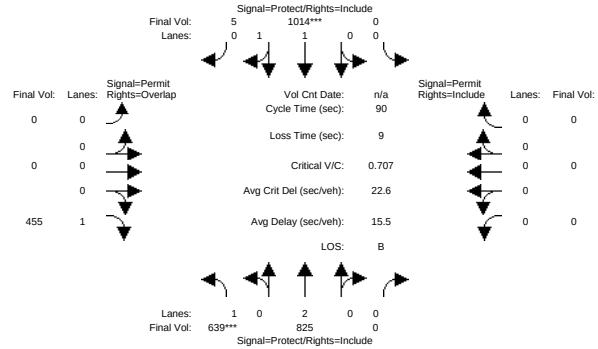
Street Name:	Santa Fe Drive								Bellevue Road							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	0	0		10	10	0		0	10	0		0	0
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	241		408	0	0		743	4	0		0	505	0		0	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	241		408	0	0		743	4	0		0	505	0		0	0
Added Vol:	0		406	0	0		229	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	241		814	0	0		972	4	0		0	505	0		0	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	241		814	0	0		972	4	0		0	505	0		0	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	241		814	0	0		972	4	0		0	505	0		0	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	241		814	0	0		972	4	0		0	505	0		0	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	1.00	1.00		0.95	0.95	1.00		1.00	0.87	1.00		1.00	1.00
Lanes:	1.00		2.00	0.00	0.00		1.99	0.01	0.00		0.00	1.00	0.00		0.00	0.00
Final Sat.:	1805		3610	0	0		3592	15	0		0	1644	0		0	0
Capacity Analysis Module:																
Vol/Sat:	0.13		0.23	0.00	0.00		0.27	0.27	0.00		0.00	0.31	0.00		0.00	0.00
Crit Moves:	****						****					****				
Green/Cycle:	0.21		0.63	0.00	0.00		0.42	0.42	0.00		0.00	0.48	0.00		0.00	0.00
Volume/Cap:	0.64		0.36	0.00	0.00		0.64	0.64	0.00		0.00	0.64	0.00		0.00	0.00
Delay/Veh:	36.3		8.1	0.0	0.0		21.6	21.6	0.0		0.0	19.5	0.0		0.0	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	36.3		8.1	0.0	0.0		21.6	21.6	0.0		0.0	19.5	0.0		0.0	0.0
LOS by Move:	D		A	A	A		C	C	A		A	B	A		A	A
HCM2kAvgQ:	6		5	0	0		11	11	0		0	10	0		0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #14: Santa Fe Dr / Bellevue Rd



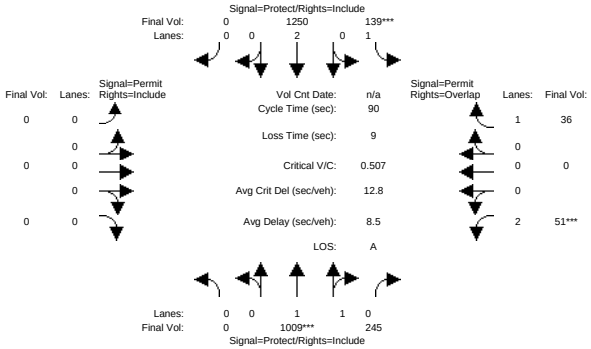
Street Name:	Santa Fe Drive								Bellevue Road							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	0	0		10	10	0		0	10	0		0	0
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	639		596	0	0		608	5	0		0	455	0		0	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	639		596	0	0		608	5	0		0	455	0		0	0
Added Vol:	0		229	0	0		406	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	639		825	0	0		1014	5	0		0	455	0		0	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	639		825	0	0		1014	5	0		0	455	0		0	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	639		825	0	0		1014	5	0		0	455	0		0	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	639		825	0	0		1014	5	0		0	455	0		0	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	1.00	1.00		0.95	0.95	1.00		1.00	0.87	1.00		1.00	1.00
Lanes:	1.00		2.00	0.00	0.00		1.99	0.01	0.00		0.00	1.00	0.00		0.00	0.00
Final Sat.:	1805		3610	0	0		3589	18	0		0	1644	0		0	0
Capacity Analysis Module:																
Vol/Sat:	0.35		0.23	0.00	0.00		0.28	0.28	0.00		0.00	0.28	0.00		0.00	0.00
Crit Moves:	****						****									
Green/Cycle:	0.50		0.90	0.00	0.00		0.40	0.40	0.00		0.00	0.50	0.00		0.00	0.00
Volume/Cap:	0.71		0.25	0.00	0.00		0.71	0.71	0.00		0.00	0.55	0.00		0.00	0.00
Delay/Veh:	20.0		0.6	0.0	0.0		24.3	24.3	0.0		0.0	16.3	0.0		0.0	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	20.0		0.6	0.0	0.0		24.3	24.3	0.0		0.0	16.3	0.0		0.0	0.0
LOS by Move:	B		A	A	A		C	C	A		A	B	A		A	A
HCM2kAvgQ:	14		2	0	0		12	12	0		0	8	0		0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #15: Santa Fe Dr / F St



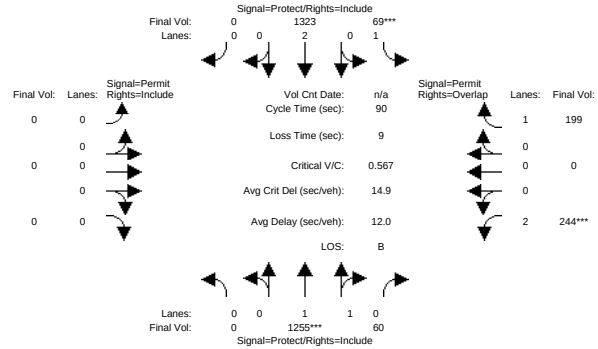
Street Name:	Santa Fe Drive						F Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	603	245	139	1021	0	0	0	0	51	0	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	603	245	139	1021	0	0	0	0	51	0	36
Added Vol:	0	406	0	0	229	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1009	245	139	1250	0	0	0	0	51	0	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1009	245	139	1250	0	0	0	0	51	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1009	245	139	1250	0	0	0	0	51	0	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1009	245	139	1250	0	0	0	0	51	0	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.92	0.92	0.95	0.95	1.00	1.00	1.00	1.00	0.63	1.00	0.85
Lanes:	0.00	1.61	0.39	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	2820	685	1805	3610	0	0	0	0	2396	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.36	0.36	0.08	0.35	0.00	0.00	0.00	0.00	0.02	0.00	0.02
Crit Moves:		****		****						****		
Green/Cycle:	0.00	0.65	0.65	0.14	0.79	0.00	0.00	0.00	0.00	0.11	0.00	0.25
Volume/Cap:	0.00	0.55	0.55	0.55	0.44	0.00	0.00	0.00	0.00	0.19	0.00	0.09
Delay/Veh:	0.0	8.9	8.9	38.7	3.2	0.0	0.0	0.0	0.0	36.7	0.0	25.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.9	8.9	38.7	3.2	0.0	0.0	0.0	0.0	36.7	0.0	25.9
LOS by Move:	A	A	A	D	A	A	A	A	A	D	A	C
HCM2kAvgQ:	0	9	9	4	6	0	0	0	0	1	0	1

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #15: Santa Fe Dr / F St



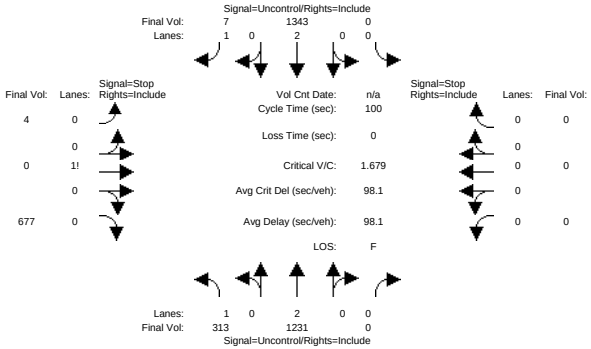
Street Name:	Santa Fe Drive						F Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	1026	60	69	917	0	0	0	0	244	0	199
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1026	60	69	917	0	0	0	0	244	0	199
Added Vol:	0	229	0	0	406	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1255	60	69	1323	0	0	0	0	244	0	199
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1255	60	69	1323	0	0	0	0	244	0	199
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1255	60	69	1323	0	0	0	0	244	0	199
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1255	60	69	1323	0	0	0	0	244	0	199
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.94	0.94	0.95	0.95	1.00	1.00	1.00	1.00	0.61	1.00	0.85
Lanes:	0.00	1.91	0.09	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3421	164	1805	3610	0	0	0	0	2318	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.37	0.04	0.37	0.00	0.00	0.00	0.00	0.11	0.00	0.12
Crit Moves:		****		****						****		
Green/Cycle:	0.00	0.64	0.64	0.08	0.72	0.00	0.00	0.00	0.00	0.18	0.00	0.26
Volume/Cap:	0.00	0.57	0.57	0.49	0.51	0.00	0.00	0.00	0.00	0.57	0.00	0.47
Delay/Veh:	0.0	9.6	9.6	42.5	5.9	0.0	0.0	0.0	0.0	35.5	0.0	28.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.6	9.6	42.5	5.9	0.0	0.0	0.0	0.0	35.5	0.0	28.9
LOS by Move:	A	A	A	D	A	A	A	A	A	D	A	C
HCM2kAvgQ:	0	10	10	2	8	0	0	0	0	4	0	5

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #16: Santa Fe Dr / W Ave 2




```
Street Name:           Santa Fe Drive                        W Ave 2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     313  825     0     0 1114     7     4    0   677     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  313  825     0     0 1114     7     4    0   677     0    0     0
Added Vol:      0  406     0     0  229     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  313 1231     0     0 1343     7     4    0   677     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   313 1231     0     0 1343     7     4    0   677     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  313 1231     0     0 1343     7     4    0   677     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1350 xxxx xxxxx  xxxx xxxx xxxxx  2585 3200   672  xxxx xxxx xxxxx
Potent Cap.:  516 xxxx xxxxx  xxxx xxxx xxxxx    21   10   403  xxxx xxxx xxxxx
Move Cap.:    516 xxxx xxxxx  xxxx xxxx xxxxx    11    4   403  xxxx xxxx xxxxx
Volume/Cap:  0.61 xxxx  xxxx  xxxx xxxx  xxxx  0.36 0.00  1.68  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    4.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 22.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    C    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  334 xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 48.7 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  505 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            504.8           xxxxxx
ApproachLOS:         *                *                F                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  313 1231     0     0 1343     7     4    0   677     0    0     0
ApproachDel:    xxxxxx           xxxxxx            504.8           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=95.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=681]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3575]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

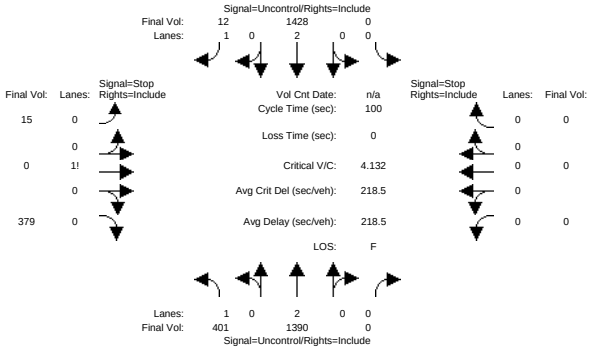
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  313 1231     0     0 1343     7     4    0   677     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2894
Minor Approach Volume:           681
Minor Approach Volume Threshold: -81 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #16: Santa Fe Dr / W Ave 2




```
Street Name:           Santa Fe Drive                        W Ave 2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     401 1161     0     0 1022    12    15    0   379     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  401 1161     0     0 1022    12    15    0   379     0    0     0
Added Vol:      0  229     0     0  406     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  401 1390     0     0 1428    12    15    0   379     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   401 1390     0     0 1428    12    15    0   379     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  401 1390     0     0 1428    12    15    0   379     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1440 xxxx xxxxx  xxxx xxxx xxxxx  2925 3620   714  xxxx xxxx xxxxx
Potent Cap.:  477 xxxx xxxxx  xxxx xxxx xxxxx    12    5   378  xxxx xxxx xxxxx
Move Cap.:    477 xxxx xxxxx  xxxx xxxx xxxxx     4    1   378  xxxx xxxx xxxxx
Volume/Cap:  0.84 xxxx  xxxx  xxxx xxxx  xxxx  4.13 0.00  1.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    8.4 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 41.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    E    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx   77 xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 43.1 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 1969 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           1968.8           xxxxxx
ApproachLOS:         *                *                F                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  401 1390     0     0 1428    12    15    0   379     0    0     0
ApproachDel:    xxxxxx           xxxxxx           1968.8           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=215.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=394]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3625]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

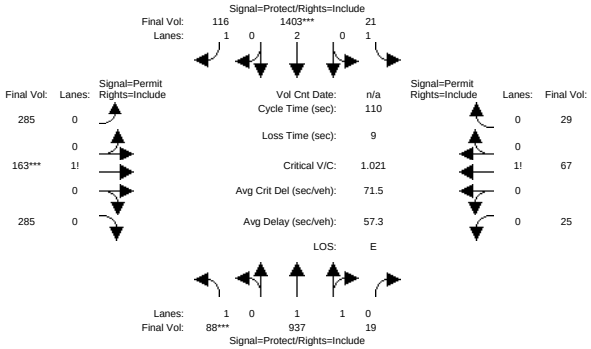
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  401 1390     0     0 1428    12    15    0   379     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3231
Minor Approach Volume:           394
Minor Approach Volume Threshold: -119 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #17: Santa Fe Dr / N Franklin Rd



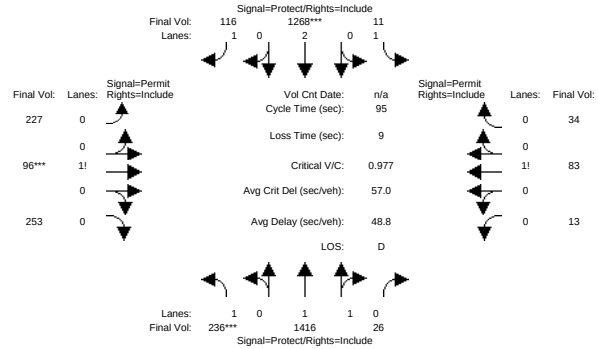
Street Name:	Santa Fe Drive						N Franklin Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	890	19	21	1377	116	285	163	285	25	67	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	890	19	21	1377	116	285	163	285	25	67	29
Added Vol:	0	47	0	0	26	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	937	19	21	1403	116	285	163	285	25	67	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	937	19	21	1403	116	285	163	285	25	67	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	937	19	21	1403	116	285	163	285	25	67	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	937	19	21	1403	116	285	163	285	25	67	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.95	0.85	0.77	0.77	0.77	0.82	0.82	0.82
Lanes:	1.00	1.96	0.04	1.00	2.00	1.00	0.39	0.22	0.39	0.21	0.55	0.24
Final Sat.:	1805	3528	72	1805	3610	1615	569	326	569	320	857	371
Capacity Analysis Module:												
Vol/Sat:	0.05	0.27	0.27	0.01	0.39	0.07	0.50	0.50	0.50	0.08	0.08	0.08
Crit Moves:	****				****			****				
Green/Cycle:	0.06	0.35	0.35	0.08	0.37	0.37	0.48	0.48	0.48	0.48	0.48	0.48
Volume/Cap:	0.77	0.75	0.75	0.14	1.04	0.19	1.04	1.04	1.04	0.16	0.16	0.16
Delay/Veh:	76.7	34.0	34.0	47.1	70.2	23.4	73.4	73.4	73.4	16.2	16.2	16.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	76.7	34.0	34.0	47.1	70.2	23.4	73.4	73.4	73.4	16.2	16.2	16.2
LOS by Move:	E	C	C	D	E	C	E	E	E	B	B	B
HCM2kAvgQ:	5	16	16	1	34	3	34	34	34	2	2	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #17: Santa Fe Dr / N Franklin Rd



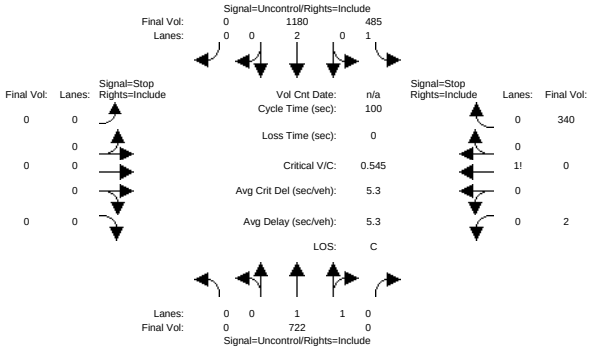
Street Name:	Santa Fe Drive						N Franklin Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	236	1390	26	11	1221	116	227	96	253	13	83	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	236	1390	26	11	1221	116	227	96	253	13	83	34
Added Vol:	0	26	0	0	47	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	236	1416	26	11	1268	116	227	96	253	13	83	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	236	1416	26	11	1268	116	227	96	253	13	83	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	236	1416	26	11	1268	116	227	96	253	13	83	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	236	1416	26	11	1268	116	227	96	253	13	83	34
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.95	0.85	0.75	0.75	0.75	0.91	0.91	0.91
Lanes:	1.00	1.96	0.04	1.00	2.00	1.00	0.39	0.17	0.44	0.10	0.64	0.26
Final Sat.:	1805	3534	65	1805	3610	1615	564	238	628	173	1104	452
Capacity Analysis Module:												
Vol/Sat:	0.13	0.40	0.40	0.01	0.35	0.07	0.40	0.40	0.40	0.08	0.08	0.08
Crit Moves:	****				****			****				
Green/Cycle:	0.13	0.42	0.42	0.08	0.36	0.36	0.41	0.41	0.41	0.41	0.41	0.41
Volume/Cap:	0.98	0.96	0.96	0.08	0.98	0.20	0.98	0.98	0.98	0.18	0.18	0.18
Delay/Veh:	92.3	42.1	42.1	41.0	49.7	21.2	58.7	58.7	58.7	17.9	17.9	17.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	92.3	42.1	42.1	41.0	49.7	21.2	58.7	58.7	58.7	17.9	17.9	17.9
LOS by Move:	F	D	D	D	D	C	E	E	E	B	B	B
HCM2kAvgQ:	11	28	28	0	26	2	23	23	23	2	2	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #19: Santa Fe Dr / Belcher Ave




```
Street Name:           Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  675     0   485 1154     0     0    0     0     2    0   340
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  675     0   485 1154     0     0    0     0     2    0   340
Added Vol:      0   47     0     0   26     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  722     0   485 1180     0     0    0     0     2    0   340
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  722     0   485 1180     0     0    0     0     2    0   340
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  722     0   485 1180     0     0    0     0     2    0   340
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   722 xxxx xxxxx  xxxx xxxx xxxxx  2282 2872   361
Potent Cap.: xxxx xxxx xxxxx   889 xxxx xxxxx  xxxx xxxx xxxxx    34   17   641
Move Cap.:   xxxx xxxx xxxxx   889 xxxx xxxxx  xxxx xxxx xxxxx    20    8   641
Volume/Cap:  xxxx xxxx  xxxx  0.55 xxxx  xxxx  xxxx xxxx  xxxx  0.10 0.00  0.53
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   3.4 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  13.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     B    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  541 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  4.4 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 22.4 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             22.4
ApproachLOS:         *                *                *                C
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  722     0   485 1180     0     0    0     0     2    0   340
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             22.4
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=342]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2729]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

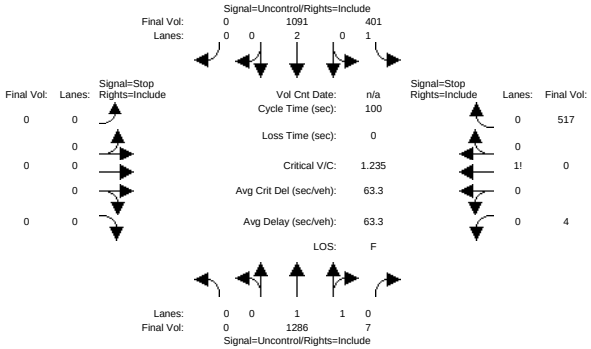
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  722     0   485 1180     0     0    0     0     2    0   340
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2387
Minor Approach Volume:           342
Minor Approach Volume Threshold: -15 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #19: Santa Fe Dr / Belcher Ave




```
Street Name:           Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1260     7   401 1044     0     0    0     0     4    0   517
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1260     7   401 1044     0     0    0     0     4    0   517
Added Vol:      0   26     0     0   47     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0 1286     7   401 1091     0     0    0     0     4    0   517
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1286     7   401 1091     0     0    0     0     4    0   517
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0 1286     7   401 1091     0     0    0     0     4    0   517
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1293 xxxx xxxxx  xxxx xxxx xxxxx  2637 3183   647
Potent Cap.: xxxx xxxx xxxxx   543 xxxx xxxxx  xxxx xxxx xxxxx    20   10   419
Move Cap.:   xxxx xxxx xxxxx   543 xxxx xxxxx  xxxx xxxx xxxxx     8    3   419
Volume/Cap:  xxxx xxxx  xxxx  0.74 xxxx  xxxx  xxxx xxxx  xxxx  0.51 0.00  1.23
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   6.3 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  28.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     D    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  298 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 33.7 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  380 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    F     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           380.2
ApproachLOS:         *                *                *                F
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0 1286     7   401 1091     0     0    0     0     4    0   517
ApproachDel:    xxxxxx           xxxxxx           xxxxxx            380.2
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=55.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=521]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3306]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

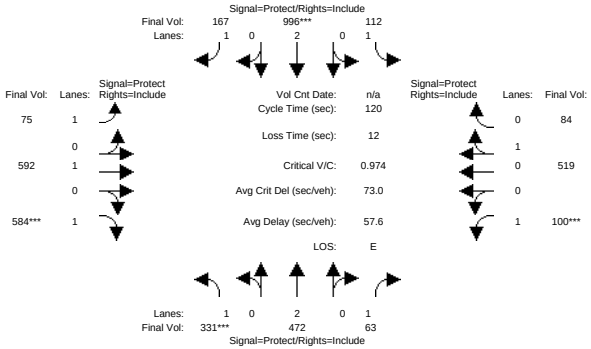
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0 1286     7   401 1091     0     0    0     0     4    0   517
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2785
Minor Approach Volume:           521
Minor Approach Volume Threshold: -68 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

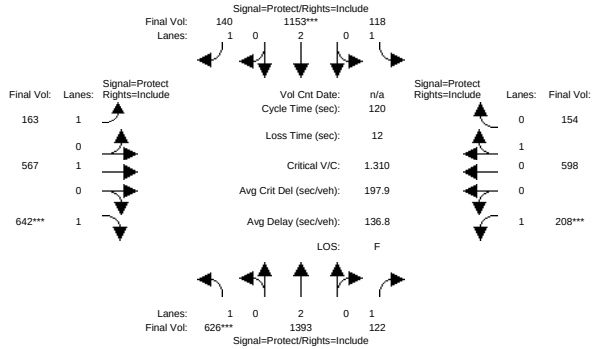



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     331 425  63   112 970 167    75 584 584   100 502  84
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  331 425  63   112 970 167    75 584 584   100 502  84
Added Vol:      0   0   0     0   0   0     0   8   0     0  17   0
Added Vol:      0  47   0     0  26   0     0   0   0     0   0   0
Initial Fut:  331 472  63   112 996 167    75 592 584   100 519  84
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   331 472  63   112 996 167    75 592 584   100 519  84
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  331 472  63   112 996 167    75 592 584   100 519  84
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  331 472  63   112 996 167    75 592 584   100 519  84
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 1.00 0.85 0.95 0.98 0.98
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 1.00 1.00 1.00 0.86 0.14
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 1900 1615 1805 1601  259
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.13 0.04 0.06 0.28 0.10 0.04 0.31 0.36 0.06 0.32 0.32
Crit Moves:  ****                ****                ****  ****
Green/Cycle: 0.19 0.32 0.32 0.15 0.28 0.28 0.07 0.37 0.37 0.06 0.36 0.36
Volume/Cap:  0.98 0.41 0.12 0.41 0.98 0.37 0.63 0.84 0.98 0.95 0.89 0.89
Delay/Veh:   90.5 32.2 29.0 47.0 64.9 34.9 65.5 43.4 67.7 127.8 50.0 50.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  90.5 32.2 29.0 47.0 64.9 34.9 65.5 43.4 67.7 127.8 50.0 50.0
LOS by Move:    F    C    C    D    E    C    E    D    E    F    D    D
HCM2kAvgQ:    363 172  39  101 615 125   96 553 671  164 604 604
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

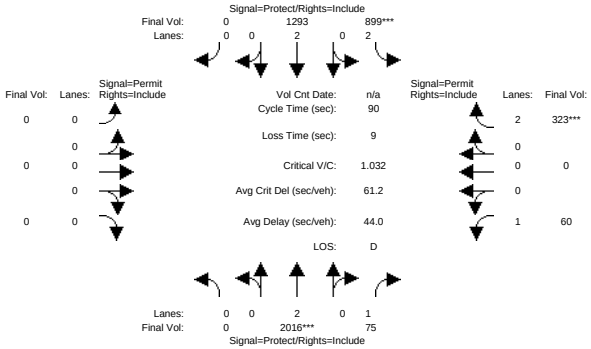



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     626 1367 122   118 1106 140   163 550 642   208 590 154
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  626 1367 122   118 1106 140   163 550 642   208 590 154
Added Vol:      0    0   0     0    0   0     0  17   0     0   8   0
Added Vol:      0   26   0     0   47   0     0   0   0     0   0   0
Initial Fut:  626 1393 122   118 1153 140   163 567 642   208 598 154
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   626 1393 122   118 1153 140   163 567 642   208 598 154
Reduct Vol:     0    0   0     0    0   0     0   0   0     0   0   0
Reduced Vol:  626 1393 122   118 1153 140   163 567 642   208 598 154
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  626 1393 122   118 1153 140   163 567 642   208 598 154
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 1.00 0.85 0.95 0.97 0.97
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 1.00 1.00 1.00 0.80 0.20
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 1900 1615 1805 1464  377
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35 0.39 0.08 0.07 0.32 0.09 0.09 0.30 0.40 0.12 0.41 0.41
Crit Moves:  ****                ****                ****  ****
Green/Cycle: 0.26 0.43 0.43 0.07 0.24 0.24 0.07 0.30 0.30 0.09 0.32 0.32
Volume/Cap:  1.31 0.89 0.17 0.89 1.31 0.36 1.27 0.98 1.31 1.31 1.27 1.27
Delay/Veh:  198.0 37.8 20.8 100.9 193 38.1 226.4 74.6 195.4 231.9 177 177.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 198.0 37.8 20.8 100.9 193 38.1 226.4 74.6 195.4 231.9 177 177.0
LOS by Move:    F    D    C    F    F    F    F    E    F    F    F    F
HCM2kAvgQ:    990 575  62  173 1043 110  316 665 1099  399 1230 1230
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #21: Santa Fe Dr/ AM Express WB Ramps

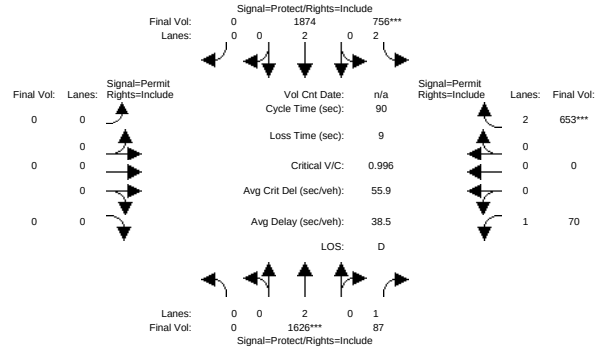



```
Street Name:            Santa Fe Dr                     AM Express WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1634    75   710 1254     0     0    0     0    60    0   300
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1634    75   710 1254     0     0    0     0    60    0   300
Added Vol:      0  382     0   189   39     0     0    0     0     0    0    23
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0 2016    75   899 1293     0     0    0     0    60    0   323
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 2016    75   899 1293     0     0    0     0    60    0   323
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 2016    75   899 1293     0     0    0     0    60    0   323
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0 2016    75   899 1293     0     0    0     0    60    0   323
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.95  0.85  0.92 0.95  1.00  1.00 1.00  1.00  0.77 1.00  0.75
Lanes:       0.00 2.00  1.00  2.00 2.00  0.00  0.00 0.00  0.00  1.00 0.00  2.00
Final Sat.:     0 3610  1615  3502 3610     0     0    0     0  1461    0  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.56  0.05  0.26 0.36  0.00  0.00 0.00  0.00  0.04 0.00  0.11
Crit Moves:        ****        ****                                      ****
Green/Cycle: 0.00 0.54  0.54  0.25 0.79  0.00  0.00 0.00  0.00  0.11 0.00  0.11
Volume/Cap:  0.00 1.03  0.09  1.03 0.45  0.00  0.00 0.00  0.00  0.37 0.00  1.02
Delay/Veh:    0.0 50.2  10.0  73.2  3.2   0.0   0.0  0.0   0.0  38.5  0.0  96.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 50.2  10.0  73.2  3.2   0.0   0.0  0.0   0.0  38.5  0.0  96.6
LOS by Move:    A    D     B     E    A     A     A    A     A     D    A     F
HCM2kAvgQ:      0   33     1    17    6     0     0    0     0     2    0    10
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #21: Santa Fe Dr/ AM Express WB Ramps

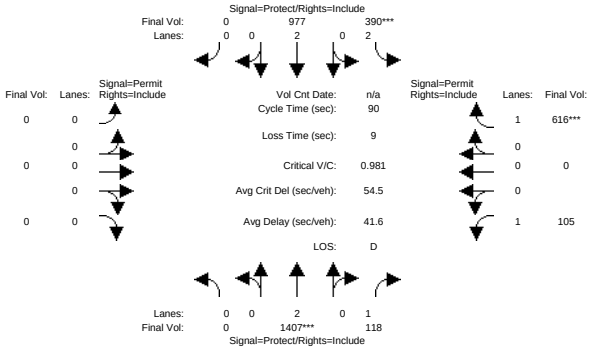



```
Street Name:            Santa Fe Dr                     AM Express WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1410    87   420 1804     0     0    0     0    70    0   640
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1410    87   420 1804     0     0    0     0    70    0   640
Added Vol:      0  216     0   336   70     0     0    0     0     0    0    13
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0 1626    87   756 1874     0     0    0     0    70    0   653
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1626    87   756 1874     0     0    0     0    70    0   653
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1626    87   756 1874     0     0    0     0    70    0   653
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0 1626    87   756 1874     0     0    0     0    70    0   653
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.95  0.85  0.92 0.95  1.00  1.00 1.00  1.00  0.80 1.00  0.75
Lanes:       0.00 2.00  1.00  2.00 2.00  0.00  0.00 0.00  0.00  1.00 0.00  2.00
Final Sat.:     0 3610  1615  3502 3610     0     0    0     0  1511    0  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.45  0.05  0.22 0.52  0.00  0.00 0.00  0.00  0.05 0.00  0.23
Crit Moves:        ****        ****                                      ****
Green/Cycle: 0.00 0.45  0.45  0.22 0.67  0.00  0.00 0.00  0.00  0.23 0.00  0.23
Volume/Cap:  0.00 1.00  0.12  1.00 0.78  0.00  0.00 0.00  0.00  0.20 0.00  1.00
Delay/Veh:    0.0 45.7  14.3  66.7 11.9   0.0   0.0  0.0   0.0  28.2  0.0  68.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 45.7  14.3  66.7 11.9   0.0   0.0  0.0   0.0  28.2  0.0  68.5
LOS by Move:    A    D     B     E    B     A     A    A     A     C    A     E
HCM2kAvgQ:      0   27     1    14   19     0     0    0     0     2    0    16
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #22: Santa Fe Dr/ AM Express EB Ramps

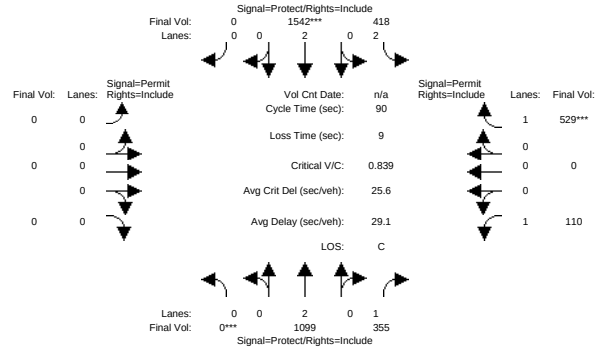



```
Street Name:            Santa Fe Dr                    AM Express EB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10    10   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0   4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1360   118   377  951    0     0    0    0   105    0  280
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0 1360   118   377  951    0     0    0    0   105    0  280
Added Vol:      0   47     0    13   26    0     0    0    0     0    0  336
PasserByVol:    0    0     0     0    0    0     0    0    0     0    0    0
Initial Fut:    0 1407   118   390  977    0     0    0    0   105    0  616
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0 1407   118   390  977    0     0    0    0   105    0  616
Reduct Vol:     0    0     0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0 1407   118   390  977    0     0    0    0   105    0  616
PCE Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0 1407   118   390  977    0     0    0    0   105    0  616
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.95  0.85  0.92 0.95 1.00  1.00 1.00 1.00  0.79 1.00 0.85
Lanes:       0.00 2.00  1.00  2.00 2.00 0.00  0.00 0.00 0.00  1.00 0.00 1.00
Final Sat.:     0 3610  1615  3502 3610    0     0    0    0  1497    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.39  0.07  0.11 0.27 0.00  0.00 0.00 0.00  0.07 0.00 0.38
Crit Moves:        ****        ****                                      ****
Green/Cycle: 0.00 0.40  0.40  0.11 0.51 0.00  0.00 0.00 0.00  0.39 0.00 0.39
Volume/Cap:  0.00 0.98  0.18  0.98 0.53 0.00  0.00 0.00 0.00  0.18 0.00 0.98
Delay/Veh:    0.0 46.0  17.8  79.6 15.0  0.0   0.0  0.0  0.0  18.2  0.0 58.1
User DelAdj: 1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 46.0  17.8  79.6 15.0  0.0   0.0  0.0  0.0  18.2  0.0 58.1
LOS by Move:    A    D     B     E    B    A     A    A    A     B    A    E
HCM2kAvgQ:      0   27     2     7    9    0     0    0    0     2    0   23
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #22: Santa Fe Dr/ AM Express EB Ramps

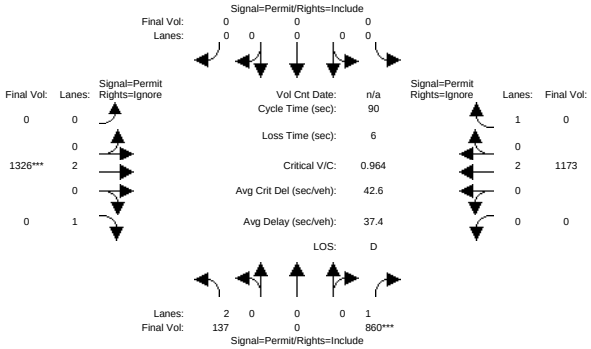



```
Street Name:            Santa Fe Dr                    AM Express EB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10    10   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0   4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1073   355   395 1495    0     0    0    0   110    0  340
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0 1073   355   395 1495    0     0    0    0   110    0  340
Added Vol:      0   26     0    23   47    0     0    0    0     0    0  189
PasserByVol:    0    0     0     0    0    0     0    0    0     0    0    0
Initial Fut:    0 1099   355   418 1542    0     0    0    0   110    0  529
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0 1099   355   418 1542    0     0    0    0   110    0  529
Reduct Vol:     0    0     0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0 1099   355   418 1542    0     0    0    0   110    0  529
PCE Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0 1099   355   418 1542    0     0    0    0   110    0  529
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.95  0.85  0.92 0.95 1.00  1.00 1.00 1.00  0.79 1.00 0.85
Lanes:       0.00 2.00  1.00  2.00 2.00 0.00  0.00 0.00 0.00  1.00 0.00 1.00
Final Sat.:     0 3610  1615  3502 3610    0     0    0    0  1493    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.30  0.22  0.12 0.43 0.00  0.00 0.00 0.00  0.07 0.00 0.33
Crit Moves:  ****                 ****                                      ****
Green/Cycle: 0.00 0.37  0.37  0.14 0.51 0.00  0.00 0.00 0.00  0.39 0.00 0.39
Volume/Cap:  0.00 0.83  0.60  0.83 0.84 0.00  0.00 0.00 0.00  0.19 0.00 0.84
Delay/Veh:    0.0 30.7  24.9  48.8 22.5  0.0   0.0  0.0  0.0  18.2  0.0 34.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 30.7  24.9  48.8 22.5  0.0   0.0  0.0  0.0  18.2  0.0 34.5
LOS by Move:    A    C     C     D    C    A     A    A    A     B    A    C
HCM2kAvgQ:      0   17     9     6   19    0     0    0    0     2    0   16
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #23: SR-99 NB Ramps/AM Express

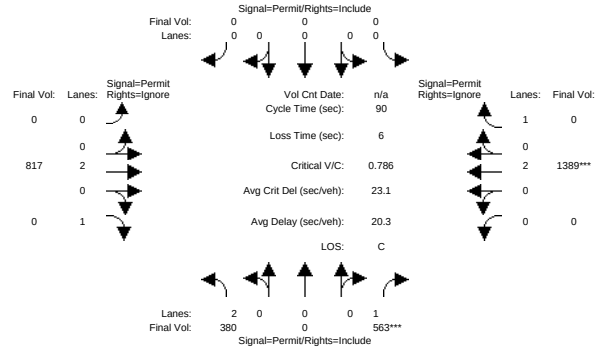



```
Street Name:          SR-99 NB Ramps                    AM Express
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     0   10    10     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     137    0   580     0    0     0     0 1270   340     0 1010   415
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  137    0   580     0    0     0     0 1270   340     0 1010   415
Added Vol:      0    0   280     0    0     0     0   56     0     0  163    26
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  137    0   860     0    0     0     0 1326   340     0 1173   441
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Volume:   137    0   860     0    0     0     0 1326     0     0 1173     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  137    0   860     0    0     0     0 1326     0     0 1173     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
FinalVolume:  137    0   860     0    0     0     0 1326     0     0 1173     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.61 1.00  0.85  1.00 1.00  1.00  1.00 0.95  1.00  1.00 0.95  1.00
Lanes:       2.00 0.00  1.00  0.00 0.00  0.00  0.00 2.00  1.00  0.00 2.00  1.00
Final Sat.:  2322    0  1615     0    0     0     0 3610  1900     0 3610  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.00  0.53  0.00 0.00  0.00  0.00 0.37  0.00  0.00 0.32  0.00
Crit Moves:              ****                     ****
Green/Cycle: 0.55 0.00  0.55  0.00 0.00  0.00  0.00 0.38  0.00  0.00 0.38  0.00
Volume/Cap:  0.11 0.00  0.96  0.00 0.00  0.00  0.00 0.96  0.00  0.00 0.85  0.00
Delay/Veh:    9.6  0.0  41.1   0.0  0.0   0.0   0.0 43.7   0.0   0.0 30.9   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.6  0.0  41.1   0.0  0.0   0.0   0.0 43.7   0.0   0.0 30.9   0.0
LOS by Move:    A    A     D     A    A     A     A    D     A     A    C     A
HCM2kAvgQ:      1    0    29     0    0     0     0   21     0     0   19     0
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #23: SR-99 NB Ramps/AM Express

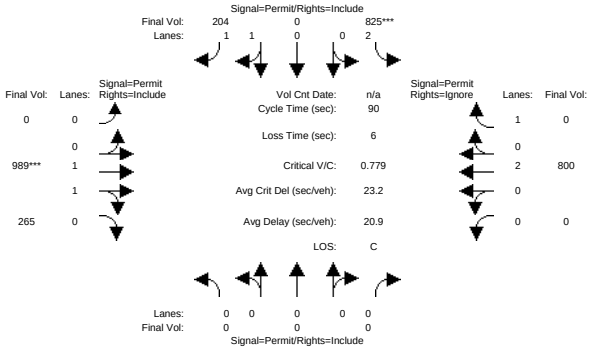



```
Street Name:          SR-99 NB Ramps                    AM Express
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     0   10    10     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     380    0   405     0    0     0     0  785   400     0 1100   415
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  380    0   405     0    0     0     0  785   400     0 1100   415
Added Vol:      0    0   158     0    0     0     0   32     0     0  289    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  380    0   563     0    0     0     0  817   400     0 1389   462
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Volume:   380    0   563     0    0     0     0  817     0     0 1389     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  380    0   563     0    0     0     0  817     0     0 1389     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
FinalVolume:  380    0   563     0    0     0     0  817     0     0 1389     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.59 1.00  0.85  1.00 1.00  1.00  1.00 0.95  1.00  1.00 0.95  1.00
Lanes:       2.00 0.00  1.00  0.00 0.00  0.00  0.00 2.00  1.00  0.00 2.00  1.00
Final Sat.:  2245    0  1615     0    0     0     0 3610  1900     0 3610  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.00  0.35  0.00 0.00  0.00  0.00 0.23  0.00  0.00 0.38  0.00
Crit Moves:              ****                     ****
Green/Cycle: 0.44 0.00  0.44  0.00 0.00  0.00  0.00 0.49  0.00  0.00 0.49  0.00
Volume/Cap:  0.38 0.00  0.79  0.00 0.00  0.00  0.00 0.46  0.00  0.00 0.79  0.00
Delay/Veh:   17.0  0.0  27.1   0.0  0.0   0.0   0.0 15.3   0.0   0.0 21.5   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  17.0  0.0  27.1   0.0  0.0   0.0   0.0 15.3   0.0   0.0 21.5   0.0
LOS by Move:    B    A     C     A    A     A     A    B     A     A    C     A
HCM2kAvgQ:      4    0    15     0    0     0     0    8     0     0   18     0
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #24: SR-99 SB Ramps/AM Express



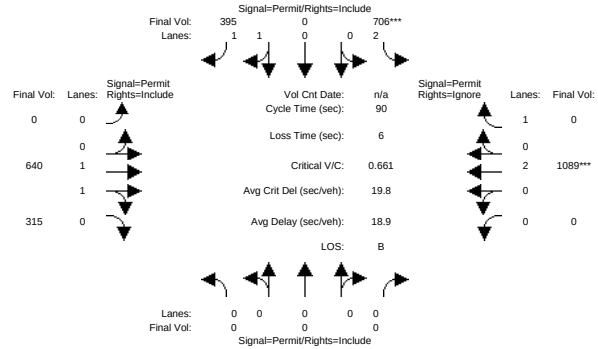
Street Name:	SR-99 SB Ramps												AM Express					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	0	0	0	10	10	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	778	0	204	0	980	265	0	795	325
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	778	0	204	0	980	265	0	795	325
Added Vol:	0	0	0	47	0	0	0	9	0	0	5	158
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	825	0	204	0	989	265	0	800	483
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	825	0	204	0	989	265	0	800	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	825	0	204	0	989	265	0	800	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	825	0	204	0	989	265	0	800	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.59	1.00	0.85	1.00	0.92	0.92	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	2.00	0.00	1.58	0.42	0.00	2.00	1.00
Final Sat.:	0	0	0	2241	0	3230	0	2756	738	0	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.37	0.00	0.06	0.00	0.36	0.36	0.00	0.22	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.47	0.00	0.47	0.00	0.46	0.46	0.00	0.46	0.00
Volume/Cap:	0.00	0.00	0.00	0.78	0.00	0.13	0.00	0.78	0.78	0.00	0.48	0.00
Delay/Veh:	0.0	0.0	0.0	23.6	0.0	13.4	0.0	22.9	22.9	0.0	17.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	23.6	0.0	13.4	0.0	22.9	22.9	0.0	17.0	0.0
LOS by Move:	A	A	A	C	A	B	A	C	C	A	B	A
HCM2kAvgQ:	0	0	0	12	0	2	0	17	17	0	8	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #24: SR-99 SB Ramps/AM Express



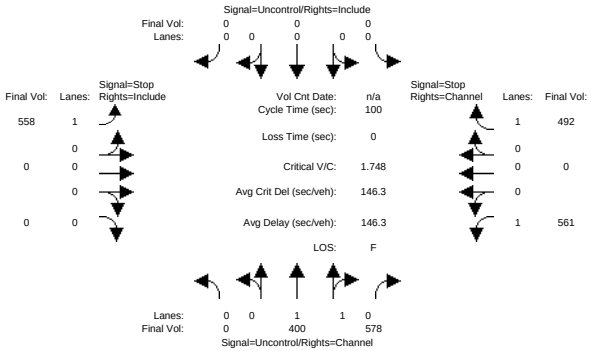
Street Name:	SR-99 SB Ramps												AM Express					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	0	0	0	10	10	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	680	0	395	0	635	315	0	1080	325
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	680	0	395	0	635	315	0	1080	325
Added Vol:	0	0	0	26	0	0	0	5	0	0	9	280
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	706	0	395	0	640	315	0	1089	605
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	706	0	395	0	640	315	0	1089	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	706	0	395	0	640	315	0	1089	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	706	0	395	0	640	315	0	1089	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.59	1.00	0.85	1.00	0.90	0.90	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	2.00	0.00	1.34	0.66	0.00	2.00	1.00
Final Sat.:	0	0	0	2241	0	3230	0	2301	1132	0	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.32	0.00	0.12	0.00	0.28	0.28	0.00	0.30	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.48	0.00	0.48	0.00	0.46	0.46	0.00	0.46	0.00
Volume/Cap:	0.00	0.00	0.00	0.66	0.00	0.26	0.00	0.61	0.61	0.00	0.66	0.00
Delay/Veh:	0.0	0.0	0.0	19.5	0.0	14.1	0.0	19.1	19.1	0.0	20.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	19.5	0.0	14.1	0.0	19.1	19.1	0.0	20.0	0.0
LOS by Move:	A	A	A	B	A	B	A	B	B	A	C	A
HCM2kAvgQ:	0	0	0	9	0	3	0	11	11	0	12	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #25: 16th St / SR-59




```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  371   570     0    0     0   558    0     0   544    0   492
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  371   570     0    0     0   558    0     0   544    0   492
Added Vol:      0   29     8     0    0     0     0    0     0    17    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  400   578     0    0     0   558    0     0   561    0   492
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  400   578     0    0     0   558    0     0   561    0   492
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  400   578     0    0     0   558    0     0   561    0   492
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   200 xxxx xxxxx   689 xxxx   200
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   763 xxxx xxxxx   363 xxxx   846
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   319 xxxx xxxxx   363 xxxx   846
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  1.75 xxxx  xxxx  1.55 xxxx  0.58
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   893 xxxx xxxxx   787 xxxx  95.9
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 377.3 xxxx xxxxx 286.5 xxxx  15.0
LOS by Move:    *    *     *     *    *     *     F    *     *     F    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            377.3           159.7
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  400   578     0    0     0   558    0     0   561    0   492
ApproachDel:    xxxxxx           xxxxxx            377.3           159.7
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=58.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=558]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2589]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=46.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1053]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2589]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

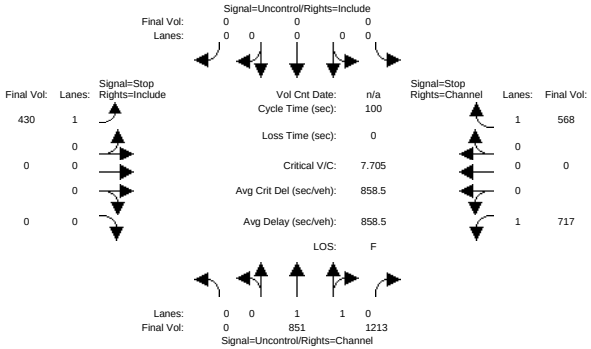
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  400   578     0    0     0   558    0     0   561    0   492
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             978
Minor Approach Volume:           1053
Minor Approach Volume Threshold: 384
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #25: 16th St / SR-59




```
Street Name:            16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  817  1196     0    0     0   430    0     0   709    0   568
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  817  1196     0    0     0   430    0     0   709    0   568
Added Vol:      0   34    17     0    0     0     0    0     0     8    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  851  1213     0    0     0   430    0     0   717    0   568
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  851  1213     0    0     0   430    0     0   717    0   568
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  851  1213     0    0     0   430    0     0   717    0   568
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   426 xxxx xxxxx  1458 xxxx   426
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   543 xxxx xxxxx   109 xxxx   633
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx    56 xxxx xxxxx   109 xxxx   633
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  7.70 xxxx  xxxx  6.60 xxxx  0.90
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  1250 xxxx xxxxx  1986 xxxx 277.0
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  3159 xxxx xxxxx  2598 xxxx  40.8
LOS by Move:    *    *     *     *    *     *     F    *     *     F    *     E
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           3159.0           1467.5
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  851  1213     0    0     0   430    0     0   717    0   568
ApproachDel:    xxxxxx           xxxxxx           3159.0           1467.5
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=377.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=430]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3779]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=523.8]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1285]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3779]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

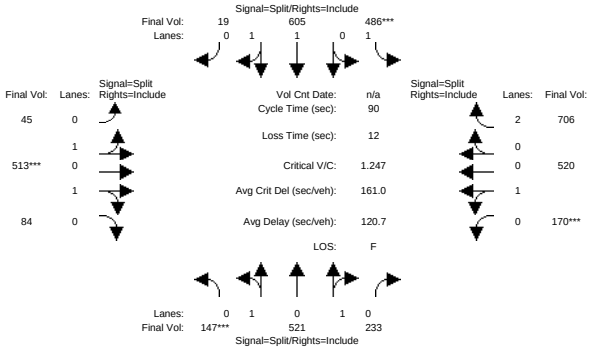
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  851  1213     0    0     0   430    0     0   717    0   568
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2064
Minor Approach Volume:           1285
Minor Approach Volume Threshold: 62 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

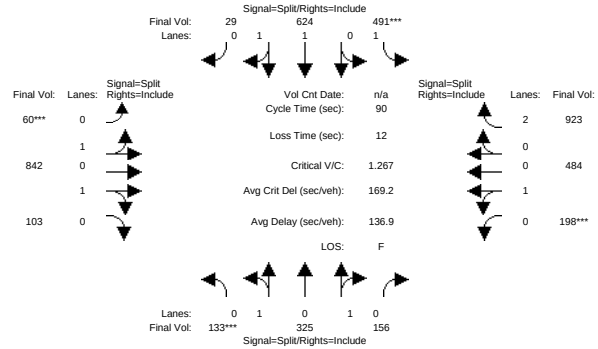



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     113  229   233  484  585    19   45  513    84  170  520   695
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  113  229   233  484  585    19   45  513    84  170  520   695
Added Vol:     34  292     0    2   20     0    0    0     0    0    0    11
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  147  521   233  486  605    19   45  513    84  170  520   706
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   147  521   233  486  605    19   45  513    84  170  520   706
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  147  521   233  486  605    19   45  513    84  170  520   706
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  147  521   233  486  605    19   45  513    84  170  520   706
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.91 0.91  0.91 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.32 1.16  0.52 1.00 1.94  0.06 0.14 1.60  0.26 0.25 0.75  2.00
Final Sat.:   561 1990   890 1805 3486   109  247 2818   462  462 1415  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.26 0.26  0.26 0.27 0.17  0.17 0.18 0.18  0.18 0.37 0.37  0.25
Crit Moves:  ****            ****                 ****        ****
Green/Cycle: 0.21 0.21  0.21 0.22 0.22  0.22 0.15 0.15  0.15 0.29 0.29  0.29
Volume/Cap:  1.25 1.25  1.25 1.25 0.80  0.80 1.25 1.25  1.25 1.25 1.25  0.84
Delay/Veh:  158.1  158 158.1 166.2 39.6  39.6 165.0  165 165.0 157.4  157  37.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 158.1  158 158.1 166.2 39.6  39.6 165.0  165 165.0 157.4  157  37.5
LOS by Move:    F    F     F     F    D     D    F    F     F    F    F     D
HCM2kAvgQ:    685  685   685   700  273   273  509  509   509  960  960   330
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

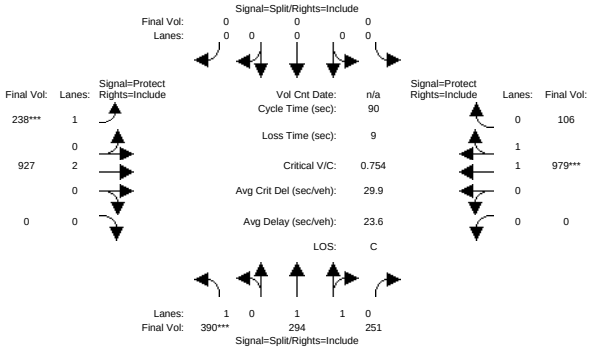



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     104  172   156  489  615    29   60  842   103  198  484   901
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  104  172   156  489  615    29   60  842   103  198  484   901
Added Vol:     29  153     0    2    9     0    0    0     0    0    0    22
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  133  325   156  491  624    29   60  842   103  198  484   923
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   133  325   156  491  624    29   60  842   103  198  484   923
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  133  325   156  491  624    29   60  842   103  198  484   923
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  133  325   156  491  624    29   60  842   103  198  484   923
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.90 0.90  0.90 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.43 1.06  0.51 1.00 1.91  0.09 0.12 1.68  0.20 0.29 0.71  2.00
Final Sat.:   744 1818   873 1805 3426   159  212 2970   363  544 1330  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18  0.18 0.27 0.18  0.18 0.28 0.28  0.28 0.36 0.36  0.32
Crit Moves:  ****            ****                 ****        ****
Green/Cycle: 0.14 0.14  0.14 0.21 0.21  0.21 0.22 0.22  0.22 0.29 0.29  0.29
Volume/Cap:  1.27 1.27  1.27 1.27 0.85  0.85 1.27 1.27  1.27 1.27 1.27  1.13
Delay/Veh:  174.5  175 174.5 174.6 42.7  42.7 165.2  165 165.2 166.5  167 105.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 174.5  175 174.5 174.6 42.7  42.7 165.2  165 165.2 166.5  167 105.9
LOS by Move:    F    F     F     F    D     D    F    F     F    F    F     F
HCM2kAvgQ:    500  500   500   723  300   300  773  773   773  973  973   646
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #27: 14th St - SR-99 NB Onramp / V St

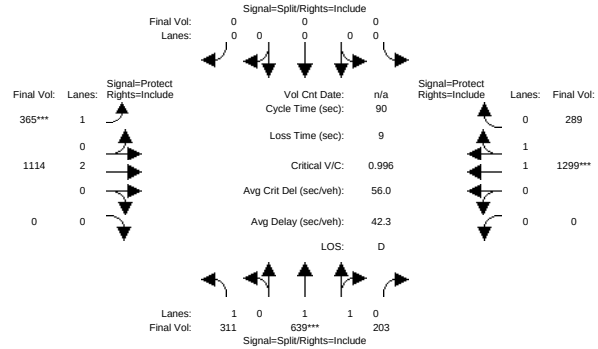



```
Street Name:    14th St - SR-99 NB Onramp                 V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     387  147   251     0    0     0   238  891     0     0  971    92
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  387  147   251     0    0     0   238  891     0     0  971    92
Added Vol:      3  147     0     0    0     0     0   36     0     0    8    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  390  294   251     0    0     0   238  927     0     0  979   106
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   390  294   251     0    0     0   238  927     0     0  979   106
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  390  294   251     0    0     0   238  927     0     0  979   106
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  390  294   251     0    0     0   238  927     0     0  979   106
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.88  0.88  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       1.00 1.08  0.92  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.80  0.20
Final Sat.:  1615 1813  1548     0    0     0  1805 3610     0     0 3208   347
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24 0.16  0.16  0.00 0.00  0.00  0.13 0.26  0.00  0.00 0.31  0.31
Crit Moves:  ****                             ****                 ****
Green/Cycle: 0.32 0.32  0.32  0.00 0.00  0.00  0.17 0.58  0.00  0.00 0.40  0.40
Volume/Cap:  0.75 0.51  0.51  0.00 0.00  0.00  0.75 0.44  0.00  0.00 0.75  0.75
Delay/Veh:   33.6 25.2  25.2   0.0  0.0   0.0  45.2 10.8   0.0   0.0 25.3  25.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  33.6 25.2  25.2   0.0  0.0   0.0  45.2 10.8   0.0   0.0 25.3  25.3
LOS by Move:    C    C     C     A    A     A     D    B     A     A    C     C
HCM2kAvgQ:    284  170   170     0    0     0   203  192     0     0  342   342
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #27: 14th St - SR-99 NB Onramp / V St

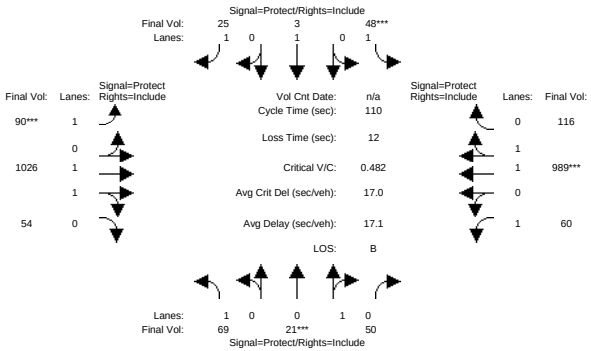



```
Street Name:    14th St - SR-99 NB Onramp                 V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     299  331   203     0    0     0   365 1083     0     0 1289   272
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  299  331   203     0    0     0   365 1083     0     0 1289   272
Added Vol:     12  308     0     0    0     0     0   31     0     0   10    17
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  311  639   203     0    0     0   365 1114     0     0 1299   289
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   311  639   203     0    0     0   365 1114     0     0 1299   289
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  311  639   203     0    0     0   365 1114     0     0 1299   289
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  311  639   203     0    0     0   365 1114     0     0 1299   289
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.92  0.92  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.92  0.92
Lanes:       1.00 1.52  0.48  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.64  0.36
Final Sat.:  1615 2641   839     0    0     0  1805 3610     0     0 2873   639
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.24  0.24  0.00 0.00  0.00  0.20 0.31  0.00  0.00 0.45  0.45
Crit Moves:       ****                             ****                 ****
Green/Cycle: 0.24 0.24  0.24  0.00 0.00  0.00  0.20 0.66  0.00  0.00 0.45  0.45
Volume/Cap:  0.79 1.00  1.00  0.00 0.00  0.00  1.00 0.47  0.00  0.00 1.00  1.00
Delay/Veh:   42.5 63.9  63.9   0.0  0.0   0.0  81.7  7.8   0.0   0.0 46.0  46.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  42.5 63.9  63.9   0.0  0.0   0.0  81.7  7.8   0.0   0.0 46.0  46.0
LOS by Move:    D    E     E     A    A     A     F    A     A     A    D     D
HCM2kAvgQ:    256  460   460     0    0     0   394  204     0     0  680   680
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #28: 15th St / V St



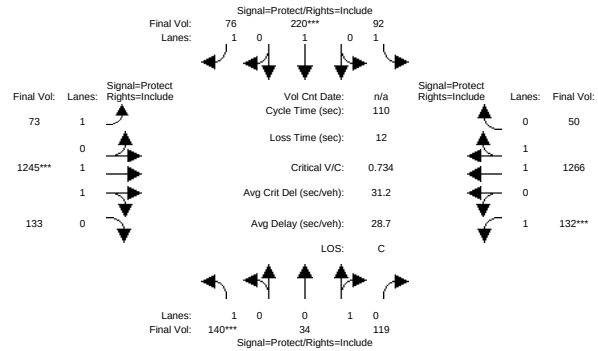
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	69	21	50	48	3	25	90	990	54	60	967	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	21	50	48	3	25	90	990	54	60	967	116
Added Vol:	0	0	0	0	0	0	0	36	0	0	22	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	21	50	48	3	25	90	1026	54	60	989	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	69	21	50	48	3	25	90	1026	54	60	989	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	21	50	48	3	25	90	1026	54	60	989	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	21	50	48	3	25	90	1026	54	60	989	116
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.79	0.21
Final Sat.:	1805	502	1196	1805	1900	1615	1805	3405	179	1805	3179	373
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.03	0.00	0.02	0.05	0.30	0.30	0.03	0.31	0.31
Crit Moves:		****		****			****				****	
Green/Cycle:	0.06	0.09	0.09	0.06	0.09	0.09	0.10	0.61	0.61	0.13	0.63	0.63
Volume/Cap:	0.60	0.46	0.46	0.42	0.02	0.17	0.49	0.50	0.50	0.26	0.49	0.49
Delay/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.8	12.3	12.3	43.8	10.8	10.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.8	12.3	12.3	43.8	10.8	10.8
LOS by Move:	E	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	82	71	71	52	3	23	71	262	262	42	237	237

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #28: 15th St / V St



Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	140	34	119	92	220	76	73	1214	133	132	1239	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	34	119	92	220	76	73	1214	133	132	1239	50
Added Vol:	0	0	0	0	0	0	0	31	0	0	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	34	119	92	220	76	73	1245	133	132	1266	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	34	119	92	220	76	73	1245	133	132	1266	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	34	119	92	220	76	73	1245	133	132	1266	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	34	119	92	220	76	73	1245	133	132	1266	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.22	0.78	1.00	1.00	1.00	1.00	1.81	0.19	1.00	1.92	0.08
Final Sat.:	1805	373	1305	1805	1900	1615	1805	3213	343	1805	3452	136
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.05	0.12	0.05	0.04	0.39	0.39	0.07	0.37	0.37
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.16	0.16	0.11	0.16	0.16	0.09	0.53	0.53	0.10	0.53	0.53
Volume/Cap:	0.73	0.59	0.59	0.47	0.73	0.30	0.44	0.73	0.73	0.73	0.69	0.69
Delay/Veh:	61.4	46.7	46.7	47.9	53.2	41.6	49.0	21.6	21.6	62.6	19.9	19.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.4	46.7	46.7	47.9	53.2	41.6	49.0	21.6	21.6	62.6	19.9	19.9
LOS by Move:	E	D	D	D	D	D	D	C	C	E	B	B
HCM2kAvgQ:	156	141	141	87	216	62	57	472	472	100	393	393

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
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CASTLE COMMERCE HMF ANALYSIS - OPTION A

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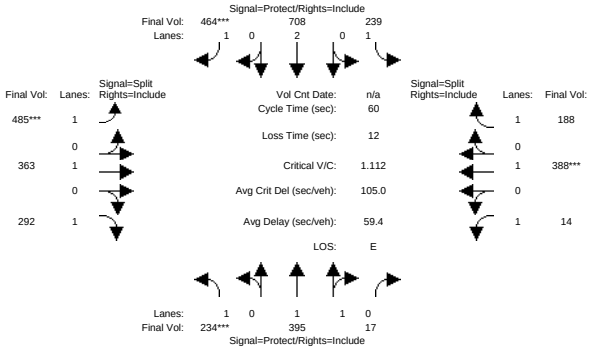
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #29: 16th St / V St



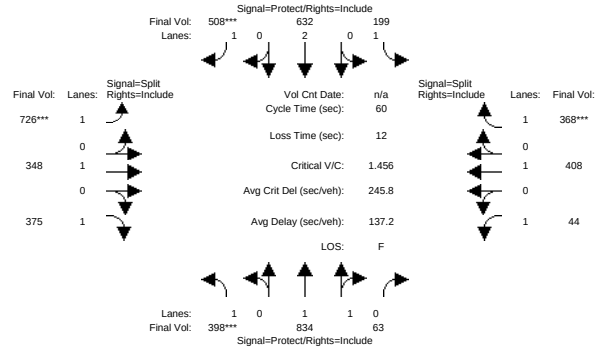
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	212	358	17	239	691	464	485	363	256	14	388	188
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	212	358	17	239	691	464	485	363	256	14	388	188
Added Vol:	22	37	0	0	17	0	0	0	36	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	395	17	239	708	464	485	363	292	14	388	188
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	395	17	239	708	464	485	363	292	14	388	188
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	395	17	239	708	464	485	363	292	14	388	188
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	395	17	239	708	464	485	363	292	14	388	188
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.92	0.08	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3440	148	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.11	0.11	0.13	0.20	0.29	0.27	0.19	0.18	0.01	0.20	0.12
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.21	0.21	0.17	0.26	0.26	0.24	0.24	0.24	0.18	0.18	0.18
Volume/Cap:	1.11	0.55	0.55	0.80	0.76	1.11	1.11	0.79	0.75	0.04	1.11	0.63
Delay/Veh:	121.5	22.1	22.1	38.0	24.2	100.5	100.1	30.4	28.9	20.2	107	27.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	121.5	22.1	22.1	38.0	24.2	100.5	100.1	30.4	28.9	20.2	107	27.1
LOS by Move:	F	C	C	D	C	F	F	C	C	C	F	C
HCM2kAvgQ:	203	89	89	167	210	471	408	167	131	6	408	111

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #29: 16th St / V St



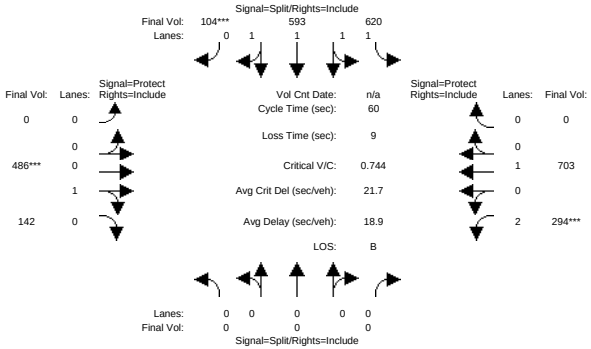
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	371	783	63	199	624	508	726	348	344	44	408	368
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	371	783	63	199	624	508	726	348	344	44	408	368
Added Vol:	27	51	0	0	8	0	0	0	31	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	398	834	63	199	632	508	726	348	375	44	408	368
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	398	834	63	199	632	508	726	348	375	44	408	368
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	398	834	63	199	632	508	726	348	375	44	408	368
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	398	834	63	199	632	508	726	348	375	44	408	368
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.86	0.14	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3323	251	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.22	0.25	0.25	0.11	0.18	0.31	0.40	0.18	0.23	0.02	0.21	0.23
Crit Moves:	****					****	****					****
Green/Cycle:	0.15	0.24	0.24	0.12	0.21	0.21	0.27	0.27	0.27	0.17	0.17	0.17
Volume/Cap:	1.48	1.02	1.02	0.94	0.82	1.48	1.48	0.67	0.85	0.15	1.29	1.37
Delay/Veh:	260.5	59.6	59.6	72.8	29.8	254.7	248.6	23.0	35.7	21.6	177	212.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	260.5	59.6	59.6	72.8	29.8	254.7	248.6	23.0	35.7	21.6	177	212.2
LOS by Move:	F	E	E	E	C	F	F	C	D	C	F	F
HCM2kAvgQ:	578	295	295	190	217	795	1054	140	174	20	541	537

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #30: 13th St / R St



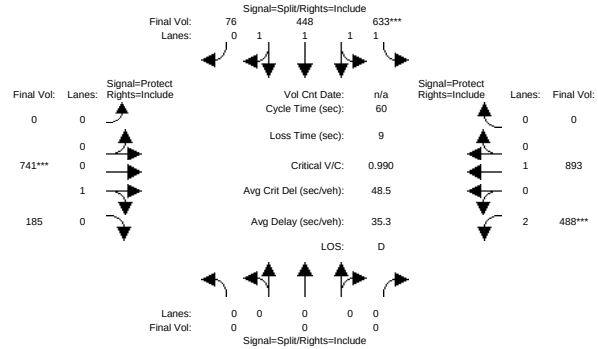
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	537	365	104	0	486	142	294	703	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	537	365	104	0	486	142	294	703	0
Added Vol:	0	0	0	83	228	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	620	593	104	0	486	142	294	703	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	620	593	104	0	486	142	294	703	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	620	593	104	0	486	142	294	703	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	620	593	104	0	486	142	294	703	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.84	0.84	0.84	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	1.88	1.80	0.32	0.00	0.77	0.23	2.00	1.00	0.00
Final Sat.:	0	0	0	2988	2858	501	0	1425	416	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.21	0.21	0.21	0.00	0.34	0.34	0.08	0.37	0.00
Crit Moves:						****		****		****		
Green/Cycle:	0.00	0.00	0.00	0.28	0.28	0.28	0.00	0.46	0.46	0.12	0.57	0.00
Volume/Cap:	0.00	0.00	0.00	0.75	0.75	0.75	0.00	0.75	0.75	0.72	0.65	0.00
Delay/Veh:	0.0	0.0	0.0	21.6	21.6	21.6	0.0	17.2	17.2	31.7	10.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.6	21.6	21.6	0.0	17.2	17.2	31.7	10.1	0.0
LOS by Move:	A	A	A	C	C	C	A	B	B	C	B	A
HCM2kAvgQ:	0	0	0	201	201	201	0	283	283	72	221	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #30: 13th St / R St



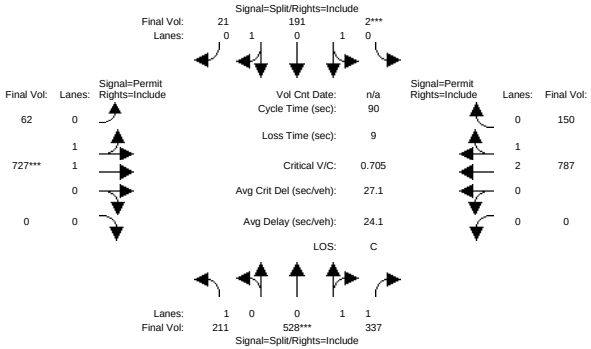
Street Name:	13th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	591	328	76	0	741	185	488	893	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	591	328	76	0	741	185	488	893	0
Added Vol:	0	0	0	42	120	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	633	448	76	0	741	185	488	893	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	633	448	76	0	741	185	488	893	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	633	448	76	0	741	185	488	893	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	633	448	76	0	741	185	488	893	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.83	0.83	0.83	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.71	0.29	0.00	0.80	0.20	2.00	1.00	0.00
Final Sat.:	0	0	0	3143	2687	456	0	1479	369	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.20	0.17	0.17	0.00	0.50	0.50	0.14	0.47	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.20	0.20	0.20	0.00	0.51	0.51	0.14	0.65	0.00
Volume/Cap:	0.00	0.00	0.00	0.99	0.82	0.82	0.00	0.99	0.99	0.99	0.73	0.00
Delay/Veh:	0.0	0.0	0.0	47.7	26.8	26.8	0.0	41.6	41.6	63.6	9.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	47.7	26.8	26.8	0.0	41.6	41.6	63.6	9.3	0.0
LOS by Move:	A	A	A	D	C	C	A	D	D	E	A	A
HCM2kAvgQ:	0	0	0	304	195	195	0	637	637	162	280	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #31: SR-99 NB Off-Ramp - 14th St / R Street

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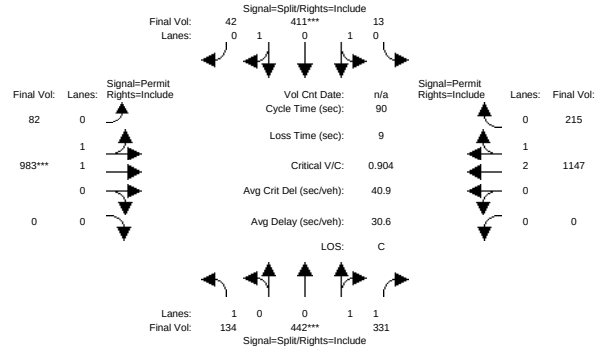
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     211  528   337    2   69    21   62  644     0    0  787   136
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  211  528   337    2   69    21   62  644     0    0  787   136
Added Vol:      0    0     0    0  122     0    0   83     0    0    0    14
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  211  528   337    2  191    21   62  727     0    0  787   150
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   211  528   337    2  191    21   62  727     0    0  787   150
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  211  528   337    2  191    21   62  727     0    0  787   150
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  211  528   337    2  191    21   62  727     0    0  787   150
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.74 0.74  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.02 1.78  0.20 0.16 1.84  0.00 0.00 2.52  0.48
Final Sat.:  1805 1790  1790   33 3174   349  222 2601     0    0 4252   810
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.30  0.19 0.06 0.06  0.06 0.28 0.28  0.00 0.00 0.19  0.19
Crit Moves:        ****        ****            ****
Green/Cycle: 0.41 0.41  0.41 0.11 0.11  0.11 0.38 0.38  0.00 0.00 0.38  0.38
Volume/Cap:  0.29 0.73  0.46 0.54 0.54  0.54 0.73 0.73  0.00 0.00 0.48  0.48
Delay/Veh:   18.3 24.9  19.8 39.4 39.4  39.4 26.2 26.2   0.0  0.0 21.2  21.2
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  18.3 24.9  19.8 39.4 39.4  39.4 26.2 26.2   0.0  0.0 21.2  21.2
LOS by Move:    B    C     B    D    D     D    C    C     A    A    C     C
HCM2kAvgQ:     99  339   176   94   94    94  240  240     0    0  174   174
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #31: SR-99 NB Off-Ramp - 14th St / R Street

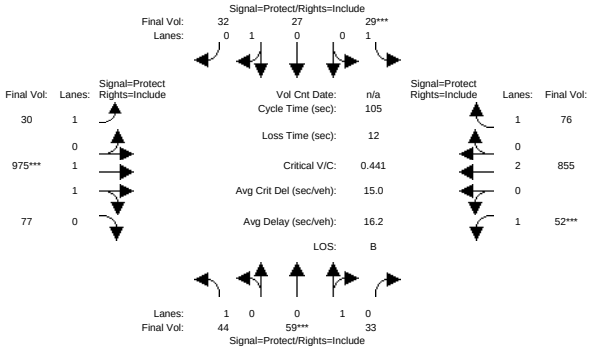



```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     134  442   331   13  165    42   82  941     0    0 1147   198
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  134  442   331   13  165    42   82  941     0    0 1147   198
Added Vol:      0    0     0    0  246     0    0   42     0    0    0    17
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  134  442   331   13  411    42   82  983     0    0 1147   215
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   134  442   331   13  411    42   82  983     0    0 1147   215
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  134  442   331   13  411    42   82  983     0    0 1147   215
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  134  442   331   13  411    42   82  983     0    0 1147   215
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.94 0.94  0.94 0.65 0.65  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.06 1.76  0.18 0.15 1.85  0.00 0.00 2.53  0.47
Final Sat.:  1805 1778  1778   99 3139   321  189 2266     0    0 4263   799
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.25  0.19 0.13 0.13  0.13 0.43 0.43  0.00 0.00 0.27  0.27
Crit Moves:        ****            ****            ****
Green/Cycle: 0.28 0.28  0.28 0.14 0.14  0.14 0.48 0.48  0.00 0.00 0.48  0.48
Volume/Cap:  0.27 0.90  0.68 0.90 0.90  0.90 0.90 0.90  0.00 0.00 0.56  0.56
Delay/Veh:   25.8 44.3  30.7 57.1 57.1  57.1 31.4 31.4   0.0  0.0 16.9  16.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  25.8 44.3  30.7 57.1 57.1  57.1 31.4 31.4   0.0  0.0 16.9  16.9
LOS by Move:    C    D     C    E    E     E    C    C     A    A    B     B
HCM2kAvgQ:     75  393   232  254  254   254  335  335     0    0  236   236
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #32: 15th St / R St



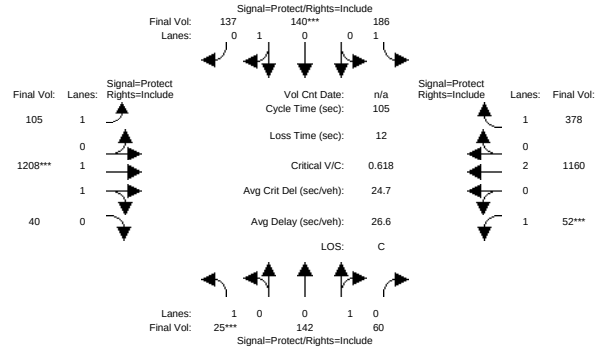
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	44	59	31	29	27	32	30	939	30	46	841	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	59	31	29	27	32	30	939	30	46	841	76
Added Vol:	0	0	2	0	0	0	0	36	47	6	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	59	33	29	27	32	30	975	77	52	855	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	59	33	29	27	32	30	975	77	52	855	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	59	33	29	27	32	30	975	77	52	855	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	59	33	29	27	32	30	975	77	52	855	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	0.94	0.94	0.95	0.95	0.85
Lanes:	1.00	0.64	0.36	1.00	0.46	0.54	1.00	1.85	0.15	1.00	2.00	1.00
Final Sat.:	1805	1153	645	1805	799	947	1805	3309	261	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.05	0.05	0.02	0.03	0.03	0.02	0.29	0.29	0.03	0.24	0.05
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.11	0.11	0.07	0.10	0.10	0.16	0.64	0.64	0.07	0.55	0.55
Volume/Cap:	0.33	0.46	0.46	0.24	0.32	0.32	0.11	0.46	0.46	0.43	0.43	0.09
Delay/Veh:	47.7	45.4	45.4	47.5	44.6	44.6	38.2	9.7	9.7	49.6	13.9	11.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.7	45.4	45.4	47.5	44.6	44.6	38.2	9.7	9.7	49.6	13.9	11.1
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	42	83	83	28	51	51	19	216	216	40	204	27

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #32: 15th St / R St



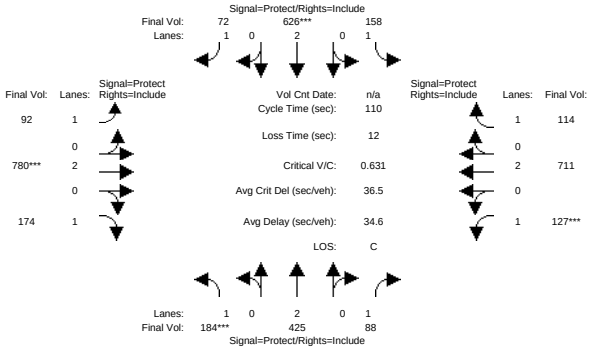
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	25	142	54	186	140	137	105	1177	28	50	1143	378
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	142	54	186	140	137	105	1177	28	50	1143	378
Added Vol:	0	0	6	0	0	0	0	31	12	2	17	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	142	60	186	140	137	105	1208	40	52	1160	378
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	25	142	60	186	140	137	105	1208	40	52	1160	378
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	25	142	60	186	140	137	105	1208	40	52	1160	378
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	25	142	60	186	140	137	105	1208	40	52	1160	378
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.70	0.30	1.00	0.51	0.49	1.00	1.94	0.06	1.00	2.00	1.00
Final Sat.:	1805	1276	539	1805	889	870	1805	3477	115	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.11	0.11	0.10	0.16	0.16	0.06	0.35	0.35	0.03	0.32	0.23
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.16	0.16	0.14	0.23	0.23	0.10	0.52	0.52	0.07	0.48	0.48
Volume/Cap:	0.21	0.71	0.71	0.71	0.67	0.67	0.58	0.67	0.67	0.43	0.66	0.48
Delay/Veh:	47.2	50.2	50.2	51.6	40.8	40.8	49.7	19.7	19.7	49.6	21.6	18.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.2	50.2	50.2	51.6	40.8	40.8	49.7	19.7	19.7	49.6	21.6	18.7
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	B
HCM2kAvgQ:	24	191	191	180	229	229	76	365	365	38	354	192

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #33: 16th St / R St



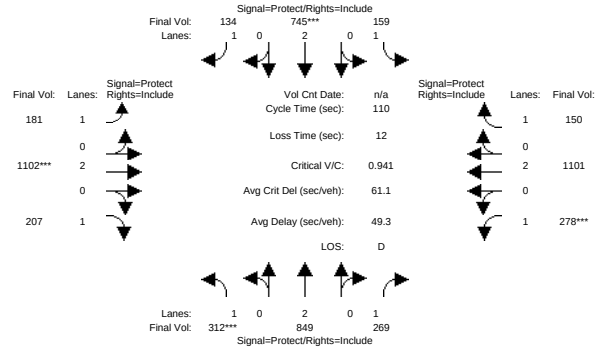
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	170	366	84	158	573	72	92	778	138	122	705	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	170	366	84	158	573	72	92	778	138	122	705	114
Added Vol:	14	59	4	0	53	0	0	2	36	5	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	184	425	88	158	626	72	92	780	174	127	711	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	184	425	88	158	626	72	92	780	174	127	711	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	425	88	158	626	72	92	780	174	127	711	114
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	184	425	88	158	626	72	92	780	174	127	711	114
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.12	0.05	0.09	0.17	0.04	0.05	0.22	0.11	0.07	0.20	0.07
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.25	0.25	0.19	0.28	0.28	0.11	0.34	0.34	0.11	0.34	0.34
Volume/Cap:	0.63	0.47	0.22	0.47	0.63	0.16	0.46	0.63	0.31	0.63	0.57	0.21
Delay/Veh:	47.4	35.4	33.0	41.0	36.3	30.4	47.5	31.4	27.0	53.0	30.2	25.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.4	35.4	33.0	41.0	36.3	30.4	47.5	31.4	27.0	53.0	30.2	25.7
LOS by Move:	D	D	C	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	170	167	60	113	233	43	71	285	103	105	254	65

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #33: 16th St / R St



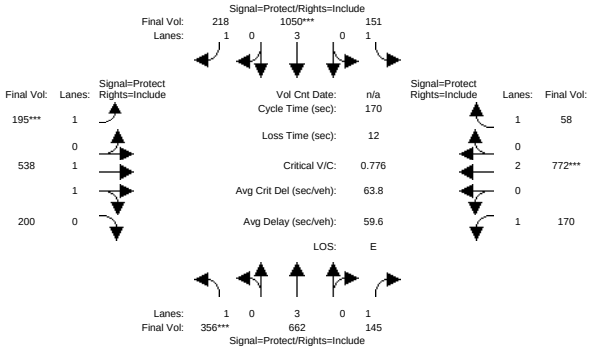
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	295	771	264	159	706	134	181	1096	176	274	1099	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	295	771	264	159	706	134	181	1096	176	274	1099	150
Added Vol:	17	78	5	0	39	0	0	6	31	4	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	312	849	269	159	745	134	181	1102	207	278	1101	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	312	849	269	159	745	134	181	1102	207	278	1101	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	312	849	269	159	745	134	181	1102	207	278	1101	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	312	849	269	159	745	134	181	1102	207	278	1101	150
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.17	0.24	0.17	0.09	0.21	0.08	0.10	0.31	0.13	0.15	0.30	0.09
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.29	0.29	0.11	0.22	0.22	0.12	0.32	0.32	0.16	0.37	0.37
Volume/Cap:	0.94	0.80	0.57	0.80	0.94	0.38	0.83	0.94	0.40	0.94	0.83	0.25
Delay/Veh:	78.6	40.4	34.6	68.3	61.4	37.2	70.0	50.6	29.3	82.4	36.3	24.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.6	40.4	34.6	68.3	61.4	37.2	70.0	50.6	29.3	82.4	36.3	24.5
LOS by Move:	E	D	C	E	E	D	E	D	C	F	D	C
HCM2kAvgQ:	364	397	206	131	345	90	157	520	128	277	468	85

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #34: Olive Ave / R St



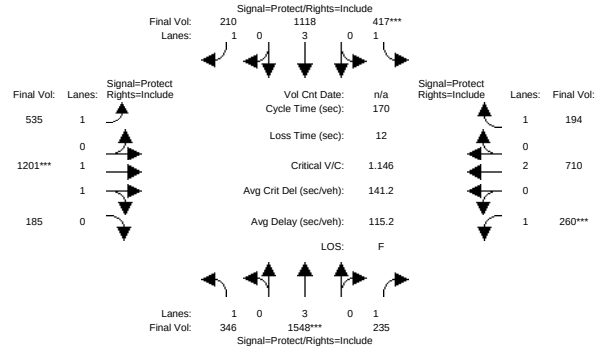
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	356		662		145	151		1050		218	195		533		200	170		761		58
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	356		662		145	151		1050		218	195		533		200	170		761		58
Added Vol:	0		0		0	0		0		0	0		5		0	0		11		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	356		662		145	151		1050		218	195		538		200	170		772		58
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	356		662		145	151		1050		218	195		538		200	170		772		58
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	356		662		145	151		1050		218	195		538		200	170		772		58
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	356		662		145	151		1050		218	195		538		200	170		772		58
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.91		0.91	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.46		0.54	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		2524		938	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.20		0.13		0.09	0.08		0.20		0.13	0.11		0.21		0.21	0.09		0.21		0.04
Crit Moves:	****							****			****							****		
Green/Cycle:	0.25		0.31		0.31	0.20		0.26		0.26	0.14		0.29		0.29	0.13		0.28		0.28
Volume/Cap:	0.78		0.41		0.29	0.41		0.78		0.52	0.78		0.74		0.74	0.74		0.78		0.13
Delay/Veh:	67.1		46.4		44.7	59.5		61.1		54.8	84.7		57.9		57.9	83.7		60.7		46.4
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	67.1		46.4		44.7	59.5		61.1		54.8	84.7		57.9		57.9	83.7		60.7		46.4
LOS by Move:	E		D		D	E		E		D	F		E		E	F		E		D
HCM2kAvgQ:	413		232		133	156		429		222	286		478		478	249		515		55

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #34: Olive Ave / R St



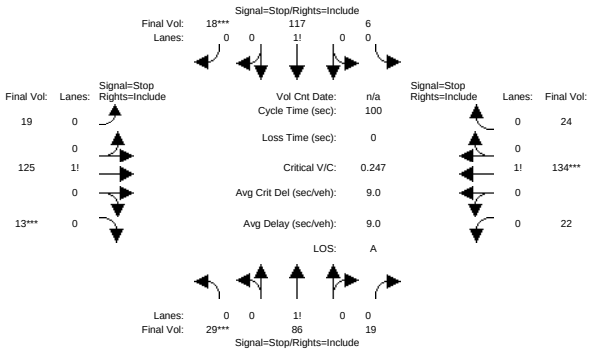
Street Name:	Olive Avenue												R Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	346		1548		235	417		1118		210	535		1190		185	260		705		194
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	346		1548		235	417		1118		210	535		1190		185	260		705		194
Added Vol:	0		0		0	0		0		0	0		11		0	0		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	346		1548		235	417		1118		210	535		1201		185	260		710		194
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	346		1548		235	417		1118		210	535		1201		185	260		710		194
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	346		1548		235	417		1118		210	535		1201		185	260		710		194
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	346		1548		235	417		1118		210	535		1201		185	260		710		194
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.93		0.93	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		1.73		0.27	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		3066		472	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.19		0.30		0.15	0.23		0.22		0.13	0.30		0.39		0.39	0.14		0.20		0.12
Crit Moves:			****			****							****			****				
Green/Cycle:	0.22		0.26		0.26	0.20		0.24		0.24	0.28		0.34		0.34	0.13		0.19		0.19
Volume/Cap:	0.88		1.15		0.56	1.15		0.88		0.53	1.05		1.15		1.15	1.15		1.05		0.64
Delay/Veh:	84.5		138		56.1	161.0		69.4		57.2	116.3		132		131.8	179.1		119		68.7
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	84.5		138		56.1	161.0		69.4		57.2	116.3		132		131.8	179.1		119		68.7
LOS by Move:	F		F		E	F		E		E	F		F		F	F		F		E
HCM2kAvgQ:	405		907		242	668		476		217	884		1286		1286	510		645		252

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #35: 15th St / O St



Street Name:	15th Street									O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	15	84	19	6	64	18	19	125	13	22	134	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	84	19	6	64	18	19	125	13	22	134	24
Added Vol:	14	2	0	0	53	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	86	19	6	117	18	19	125	13	22	134	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	86	19	6	117	18	19	125	13	22	134	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	86	19	6	117	18	19	125	13	22	134	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	86	19	6	117	18	19	125	13	22	134	24
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.22	0.64	0.14	0.04	0.83	0.13	0.12	0.80	0.08	0.12	0.75	0.13
Final Sat.:	152	450	99	30	586	90	87	572	60	89	542	97
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.19	0.20	0.20	0.20	0.22	0.22	0.22	0.25	0.25	0.25
Crit Moves:	****					****			****		****	
Delay/Veh:	8.9	8.9	8.9	8.9	8.9	8.9	9.0	9.0	9.0	9.1	9.1	9.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.9	8.9	8.9	8.9	8.9	8.9	9.0	9.0	9.0	9.1	9.1	9.1
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	8.9			8.9			9.0			9.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	8.9			8.9			9.0			9.1		
LOS by Appr:	A			A			A			A		
AllWayAvgQ:	5.1	5.1	5.1	5.4	5.4	5.4	6.2	6.2	6.2	7.2	7.2	7.2

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #35 15th St / O St

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	29	86	19	6	117	18	19	125	13	22	134	24

Major Street Volume: 337
Minor Approach Volume: 141
Minor Approach Volume Threshold: 509

SIGNAL WARRANT DISCLAIMER

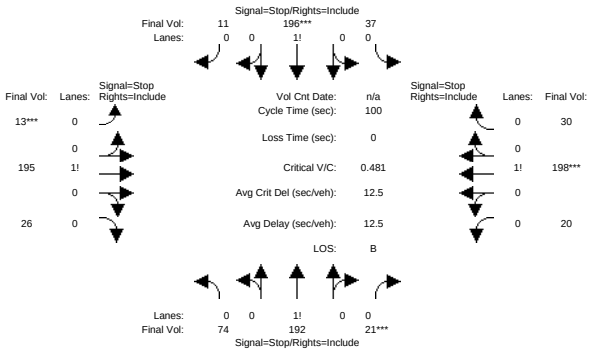
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #35: 15th St / O St

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Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17   186    21    37   183    11    13   195    26    20   198    30
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   17   186    21    37   183    11    13   195    26    20   198    30
Added Vol:     57     6     0     0    13     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   74   192    21    37   196    11    13   195    26    20   198    30
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    74   192    21    37   196    11    13   195    26    20   198    30
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   74   192    21    37   196    11    13   195    26    20   198    30
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   74   192    21    37   196    11    13   195    26    20   198    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.26  0.67  0.07  0.15  0.80  0.05  0.06  0.83  0.11  0.08  0.80  0.12
Final Sat.:   154   399    44    88   468    26    32   481    64    47   465    70
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.48  0.48  0.48  0.42  0.42  0.42  0.41  0.41  0.41  0.43  0.43  0.43
Crit Moves:              ****        ****        ****                    ****
Delay/Veh:   13.2  13.2  13.2  12.3  12.3  12.3  12.1  12.1  12.1  12.4  12.4  12.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  13.2  13.2  13.2  12.3  12.3  12.3  12.1  12.1  12.1  12.4  12.4  12.4
LOS by Move:    B     B     B     B     B     B     B     B     B     B     B     B
ApproachDel:       13.2              12.3              12.1              12.4
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        13.2              12.3              12.1              12.4
LOS by Appr:          B                 B                 B                 B
AllWayAvgQ:  18.9  18.9  18.9  14.5  14.5  14.5  13.5  13.5  13.5  14.8  14.8  14.8
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #35 15th St / O St
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Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   74  192    21    37  196    11    13  195    26    20  198    30
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             531
Minor Approach Volume:           248
Minor Approach Volume Threshold: 388
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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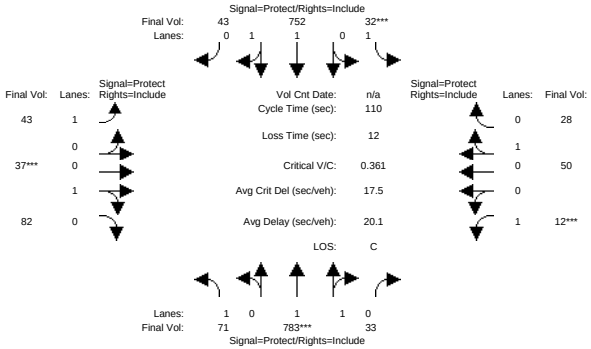
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #36: 16th St / O St



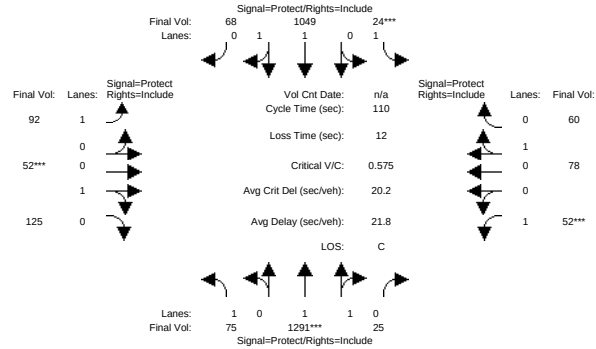
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	71	706	33	32	658	43	43	37	82	12	50	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	706	33	32	658	43	43	37	82	12	50	28
Added Vol:	0	77	0	0	94	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	783	33	32	752	43	43	37	82	12	50	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	783	33	32	752	43	43	37	82	12	50	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	783	33	32	752	43	43	37	82	12	50	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	71	783	33	32	752	43	43	37	82	12	50	28
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.92	0.08	1.00	1.89	0.11	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3443	145	1805	3387	194	1805	530	1174	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.23	0.02	0.22	0.22	0.02	0.07	0.07	0.01	0.04	0.04
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.58	0.58	0.06	0.50	0.50	0.10	0.18	0.18	0.06	0.14	0.14
Volume/Cap:	0.27	0.39	0.39	0.28	0.44	0.44	0.24	0.39	0.39	0.10	0.30	0.30
Delay/Veh:	42.5	12.4	12.4	50.4	17.6	17.6	46.3	40.6	40.6	48.9	42.9	42.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	12.4	12.4	50.4	17.6	17.6	46.3	40.6	40.6	48.9	42.9	42.9
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	58	192	192	33	223	223	38	96	96	12	64	64

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #36: 16th St / O St



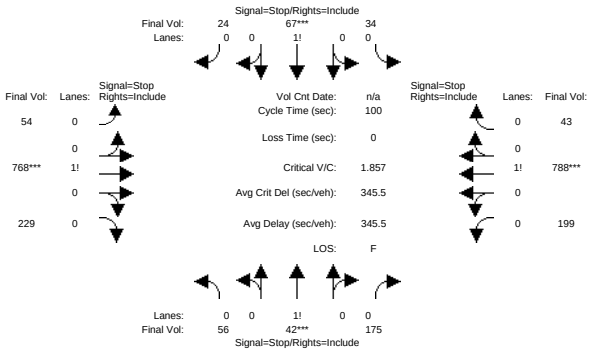
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	75	1192	25	24	976	68	92	52	125	52	78	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	1192	25	24	976	68	92	52	125	52	78	60
Added Vol:	0	99	0	0	73	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	1291	25	24	1049	68	92	52	125	52	78	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	1291	25	24	1049	68	92	52	125	52	78	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	1291	25	24	1049	68	92	52	125	52	78	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	1291	25	24	1049	68	92	52	125	52	78	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.88	0.12	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3531	68	1805	3360	218	1805	499	1200	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.04	0.37	0.37	0.01	0.31	0.31	0.05	0.10	0.10	0.03	0.08	0.08
Crit Moves:		****		****				****		****		
Green/Cycle:	0.11	0.59	0.59	0.06	0.55	0.55	0.10	0.17	0.17	0.06	0.14	0.14
Volume/Cap:	0.37	0.62	0.62	0.21	0.57	0.57	0.53	0.62	0.62	0.45	0.57	0.57
Delay/Veh:	46.5	14.8	14.8	49.8	16.9	16.9	50.5	46.3	46.3	52.5	47.5	47.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.5	14.8	14.8	49.8	16.9	16.9	50.5	46.3	46.3	52.5	47.5	47.5
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	67	377	377	24	329	329	93	162	162	57	129	129

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #37: 15th St / M St

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Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    26   167    34    14    24    54   631    11   165   685    43
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4    26   167    34    14    24    54   631    11   165   685    43
Added Vol:     52    16     8     0    53     0     0   137   218    34   103     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   56    42   175    34    67    24    54   768   229   199   788    43
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    56    42   175    34    67    24    54   768   229   199   788    43
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   56    42   175    34    67    24    54   768   229   199   788    43
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   56    42   175    34    67    24    54   768   229   199   788    43
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.21 0.15  0.64  0.27 0.54  0.19  0.05 0.73  0.22  0.19 0.77  0.04
Final Sat.:   102    77   320   118  232    83    29  414   123   107  424    23
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.55 0.55  0.55  0.29 0.29  0.29  1.86 1.86  1.86  1.86 1.86  1.86
Crit Moves:        ****               ****               ****               ****
Delay/Veh:   18.2 18.2  18.2  14.1 14.1  14.1 407.9  408 407.9 408.8  409 408.8
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  18.2 18.2  18.2  14.1 14.1  14.1 407.9  408 407.9 408.8  409 408.8
LOS by Move:    C    C     C     B    B     B     F    F     F     F    F     F
ApproachDel:       18.2              14.1             407.9             408.8
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        18.2              14.1             407.9             408.8
LOS by Appr:          C                 B                 F                 F
AllWayAvgQ:  28.1 28.1  28.1   9.2  9.2   9.2  1567 1567  1567  1538 1538  1538
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #37 15th St / M St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   56   42   175    34   67    24    54  768   229   199  788    43
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2081
Minor Approach Volume:           273
Minor Approach Volume Threshold: 24 [less than minimum of 100]
-------------------------------------------------------------------------------
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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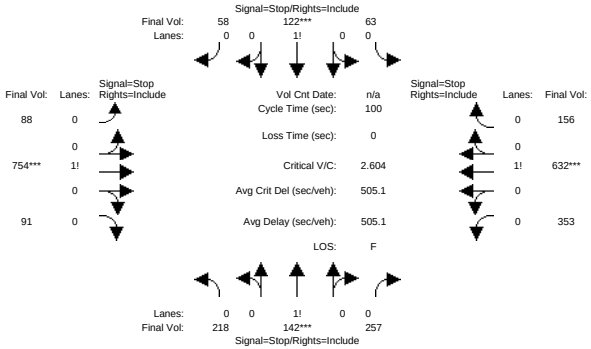
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #37: 15th St / M St




```
Street Name:            15th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10    79   223    63   109    58    88   647    37   345   500   156
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   10    79   223    63   109    58    88   647    37   345   500   156
Added Vol:    208    63    34     0    13     0     0   107    54     8   132     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  218   142   257    63   122    58    88   754    91   353   632   156
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:   218   142   257    63   122    58    88   754    91   353   632   156
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  218   142   257    63   122    58    88   754    91   353   632   156
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:  218   142   257    63   122    58    88   754    91   353   632   156
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.35  0.23  0.42  0.26  0.50  0.24  0.09  0.81  0.10  0.31  0.55  0.14
Final Sat.:   158   103   186   103   200    95    41   355    43   136   243    60
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.38  1.38  1.38  0.61  0.61  0.61  2.12  2.12  2.12  2.60  2.60  2.60
Crit Moves:        ****              ****              ****              ****
Delay/Veh:  207.8   208 207.8  25.2  25.2  25.2 532.1   532 532.1 746.0   746 746.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh: 207.8   208 207.8  25.2  25.2  25.2 532.1   532 532.1 746.0   746 746.0
LOS by Move:    F     F     F     D     D     D     F     F     F     F     F     F
ApproachDel:      207.8             25.2             532.1             746.0
Delay Adj:         1.00             1.00              1.00              1.00
ApprAdjDel:       207.8             25.2             532.1             746.0
LOS by Appr:          F                D                 F                 F
AllWayAvgQ:   611  611 610.6  36.3 36.3  36.3  1589 1589  1589  2236 2236  2236
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #37 15th St / M St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  218  142   257    63  122    58    88  754    91   353  632   156
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2074
Minor Approach Volume:           617
Minor Approach Volume Threshold: 25 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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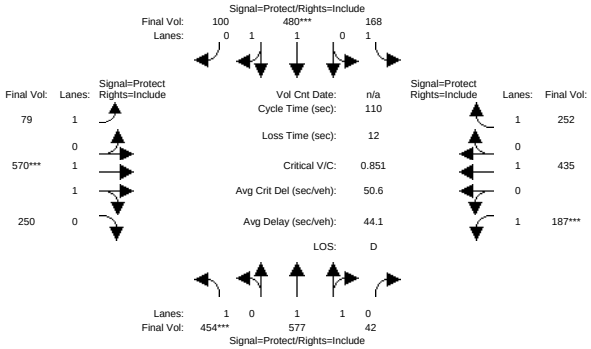
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #38: 16th St / M St



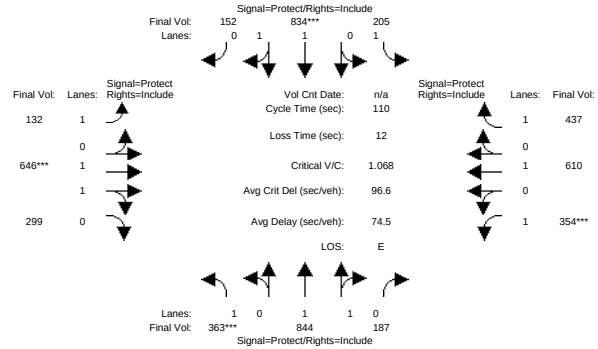
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	339	502	38	167	396	91	77	553	124	182	422	252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	339	502	38	167	396	91	77	553	124	182	422	252
Added Vol:	115	75	4	1	84	9	2	17	126	5	13	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	454	577	42	168	480	100	79	570	250	187	435	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	454	577	42	168	480	100	79	570	250	187	435	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	454	577	42	168	480	100	79	570	250	187	435	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	454	577	42	168	480	100	79	570	250	187	435	252
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.93	0.93	0.95	0.91	0.91	0.95	1.00	0.85
Lanes:	1.00	1.86	0.14	1.00	1.66	0.34	1.00	1.39	0.61	1.00	1.00	1.00
Final Sat.:	1805	3331	242	1805	2910	606	1805	2394	1050	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.25	0.17	0.17	0.09	0.16	0.16	0.04	0.24	0.24	0.10	0.23	0.16
Crit Moves:	****				****			****		****		
Green/Cycle:	0.30	0.32	0.32	0.17	0.19	0.19	0.09	0.28	0.28	0.12	0.31	0.31
Volume/Cap:	0.85	0.54	0.54	0.54	0.85	0.85	0.50	0.85	0.85	0.85	0.73	0.50
Delay/Veh:	48.9	31.5	31.5	43.7	52.8	52.8	50.4	44.8	44.8	73.1	38.1	31.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.9	31.5	31.5	43.7	52.8	52.8	50.4	44.8	44.8	73.1	38.1	31.4
LOS by Move:	D	C	C	D	D	D	D	D	D	E	D	C
HCM2kAvgQ:	349	211	211	145	317	317	81	412	412	167	323	166

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #38: 16th St / M St



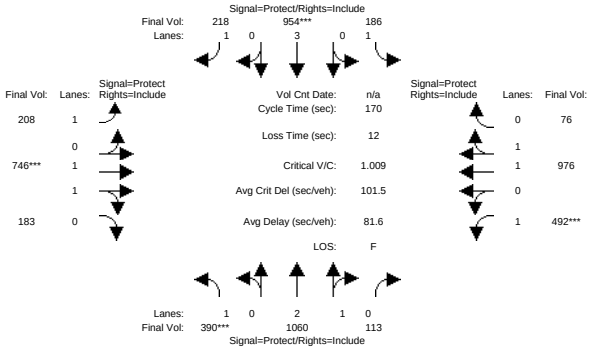
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	241	755	182	205	763	150	123	633	180	350	594	436
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	241	755	182	205	763	150	123	633	180	350	594	436
Added Vol:	122	89	5	0	71	2	9	13	119	4	16	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	363	844	187	205	834	152	132	646	299	354	610	437
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	363	844	187	205	834	152	132	646	299	354	610	437
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	363	844	187	205	834	152	132	646	299	354	610	437
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	363	844	187	205	834	152	132	646	299	354	610	437
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.91	0.91	0.95	1.00	0.85
Lanes:	1.00	1.64	0.36	1.00	1.69	0.31	1.00	1.37	0.63	1.00	1.00	1.00
Final Sat.:	1805	2875	637	1805	2983	544	1805	2352	1089	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.20	0.29	0.29	0.11	0.28	0.28	0.07	0.27	0.27	0.20	0.32	0.27
Crit Moves:	****				****			****		****		
Green/Cycle:	0.19	0.32	0.32	0.13	0.26	0.26	0.08	0.26	0.26	0.18	0.36	0.36
Volume/Cap:	1.07	0.90	0.90	0.90	1.07	1.07	0.89	1.07	1.07	1.07	0.89	0.75
Delay/Veh:	112.7	45.8	45.8	82.5	90.1	90.1	94.4	91.0	91.0	113.5	47.5	36.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	112.7	45.8	45.8	82.5	90.1	90.1	94.4	91.0	91.0	113.5	47.5	36.5
LOS by Move:	F	D	D	F	F	F	F	F	F	F	D	D
HCM2kAvgQ:	362	408	408	252	656	656	180	633	633	381	484	310

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #39: Olive Ave / M St



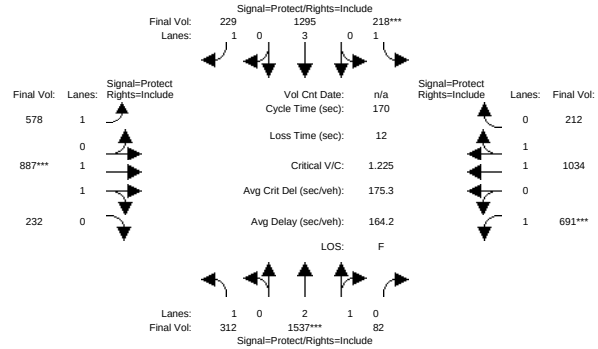
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	390	1060		113	186	954		218	208	741		183	492	965		76
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	390	1060		113	186	954		218	208	741		183	492	965		76
Added Vol:	0	0		0	0	0		0	0	5		0	0	11		0
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	390	1060		113	186	954		218	208	746		183	492	976		76
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	390	1060		113	186	954		218	208	746		183	492	976		76
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	390	1060		113	186	954		218	208	746		183	492	976		76
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	390	1060		113	186	954		218	208	746		183	492	976		76
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.90	0.90		0.95	0.91	0.85		0.95	0.92	0.92		0.95	0.94	0.94	
Lanes:	1.00	2.71	0.29		1.00	3.00	1.00		1.00	1.61	0.39		1.00	1.86	0.14	
Final Sat.:	1805	4622	493		1805	5187	1615		1805	2812	690		1805	3312	258	
Capacity Analysis Module:																
Vol/Sat:	0.22	0.23	0.23		0.10	0.18	0.13		0.12	0.27	0.27		0.27	0.29	0.29	
Crit Moves:	****					****				****			****			
Green/Cycle:	0.21	0.27	0.27		0.12	0.18	0.18		0.15	0.26	0.26		0.27	0.38	0.38	
Volume/Cap:	1.01	0.84	0.84		0.84	1.01	0.74		0.77	1.01	1.01		1.01	0.77	0.77	
Delay/Veh:	114.9	62.9	62.9		96.5	101	75.3		82.0	94.6	94.6		105.1	48.6	48.6	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	114.9	62.9	62.9		96.5	101	75.3		82.0	94.6	94.6		105.1	48.6	48.6	
LOS by Move:	F	E	E		F	F	E		F	F	F		F	D	D	
HCM2kAvgQ:	506	486	486		238	506	261		299	780	780		784	645	645	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #39: Olive Ave / M St



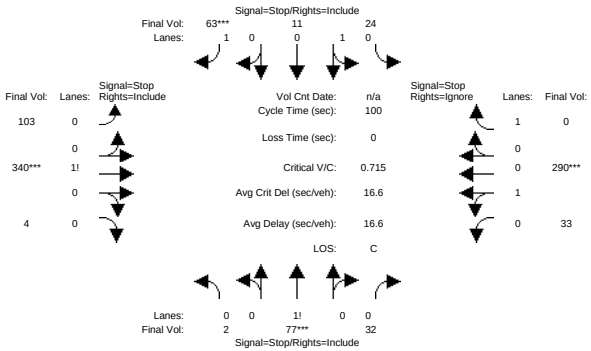
Street Name:	Olive Avenue									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	312	1537		82	218	1295		229	578	876		232	691	1029		212
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	312	1537		82	218	1295		229	578	876		232	691	1029		212
Added Vol:	0	0		0	0	0		0	0	11		0	0	5		0
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	312	1537		82	218	1295		229	578	887		232	691	1034		212
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	312	1537		82	218	1295		229	578	887		232	691	1034		212
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	312	1537		82	218	1295		229	578	887		232	691	1034		212
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	312	1537		82	218	1295		229	578	887		232	691	1034		212
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.90	0.90		0.95	0.91	0.85		0.95	0.92	0.92		0.95	0.93	0.93	
Lanes:	1.00	2.85	0.15		1.00	3.00	1.00		1.00	1.59	0.41		1.00	1.66	0.34	
Final Sat.:	1805	4885	261		1805	5187	1615		1805	2773	725		1805	2921	599	
Capacity Analysis Module:																
Vol/Sat:	0.17	0.31	0.31		0.12	0.25	0.14		0.32	0.32	0.32		0.38	0.35	0.35	
Crit Moves:		****			****					****			****			
Green/Cycle:	0.15	0.26	0.26		0.10	0.21	0.21		0.27	0.26	0.26		0.31	0.30	0.30	
Volume/Cap:	1.19	1.22	1.22		1.22	1.19	0.67		1.17	1.22	1.22		1.22	1.17	1.17	
Delay/Veh:	188.9	171	171.2		217.3	161	67.1		160.2	174	173.6		174.6	148	148.2	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	188.9	171	171.2		217.3	161	67.1		160.2	174	173.6		174.6	148	148.2	
LOS by Move:	F	F	F		F	F	E		F	F	F		F	F	F	
HCM2kAvgQ:	529	1048	1048		398	824	258		1068	1137	1137		1319	1200	1200	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #40: 2nd St / Grogan Ave / Northwest Ave

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Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   77    32    24   11    63   103  340     4    33  290   102
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   77    32    24   11    63   103  340     4    33  290   102
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   77    32    24   11    63   103  340     4    33  290   102
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2   77    32    24   11    63   103  340     4    33  290     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   77    32    24   11    63   103  340     4    33  290     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    2   77    32    24   11    63   103  340     4    33  290     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.69  0.29  0.69 0.31  1.00  0.23 0.76  0.01  0.10 0.90  1.00
Final Sat.:     9  343   143   315  144   530   144  476     6    63  550   702
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.22 0.22  0.22  0.08 0.08  0.12  0.71 0.71  0.71  0.53 0.53  0.00
Crit Moves:       ****                    ****       ****              ****
Delay/Veh:   11.2 11.2  11.2  10.3 10.3   9.4  21.1 21.1  21.1  14.3 14.3   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.2 11.2  11.2  10.3 10.3   9.4  21.1 21.1  21.1  14.3 14.3   0.0
LOS by Move:    B    B     B     B    B     A     C    C     C     B    B     *
ApproachDel:      11.2              9.7             21.1             14.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       11.2              9.7             21.1             14.3
LOS by Appr:         B                A                C                B
AllWayAvgQ:   5.7  5.7   5.7   1.7  1.7   2.6  53.9 53.9  53.9  25.0 25.0   0.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #40 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
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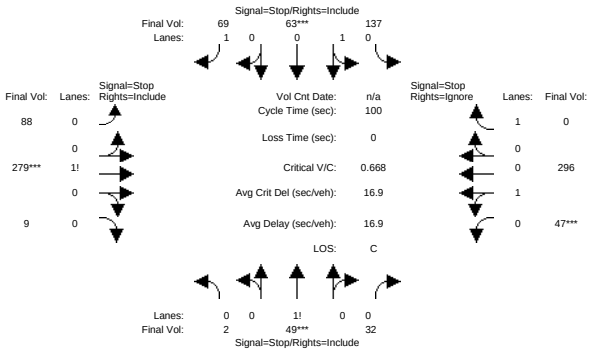
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   77    32    24   11    63   103  340     4    33  290   102
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             872
Minor Approach Volume:           111
Minor Approach Volume Threshold: 332
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #40: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   49    32   137   63    69    88  279     9    47  296    88
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   49    32   137   63    69    88  279     9    47  296    88
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   49    32   137   63    69    88  279     9    47  296    88
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     2   49    32   137   63    69    88  279     9    47  296     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2   49    32   137   63    69    88  279     9    47  296     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    2   49    32   137   63    69    88  279     9    47  296     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.59  0.39  0.69 0.31  1.00  0.23 0.75  0.02  0.14 0.86  1.00
Final Sat.:    11  267   175   329  151   557   132  417    13    77  483   632
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18  0.18  0.42 0.42  0.12  0.67 0.67  0.67  0.61 0.61  0.00
Crit Moves:        ****               ****               ****        ****
Delay/Veh:   11.3 11.3  11.3  14.2 14.2   9.5  20.2 20.2  20.2  17.7 17.7   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.3 11.3  11.3  14.2 14.2   9.5  20.2 20.2  20.2  17.7 17.7   0.0
LOS by Move:    B    B     B     B    B     A     C    C     C     C    C     *
ApproachDel:       11.3              13.0              20.2              17.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        11.3              13.0              20.2              17.7
LOS by Appr:          B                 B                 C                 C
AllWayAvgQ:   4.2  4.2   4.2  15.0 15.0   3.0  43.0 43.0  43.0  34.1 34.1   0.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #40 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



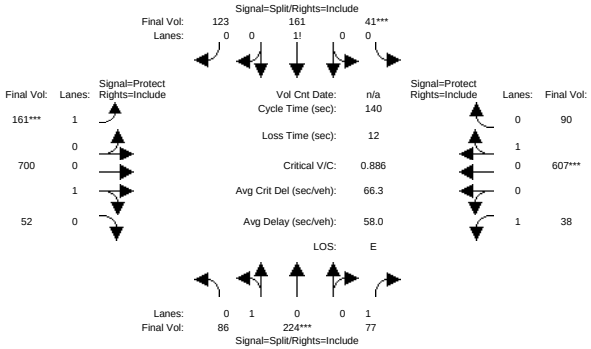
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   49    32   137   63    69    88  279     9    47  296    88
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             807
Minor Approach Volume:           269
Minor Approach Volume Threshold: 466
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #41: Childs Ave / Martin Luther King Wy

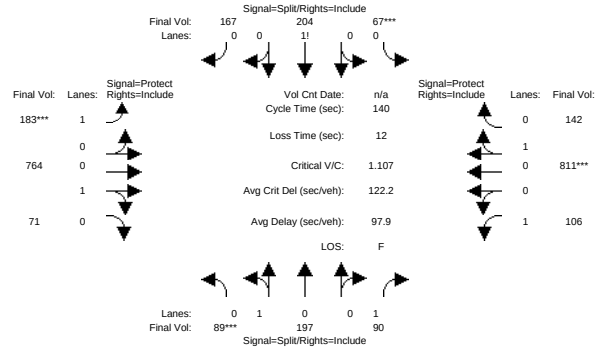



```
Street Name:            Childs Ave                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      86  224    77   41  161   123  161  662    51   38  588    90
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   86  224    77   41  161   123  161  662    51   38  588    90
Added Vol:      0    0     0    0    0     0    0   38     1    0   19     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   86  224    77   41  161   123  161  700    52   38  607    90
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    86  224    77   41  161   123  161  700    52   38  607    90
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   86  224    77   41  161   123  161  700    52   38  607    90
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   86  224    77   41  161   123  161  700    52   38  607    90
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.99 0.99  0.85 0.94 0.94  0.94 0.95 0.99  0.99 0.95 0.98  0.98
Lanes:       0.28 0.72  1.00 0.13 0.49  0.38 1.00 0.93  0.07 1.00 0.87  0.13
Final Sat.:   520 1354  1615  226  888   678 1805 1751   130 1805 1623   241
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.17  0.05 0.18 0.18  0.18 0.09 0.40  0.40 0.02 0.37  0.37
Crit Moves:        ****        ****             ****                 ****
Green/Cycle: 0.19 0.19  0.19 0.20 0.20  0.20 0.10 0.46  0.46 0.06 0.42  0.42
Volume/Cap:  0.89 0.89  0.26 0.89 0.89  0.89 0.89 0.86  0.86 0.36 0.89  0.89
Delay/Veh:   78.1 78.1  49.1 75.9 75.9  75.9 98.8 42.1  42.1 65.6 49.1  49.1
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  78.1 78.1  49.1 75.9 75.9  75.9 98.8 42.1  42.1 65.6 49.1  49.1
LOS by Move:    E    E     D    E    E     E    F    D     D    E    D     D
HCM2kAvgQ:    399  399    72  414  414   414  239  770   770   38  705   705
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #41: Childs Ave / Martin Luther King Wy

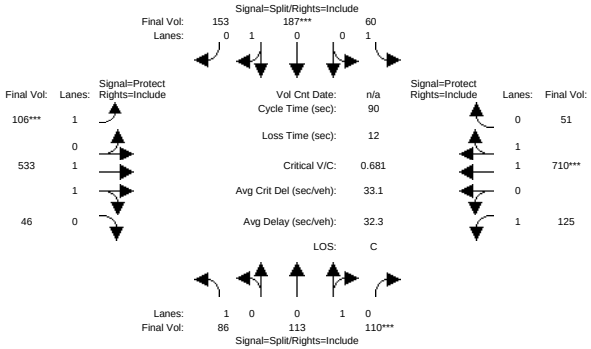



```
Street Name:            Childs Ave                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      88  197    90   67  204   167  183  745    71  106  773   142
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   88  197    90   67  204   167  183  745    71  106  773   142
Added Vol:      1    0     0    0    0     0    0   19     0    0   38     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   89  197    90   67  204   167  183  764    71  106  811   142
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    89  197    90   67  204   167  183  764    71  106  811   142
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   89  197    90   67  204   167  183  764    71  106  811   142
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   89  197    90   67  204   167  183  764    71  106  811   142
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.99 0.99  0.85 0.94 0.94  0.94 0.95 0.99  0.99 0.95 0.98  0.98
Lanes:       0.31 0.69  1.00 0.15 0.47  0.38 1.00 0.91  0.09 1.00 0.85  0.15
Final Sat.:   582 1289  1615  274  833   682 1805 1716   159 1805 1581   277
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.15 0.15  0.06 0.24 0.24  0.24 0.10 0.45  0.45 0.06 0.51  0.51
Crit Moves:  ****             ****             ****                 ****
Green/Cycle: 0.14 0.14  0.14 0.22 0.22  0.22 0.09 0.49  0.49 0.06 0.46  0.46
Volume/Cap:  1.11 1.11  0.40 1.11 1.11  1.11 1.11 0.91  0.91 0.91 1.11  1.11
Delay/Veh:  148.0  148  56.3 131.9  132 131.9 165.1 45.4  45.4 120.6  102 101.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 148.0  148  56.3 131.9  132 131.9 165.1 45.4  45.4 120.6  102 101.8
LOS by Move:    F    F     E    F    F     F    F    D     D    F    F     F
HCM2kAvgQ:    477  477    96  688  688   688  328  901   901  117 1275  1275
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #42: 13th St / Martin Luther King Wy

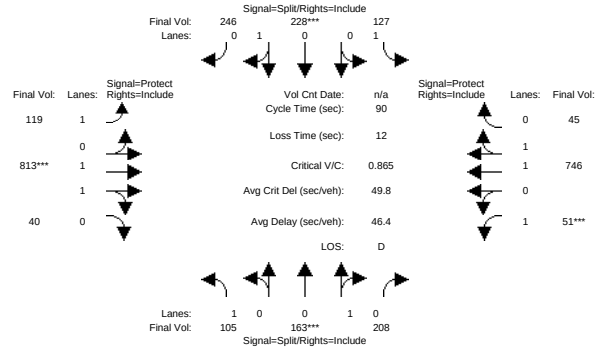



```
Street Name:            13th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      86  113   110   58  187   144   88  533    46  125  710    51
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   86  113   110   58  187   144   88  533    46  125  710    51
Added Vol:      0    0     0    2    0     9   18    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   86  113   110   60  187   153  106  533    46  125  710    51
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    86  113   110   60  187   153  106  533    46  125  710    51
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   86  113   110   60  187   153  106  533    46  125  710    51
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   86  113   110   60  187   153  106  533    46  125  710    51
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.93  0.93 0.95 0.93  0.93 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.51  0.49 1.00 0.55  0.45 1.00 1.84  0.16 1.00 1.87  0.13
Final Sat.:  1805  892   868 1805  975   798 1805 3283   283 1805 3334   240
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.13  0.13 0.03 0.19  0.19 0.06 0.16  0.16 0.07 0.21  0.21
Crit Moves:             ****      ****       ****                ****
Green/Cycle: 0.19 0.19  0.19 0.28 0.28  0.28 0.09 0.27  0.27 0.13 0.31  0.31
Volume/Cap:  0.26 0.68  0.68 0.12 0.68  0.68 0.68 0.60  0.60 0.54 0.68  0.68
Delay/Veh:   31.7 39.9  39.9 24.1 32.6  32.6 51.6 29.7  29.7 39.1 28.7  28.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  31.7 39.9  39.9 24.1 32.6  32.6 51.6 29.7  29.7 39.1 28.7  28.7
LOS by Move:    C    D     D    C    C     C    D    C     C    D    C     C
HCM2kAvgQ:     54  177   177   31  237   237   69  173   173   81  243   243
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #42: 13th St / Martin Luther King Wy

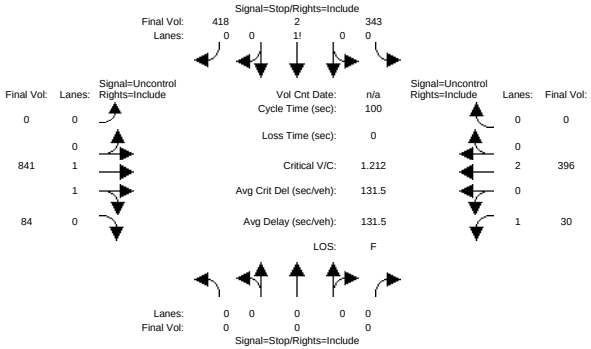



```
Street Name:            13th Street                    Martin Luther King Way
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     105  163   208  118  228   228  110  813    40   51  746    45
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  105  163   208  118  228   228  110  813    40   51  746    45
Added Vol:      0    0     0    9    0    18    9    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  105  163   208  127  228   246  119  813    40   51  746    45
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  105  163   208  127  228   246  119  813    40   51  746    45
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  105  163   208  127  228   246  119  813    40   51  746    45
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  105  163   208  127  228   246  119  813    40   51  746    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.92  0.92 0.95 0.92  0.92 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.44  0.56 1.00 0.48  0.52 1.00 1.91  0.09 1.00 1.89  0.11
Final Sat.:  1805  765   976 1805  843   909 1805 3417   168 1805 3374   204
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.21  0.21 0.07 0.27  0.27 0.07 0.24  0.24 0.03 0.22  0.22
Crit Moves:             ****      ****       ****                ****
Green/Cycle: 0.23 0.23  0.23 0.30 0.30  0.30 0.09 0.26  0.26 0.08 0.25  0.25
Volume/Cap:  0.25 0.91  0.91 0.24 0.91  0.91 0.75 0.91  0.91 0.36 0.88  0.88
Delay/Veh:   28.4 58.6  58.6 24.2 51.5  51.5 58.0 45.6  45.6 41.0 43.0  43.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  28.4 58.6  58.6 24.2 51.5  51.5 58.0 45.6  45.6 41.0 43.0  43.0
LOS by Move:    C    E     E    C    D     D    E    D     D    D    D     D
HCM2kAvgQ:     62  351   351   68  421   421   78  302   302   33  309   309
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   263    2   418     0  841    82    30  396     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   263    2   418     0  841    82    30  396     0
Added Vol:      0    0     0    80    0     0     0    0     2     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   343    2   418     0  841    84    30  396     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   343    2   418     0  841    84    30  396     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   343    2   418     0  841    84    30  396     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   877 1381   198  xxxx xxxx xxxxx   925 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   292  145   816  xxxx xxxx xxxxx   747 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   283  140   816  xxxx xxxx xxxxx   747 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.21 0.01  0.51  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  439 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 46.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  364 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            364.0           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   343    2   418     0  841    84    30  396     0
ApproachDel:    xxxxxx            364.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=77.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=763]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2114]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

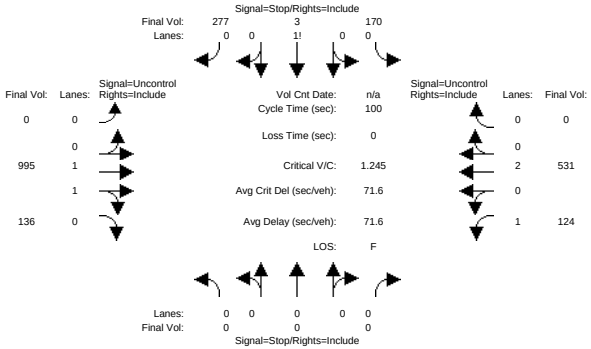
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   343    2   418     0  841    84    30  396     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1351
Minor Approach Volume:           763
Minor Approach Volume Threshold: 181
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   150    3   277     0  995   127   124  531     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   150    3   277     0  995   127   124  531     0
Added Vol:      0    0     0    20    0     0     0    0     9     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   170    3   277     0  995   136   124  531     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   170    3   277     0  995   136   124  531     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   170    3   277     0  995   136   124  531     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1277 1910   266  xxxx xxxx xxxxx  1131 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   161   69   739  xxxx xxxx xxxxx   625 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   137   55   739  xxxx xxxx xxxxx   625 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.25 0.05  0.37  xxxx xxxx  xxxx  0.20 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  18.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  12.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  269 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 28.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  352 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            352.2           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   170    3   277     0  995   136   124  531     0
ApproachDel:    xxxxxx            352.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=44.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=450]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2236]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

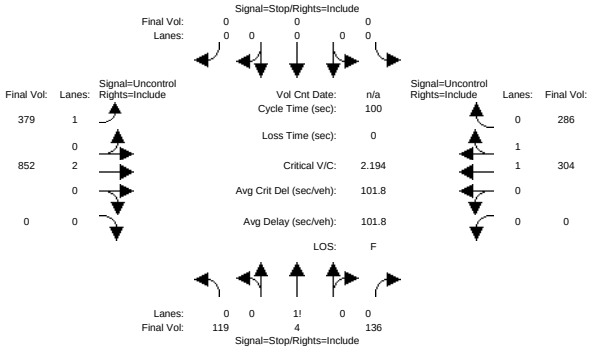
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   170    3   277     0  995   136   124  531     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1786
Minor Approach Volume:           450
Minor Approach Volume Threshold: 85 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119    4   136     0    0     0   379  772     0     0  304   274
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  119    4   136     0    0     0   379  772     0     0  304   274
Added Vol:      0    0     0     0    0     0     0   80     0     0    0    12
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  119    4   136     0    0     0   379  852     0     0  304   286
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   119    4   136     0    0     0   379  852     0     0  304   286
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  119    4   136     0    0     0   379  852     0     0  304   286
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1762 2200   426  xxxx xxxx xxxxx   590 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   77   45   582  xxxx xxxx xxxxx   995 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     54   28   582  xxxx xxxx xxxxx   995 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  2.19 0.14  0.23  xxxx xxxx  xxxx  0.38 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  45.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  101 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 23.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  802 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     801.7           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:  119    4   136     0    0     0   379  852     0     0  304   286
ApproachDel:     801.7           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=57.7]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=259]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2080]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:  119    4   136     0    0     0   379  852     0     0  304   286
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1821
Minor Approach Volume:           259
Minor Approach Volume Threshold: 78 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
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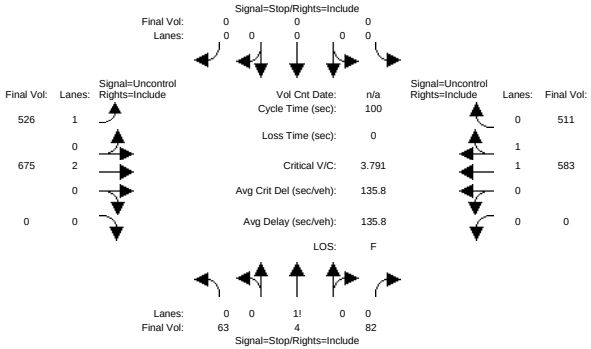
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63    4    82     0    0     0   526  655     0     0  583   464
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   63    4    82     0    0     0   526  655     0     0  583   464
Added Vol:      0    0     0     0    0     0     0   20     0     0    0    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   63    4    82     0    0     0   526  675     0     0  583   511
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    63    4    82     0    0     0   526  675     0     0  583   511
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   63    4    82     0    0     0   526  675     0     0  583   511
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2019 2821   338  xxxx xxxx xxxxx  1094 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   52   18   664  xxxx xxxx xxxxx   645 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     17    3   664  xxxx xxxx xxxxx   645 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  3.79 1.19  0.12  xxxx xxxx  xxxx  0.81 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   211 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  30.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     D    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   29 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 18.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 2120 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:    2119.7           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   63    4    82     0    0     0   526  675     0     0  583   511
ApproachDel:    2119.7           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=87.7]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=149]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2444]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   63    4    82     0    0     0   526  675     0     0  583   511
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2295
Minor Approach Volume:           149
Minor Approach Volume Threshold: -1 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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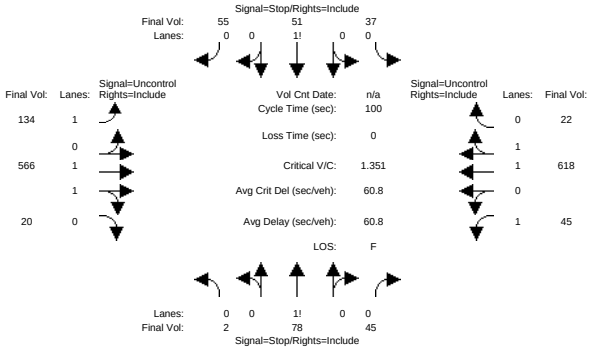
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   69    45    37   51    43    54  566    20    45  618    22
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   69    45    37   51    43    54  566    20    45  618    22
Added Vol:      0    9     0     0    0    12    80    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   78    45    37   51    55   134  566    20    45  618    22
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2   78    45    37   51    55   134  566    20    45  618    22
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2   78    45    37   51    55   134  566    20    45  618    22
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1269 1574   293  1309 1573   320   640 xxxx xxxxx   586 xxxx xxxxx
Potent Cap.:  127  111   709   119  111   682   954 xxxx xxxxx   999 xxxx xxxxx
Move Cap.:     57   91   709    27   91   682   954 xxxx xxxxx   999 xxxx xxxxx
Volume/Cap:  0.03 0.86  0.06  1.35 0.56  0.08  0.14 xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  12.2 xxxx xxxxx   3.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.4 xxxx xxxxx   8.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  131 xxxxx  xxxx   72 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  6.5 xxxxx xxxxx 13.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  131 xxxxx xxxxx  585 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     *    *     *     *    *     *
ApproachDel:     131.1            585.1           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2   78    45    37   51    55   134  566    20    45  618    22
ApproachDel:     131.1            585.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.6]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=125]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1673]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=23.2]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=143]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1673]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

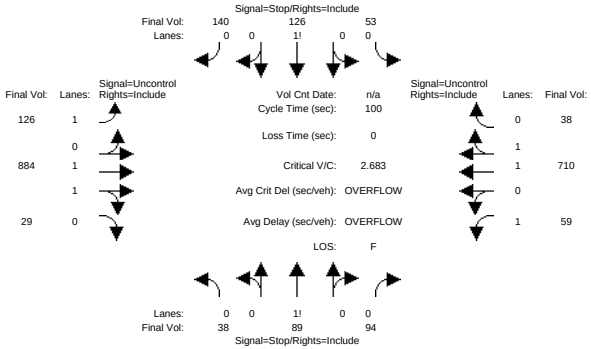
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2   78    45    37   51    55   134  566    20    45  618    22
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1405
Minor Approach Volume:           143
Minor Approach Volume Threshold: 168
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      38   87    94    53  126    93   106  884    29    59  710    38
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   38   87    94    53  126    93   106  884    29    59  710    38
Added Vol:      0    2     0     0    0    47    20    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   38   89    94    53  126   140   126  884    29    59  710    38
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    38   89    94    53  126   140   126  884    29    59  710    38
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   38   89    94    53  126   140   126  884    29    59  710    38
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1687 2017   457  1586 2012   374   748 xxxx xxxxx   913 xxxx xxxxx
Potent Cap.:   62   59   557    74   60   629   870 xxxx xxxxx   755 xxxx xxxxx
Move Cap.:      0   47   557     0   47   629   870 xxxx xxxxx   755 xxxx xxxxx
Volume/Cap:  xxxx 1.91  0.17  xxxx 2.68  0.22  0.14 xxxx  xxxx  0.08 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  12.6 xxxx xxxxx   6.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.8 xxxx xxxxx  10.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx    0 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   38   89    94    53  126   140   126  884    29    59  710    38
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=221]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2386]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=319]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2386]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

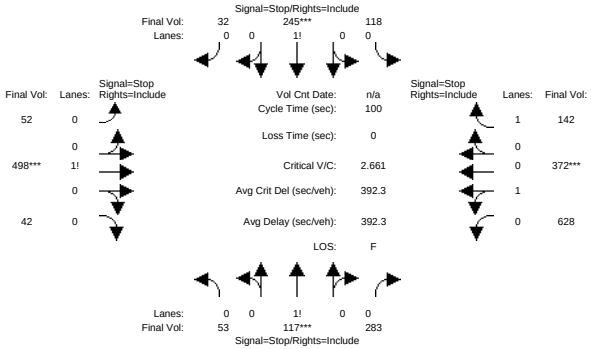
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   38   89    94    53  126   140   126  884    29    59  710    38
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1846
Minor Approach Volume:           319
Minor Approach Volume Threshold: 74 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #48: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      53   117   283   118   245    32    52   497    42   628   372   142
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   53   117   283   118   245    32    52   497    42   628   372   142
Added Vol:      0     0     0     0     0     0     0     1     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   53   117   283   118   245    32    52   498    42   628   372   142
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    53   117   283   118   245    32    52   498    42   628   372   142
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   53   117   283   118   245    32    52   498    42   628   372   142
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   53   117   283   118   245    32    52   498    42   628   372   142
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.12  0.26  0.62  0.30  0.62  0.08  0.09  0.84  0.07  0.63  0.37  1.00
Final Sat.:    48   106   256   118   244    32    34   329    28   236   140   420
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.10  1.10  1.10  1.00  1.00  1.00  1.51  1.51  1.51  2.66  2.66  0.34
Crit Moves:        ****              ****              ****              ****
Delay/Veh:  105.1   105 105.1  76.8  76.8  76.8 267.4   267 267.4 774.6   775  15.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh: 105.1   105 105.1  76.8  76.8  76.8 267.4   267 267.4 774.6   775  15.6
LOS by Move:    F     F     F     F     F     F     F     F     F     F     F     C
ApproachDel:     105.1             76.8            267.4            680.2
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:      105.1             76.8            267.4            680.2
LOS by Appr:         F                F                F                F
AllWayAvgQ:    266   266 265.8   177   177 177.0   694   694 693.6  1990  1990  12.6
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #48 13th St / G St
*******************************************************************************
```



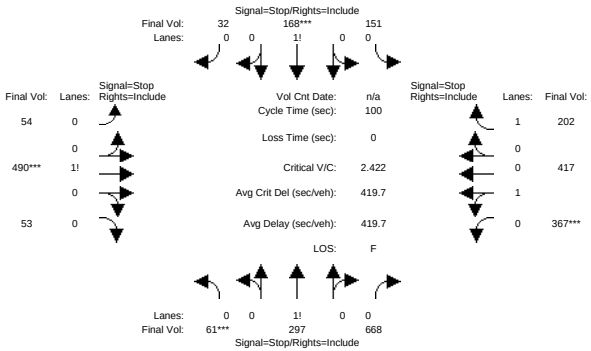
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   53  117   283   118  245    32    52  498    42   628  372   142
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1734
Minor Approach Volume:           453
Minor Approach Volume Threshold: 95 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #48: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61   297   668   151   168    32    54   490    53   367   416   202
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   61   297   668   151   168    32    54   490    53   367   416   202
Added Vol:      0     0     0     0     0     0     0     0     0     0     1     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   61   297   668   151   168    32    54   490    53   367   417   202
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    61   297   668   151   168    32    54   490    53   367   417   202
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   61   297   668   151   168    32    54   490    53   367   417   202
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   61   297   668   151   168    32    54   490    53   367   417   202
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.06  0.29  0.65  0.43  0.48  0.09  0.09  0.82  0.09  0.47  0.53  1.00
Final Sat.:    25   123   276   169   188    36    36   330    36   181   206   431
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     2.42  2.42  2.42  0.89  0.89  0.89  1.48  1.48  1.48  2.03  2.03  0.47
Crit Moves:  ****                 ****                ****        ****
Delay/Veh:  665.8   666 665.8  53.3  53.3  53.3 254.0   254 254.0 491.3   491  18.3
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh: 665.8   666 665.8  53.3  53.3  53.3 254.0   254 254.0 491.3   491  18.3
LOS by Move:    F     F     F     F     F     F     F     F     F     F     F     C
ApproachDel:     665.8             53.3             254.0             394.4
Delay Adj:        1.00             1.00              1.00              1.00
ApprAdjDel:      665.8             53.3             254.0             394.4
LOS by Appr:         F                F                 F                 F
AllWayAvgQ:  1924 1924  1924   112   112 112.2   677   677 676.7  1288 1288  21.5
Note: Queue reported is the distance per lane in feet.
                Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #48 13th St / G St
*******************************************************************************
```



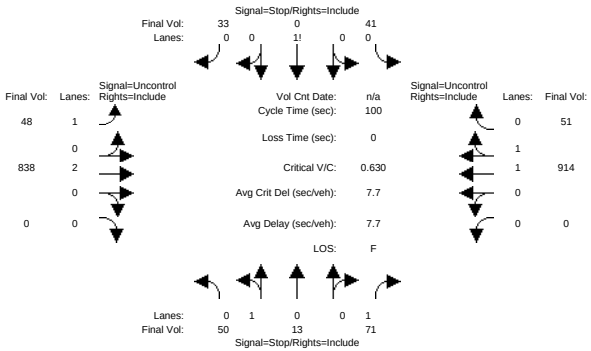
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   61  297   668   151  168    32    54  490    53   367  417   202
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1583
Minor Approach Volume:           1026
Minor Approach Volume Threshold: 127
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #49: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street              G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      50    4    71    41    0    33    48  837     0     0  908    51
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   50    4    71    41    0    33    48  837     0     0  908    51
Added Vol:      0    9     0     0    0     0     0    1     0     0    6     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   50   13    71    41    0    33    48  838     0     0  914    51
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    50   13    71    41    0    33    48  838     0     0  914    51
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   50   13    71    41    0    33    48  838     0     0  914    51
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1391 1899   419  1461 1874   483   965 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  103   70   589    92   73   535   722 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     92   65   589    65   68   535   722 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.54 0.20  0.12  0.63 0.00  0.06  0.07 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  10.2  xxxx xxxx xxxxx   5.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  12.0 xxxxx xxxx xxxxx  10.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:   85 xxxx xxxxx  xxxx  107 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  3.7 xxxx xxxxx xxxxx  3.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:121.5 xxxx xxxxx xxxxx 93.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     F    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      63.5             93.0            xxxxxx            xxxxxx
ApproachLOS:         F                F                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   50   13    71    41    0    33    48  838     0     0  914    51
ApproachDel:      63.5             93.0            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=134]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2059]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=74]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2059]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

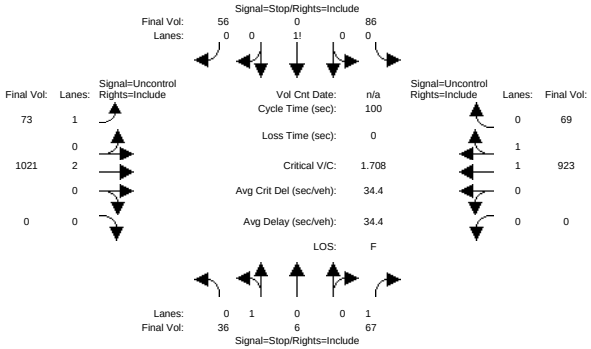
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   50   13    71    41    0    33    48  838     0     0  914    51
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1851
Minor Approach Volume:           134
Minor Approach Volume Threshold: 109 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #49: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36    4    67    86    0    56    73 1021     0     0  914    69
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36    4    67    86    0    56    73 1021     0     0  914    69
Added Vol:      0    2     0     0    0     0     0    0     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   36    6    67    86    0    56    73 1021     0     0  923    69
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    36    6    67    86    0    56    73 1021     0     0  923    69
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   36    6    67    86    0    56    73 1021     0     0  923    69
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1629 2159   511  1617 2125   496   992 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   69   48   513    70   51   525   705 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     57   43   513    50   45   525   705 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.64 0.14  0.13  1.71 0.00  0.11  0.10 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  11.2  xxxx xxxx xxxxx   8.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  13.1 xxxxx xxxx xxxxx  10.7 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:   54 xxxx xxxxx  xxxx   78 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  3.3 xxxx xxxxx xxxxx 12.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:180.9 xxxx xxxxx xxxxx  501 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     F    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      77.7            501.0           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   36    6    67    86    0    56    73 1021     0     0  923    69
ApproachDel:      77.7            501.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=109]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2337]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=19.8]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=142]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2337]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

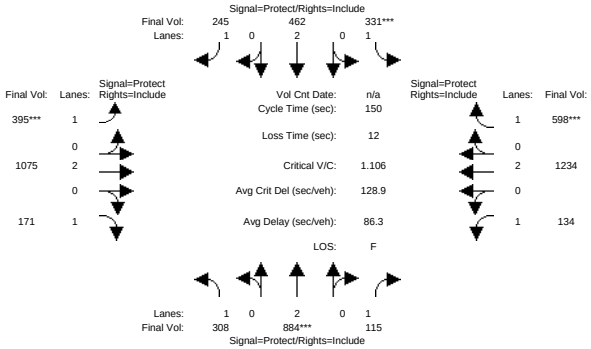
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   36    6    67    86    0    56    73 1021     0     0  923    69
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2086
Minor Approach Volume:           142
Minor Approach Volume Threshold: 32 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #51: Olive Ave / G St

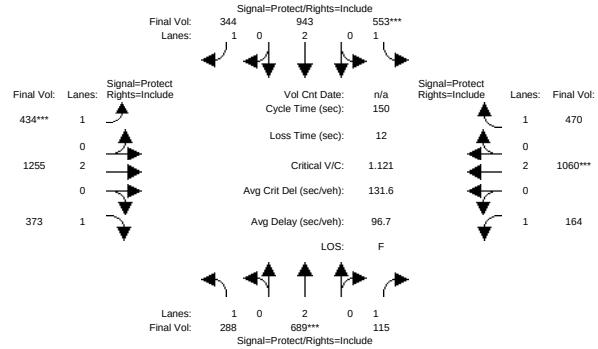



```
Street Name:           Olive Avenue                        G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     302 884 115   331 462 245   395 1072 168   134 1229 598
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  302 884 115   331 462 245   395 1072 168   134 1229 598
Added Vol:      6   0   0     0   0   0     0    3   3     0    5   0
PasserByVol:    0   0   0     0   0   0     0    0   0     0    0   0
Initial Fut:  308 884 115   331 462 245   395 1075 171   134 1234 598
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   308 884 115   331 462 245   395 1075 171   134 1234 598
Reduct Vol:     0   0   0     0   0   0     0    0   0     0    0   0
Reduced Vol:  308 884 115   331 462 245   395 1075 171   134 1234 598
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  308 884 115   331 462 245   395 1075 171   134 1234 598
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 0.95 0.85 0.95 0.95 0.85
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 3610 1615 1805 3610 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.24 0.07 0.18 0.13 0.15 0.22 0.30 0.11 0.07 0.34 0.37
Crit Moves:        ****        ****        ****                    ****
Green/Cycle: 0.21 0.22 0.22 0.17 0.18 0.18 0.20 0.43 0.43 0.11 0.33 0.33
Volume/Cap:  0.83 1.11 0.32 1.11 0.70 0.83 1.11 0.70 0.25 0.70 1.02 1.11
Delay/Veh:   71.9  123 49.5 146.0 60.9 77.1 139.4 36.6 27.8 75.5 81.2 120.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  71.9  123 49.5 146.0 60.9 77.1 139.4 36.6 27.8 75.5 81.2 120.9
LOS by Move:    E    F    D     F    E    E     F    D    C     E    F     F
HCM2kAvgQ:    394  757  112   454  240  251   656  535  122   181  923   946
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #51: Olive Ave / G St

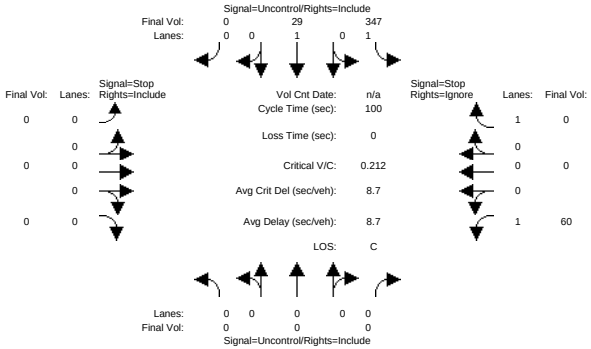



```
Street Name:           Olive Avenue                        G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     285 689 115   553 943 344   434 1250 367   164 1057 470
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  285 689 115   553 943 344   434 1250 367   164 1057 470
Added Vol:      3   0   0     0   0   0     0    5   6     0    3   0
PasserByVol:    0   0   0     0   0   0     0    0   0     0    0   0
Initial Fut:  288 689 115   553 943 344   434 1255 373   164 1060 470
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   288 689 115   553 943 344   434 1255 373   164 1060 470
Reduct Vol:     0   0   0     0   0   0     0    0   0     0    0   0
Reduced Vol:  288 689 115   553 943 344   434 1255 373   164 1060 470
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  288 689 115   553 943 344   434 1255 373   164 1060 470
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 0.95 0.85 0.95 0.95 0.85
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 3610 1615 1805 3610 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.19 0.07 0.31 0.26 0.21 0.24 0.35 0.23 0.09 0.29 0.29
Crit Moves:        ****        ****        ****                    ****
Green/Cycle: 0.17 0.17 0.17 0.27 0.28 0.28 0.21 0.38 0.38 0.10 0.26 0.26
Volume/Cap:  0.95 1.12 0.42 1.12 0.95 0.77 1.12 0.92 0.61 0.92 1.12 1.11
Delay/Veh:   99.7  137 56.6 132.5 70.8 58.3 141.7 54.9 39.6 112.1  124 132.8
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  99.7  137 56.6 132.5 70.8 58.3 141.7 54.9 39.6 112.1  124 132.8
LOS by Move:    F    F    E     F    E    E     F    D    D     F    F     F
HCM2kAvgQ:    425  618  124   775  528  334   723  811  352   263  904   768
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #52: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   336   29     0     0    0     0    60    0   364
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   336   29     0     0    0     0    60    0   364
Added Vol:      0    0     0    11    0     0     0    0     0     0    0    21
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   347   29     0     0    0     0    60    0   385
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   347   29     0     0    0     0    60    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   347   29     0     0    0     0    60    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   723 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   396 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   331 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.21 xxxx  xxxx  xxxx xxxx  xxxx  0.18 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  20.1 xxxx xxxxx  xxxx xxxx xxxxx  16.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx  18.2 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             18.2
ApproachLOS:         *                *                *                C
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   347   29     0     0    0     0    60    0   385
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             18.2
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=445]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=821]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

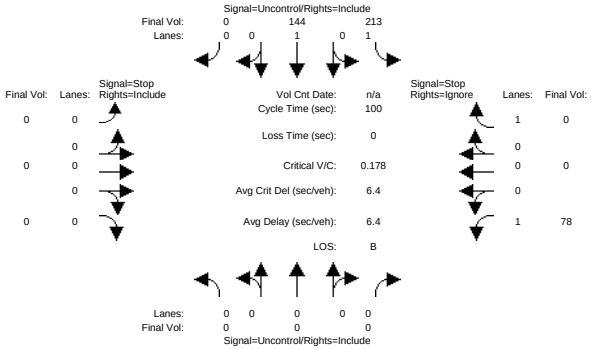
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   347   29     0     0    0     0    60    0   385
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             376
Minor Approach Volume:           445
Minor Approach Volume Threshold: 795
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #52: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   192  144     0     0    0     0    78    0   215
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   192  144     0     0    0     0    78    0   215
Added Vol:      0    0     0    21    0     0     0    0     0     0    0    11
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   213  144     0     0    0     0    78    0   226
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   213  144     0     0    0     0    78    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   213  144     0     0    0     0    78    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   570 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   486 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   438 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.13 xxxx  xxxx  xxxx xxxx  xxxx  0.18 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  11.2 xxxx xxxxx  xxxx xxxx xxxxx  16.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  15.0 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             15.0
ApproachLOS:         *                *                *                B
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   213  144     0     0    0     0    78    0   226
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             15.0
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=304]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=661]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

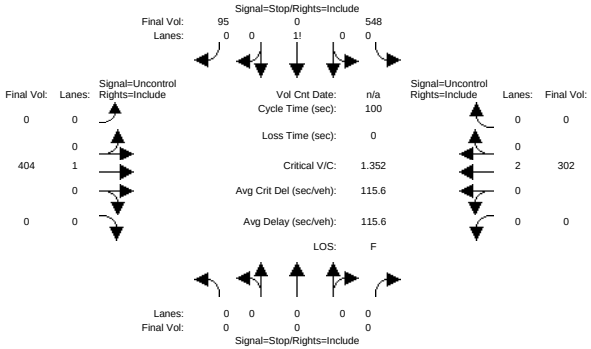
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   213  144     0     0    0     0    78    0   226
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             357
Minor Approach Volume:           304
Minor Approach Volume Threshold: 817
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #53: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   548    0    95     0  393     0     0  281     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   548    0    95     0  393     0     0  281     0
Added Vol:      0    0     0     0    0     0     0   11     0     0   21     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   548    0    95     0  404     0     0  302     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   548    0    95     0  404     0     0  302     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   548    0    95     0  404     0     0  302     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   706  706   151  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   405  363   901  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   405  363   901  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.35 0.00  0.11  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  441 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 32.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  243 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            242.5           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0    95     0  404     0     0  302     0
ApproachDel:    xxxxxx            242.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=43.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=643]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1349]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

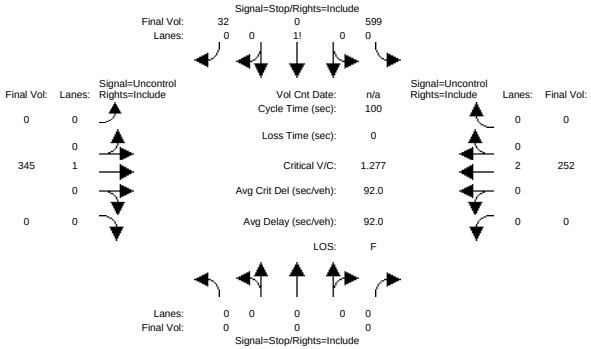
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0    95     0  404     0     0  302     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             706
Minor Approach Volume:           643
Minor Approach Volume Threshold: 405
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #53: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   599    0    32     0  324     0     0  241     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   599    0    32     0  324     0     0  241     0
Added Vol:      0    0     0     0    0     0     0   21     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   599    0    32     0  345     0     0  252     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   599    0    32     0  345     0     0  252     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   599    0    32     0  345     0     0  252     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   597  597   126  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   469  419   930  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   469  419   930  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.28 0.00  0.03  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  481 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 27.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  179 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            179.1           xxxxxx           xxxxxx
ApproachLOS:         *              F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    32     0  345     0     0  252     0
ApproachDel:    xxxxxx            179.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=31.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=631]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1228]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    32     0  345     0     0  252     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             597
Minor Approach Volume:           631
Minor Approach Volume Threshold: 463
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
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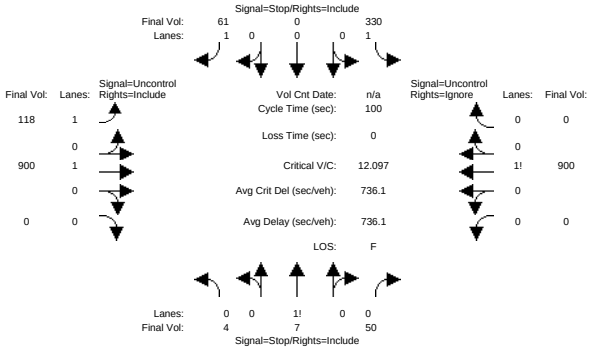
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    6    50   330    0    61   118  889     0     0  879   844
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4    6    50   330    0    61   118  889     0     0  879   844
Added Vol:      0    1     0     0    0     0     0   11     0     0   21     1
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4    7    50   330    0    61   118  900     0     0  900   845
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     4    7    50   330    0    61   118  900     0     0  900     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4    7    50   330    0    61   118  900     0     0  900     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2067 2036   900  2065 xxxx   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   41   58   340    41 xxxx   340   763 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     29   49   340    27 xxxx   340   763 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.14 0.14  0.15 12.10 xxxx  0.18  0.15 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  1022 xxxx  16.1  13.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  5271 xxxx  17.9  10.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     C     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  143 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 47.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *     *    *     *     *    *     *     *    *     *
ApproachDel:      47.8           4451.1           xxxxxx           xxxxxx
ApproachLOS:         E                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    4    7    50   330    0    61   118  900     0     0  900   845
ApproachDel:      47.8           4451.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=61]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3215]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=483.4]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=391]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3215]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    4    7    50   330    0    61   118  900     0     0  900   845
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2763
Minor Approach Volume:           391
Minor Approach Volume Threshold: -63 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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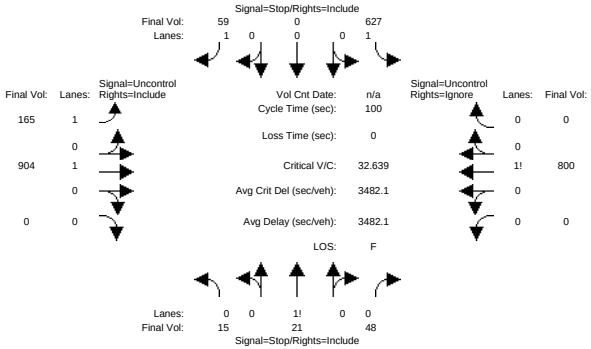
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   21    48   626    0    59   165  883     0     0  789   606
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15   21    48   626    0    59   165  883     0     0  789   606
Added Vol:      0    0     0     1    0     0     0   21     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   15   21    48   627    0    59   165  904     0     0  800   606
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:    15   21    48   627    0    59   165  904     0     0  800     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   15   21    48   627    0    59   165  904     0     0  800     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2064 2034   904  2069 xxxx   800   800 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   41   58   338    40 xxxx   388   832 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     29   46   338    19 xxxx   388   832 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.51 0.45  0.14 32.64 xxxx  0.15  0.20 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  1974 xxxx  13.3  18.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 14621 xxxx  15.9  10.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     C     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   76 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  6.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  233 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     232.7           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 F                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:   15   21    48   627    0    59   165  904     0     0  800   606
ApproachDel:     232.7           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=84]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3245]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2546.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=686]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3245]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:   15   21    48   627    0    59   165  904     0     0  800   606
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2475
Minor Approach Volume:           686
Minor Approach Volume Threshold: -16 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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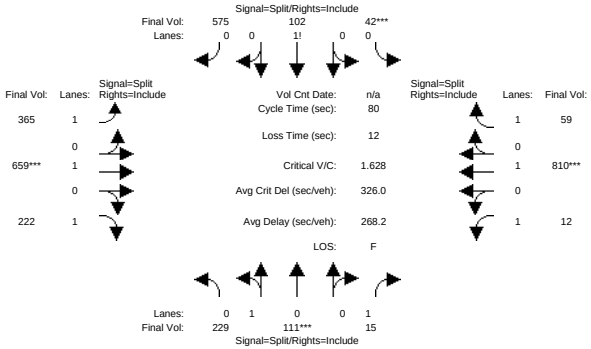
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

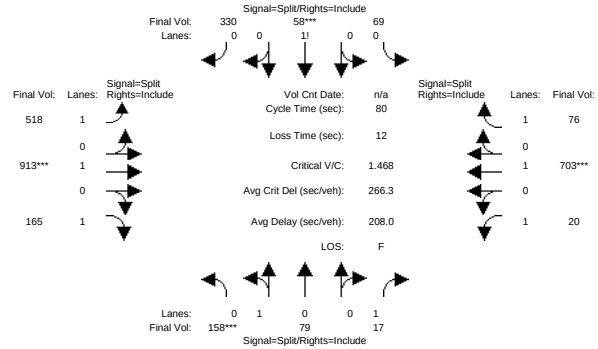



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     229  111    15   42  102   575  365  648   222   12  788    59
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  229  111    15   42  102   575  365  648   222   12  788    59
Added Vol:      0    0     0    0    0     0    0   11     0    0   22     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  229  111    15   42  102   575  365  659   222   12  810    59
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   229  111    15   42  102   575  365  659   222   12  810    59
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  229  111    15   42  102   575  365  659   222   12  810    59
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  229  111    15   42  102   575  365  659   222   12  810    59
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.89 0.89  0.89 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.06 0.14  0.80 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1237  600  1615   99  240  1351 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.19  0.01 0.43 0.43  0.43 0.20 0.35  0.14 0.01 0.43  0.04
Crit Moves:        ****          ****               ****               ****
Green/Cycle: 0.13 0.13  0.13 0.26 0.26  0.26 0.21 0.21  0.21 0.26 0.26  0.26
Volume/Cap:  1.48 1.48  0.07 1.65 1.65  1.65 0.96 1.65  0.66 0.03 1.65  0.14
Delay/Veh:  273.1  273  31.1 333.8  334 333.8  68.0  337  33.6 22.2  333  23.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 273.1  273  31.1 333.8  334 333.8  68.0  337  33.6 22.2  333  23.0
LOS by Move:    F    F     C     F    F     F    E    F     C    C    F     C
HCM2kAvgQ:    599  599     9  1347 1347  1347  350 1239   156    6 1510    29
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

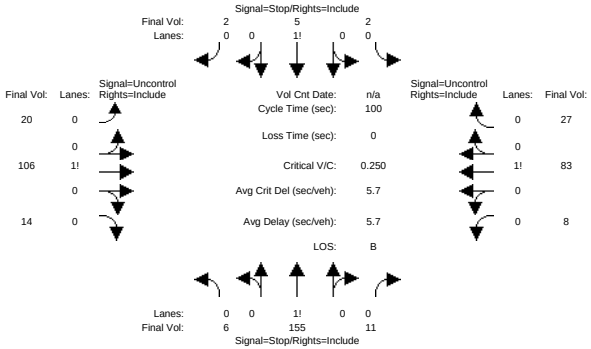



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     158   79    17   69   58   330  518  891   165   20  692    76
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  158   79    17   69   58   330  518  891   165   20  692    76
Added Vol:      0    0     0    0    0     0    0   22     0    0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  158   79    17   69   58   330  518  913   165   20  703    76
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   158   79    17   69   58   330  518  913   165   20  703    76
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  158   79    17   69   58   330  518  913   165   20  703    76
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  158   79    17   69   58   330  518  913   165   20  703    76
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.90 0.90  0.90 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.15 0.13  0.72 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1226  613  1615  257  216  1230 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.01 0.27 0.27  0.27 0.29 0.48  0.10 0.01 0.37  0.05
Crit Moves:  ****               ****               ****               ****
Green/Cycle: 0.13 0.13  0.13 0.17 0.17  0.17 0.31 0.31  0.31 0.24 0.24  0.24
Volume/Cap:  1.03 1.03  0.08 1.54 1.54  1.54 0.92 1.54  0.33 0.05 1.54  0.20
Delay/Veh:  102.6  103  31.1 293.6  294 293.6  47.3  280  21.5 23.4  286  24.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 102.6  103  31.1 293.6  294 293.6  47.3  280  21.5 23.4  286  24.5
LOS by Move:    F    F     C     F    F     F    D    F     C    C    F     C
HCM2kAvgQ:    279  279    11   820  820   820  422 1578    82   10 1229    40
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   33    11     2    5     2    20  106    14     8   83    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   33    11     2    5     2    20  106    14     8   83    13
Added Vol:      0  122     0     0    0     0     0    0     0     0    0    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6  155    11     2    5     2    20  106    14     8   83    27
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6  155    11     2    5     2    20  106    14     8   83    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6  155    11     2    5     2    20  106    14     8   83    27
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  269  279   113   349  273    97   110 xxxx xxxxx   120 xxxx xxxxx
Potent Cap.:  688  632   945   610  638   965  1493 xxxx xxxxx  1480 xxxx xxxxx
Move Cap.:    672  621   945   480  626   965  1493 xxxx xxxxx  1480 xxxx xxxxx
Volume/Cap:  0.01 0.25  0.01  0.00 0.01  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  636 xxxxx  xxxx  632 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.1 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.7 xxxxx xxxxx 10.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      12.7             10.8           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  155    11     2    5     2    20  106    14     8   83    27
ApproachDel:      12.7             10.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=172]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=439]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=439]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

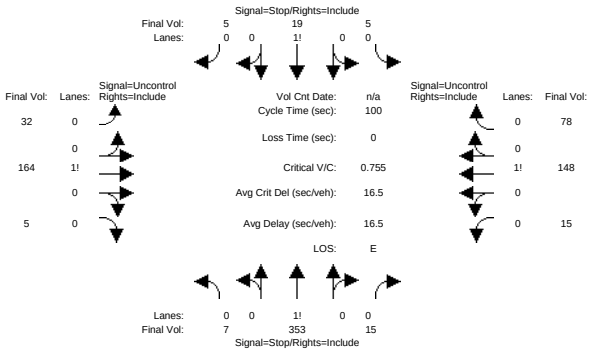
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  155    11     2    5     2    20  106    14     8   83    27
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             258
Minor Approach Volume:           172
Minor Approach Volume Threshold: 581
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  107    15     5   19     5    32  164     5    15  148    21
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7  107    15     5   19     5    32  164     5    15  148    21
Added Vol:      0  246     0     0    0     0     0    0     0     0    0    57
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7  353    15     5   19     5    32  164     5    15  148    78
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7  353    15     5   19     5    32  164     5    15  148    78
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7  353    15     5   19     5    32  164     5    15  148    78
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  460  487   167   632  450   187   226 xxxx xxxxx   169 xxxx xxxxx
Potent Cap.:  515  484   883   396  508   860  1354 xxxx xxxxx  1421 xxxx xxxxx
Move Cap.:    484  467   883   145  490   860  1354 xxxx xxxxx  1421 xxxx xxxxx
Volume/Cap:  0.01 0.76  0.02  0.03 0.04  0.01  0.02 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.8 xxxx xxxxx   0.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx   7.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  477 xxxxx  xxxx  367 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  7.1 xxxxx xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 35.1 xxxxx xxxxx 15.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *     *    C     *     *    *     *     *    *     *
ApproachDel:      35.1             15.7            xxxxxx           xxxxxx
ApproachLOS:         E                C                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  353    15     5   19     5    32  164     5    15  148    78
ApproachDel:      35.1             15.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=375]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=846]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=29]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=846]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

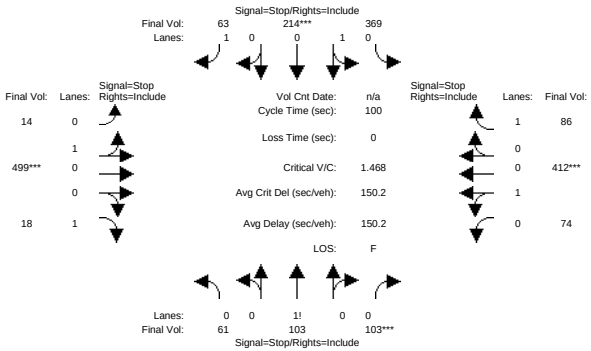
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  353    15     5   19     5    32  164     5    15  148    78
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             442
Minor Approach Volume:           375
Minor Approach Volume Threshold: 437
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #57: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61   103    85   141   214    63    14   480    18    62   402    86
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   61   103    85   141   214    63    14   480    18    62   402    86
Added Vol:      0     0    18   228     0     0     0    19     0    12    10     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   61   103   103   369   214    63    14   499    18    74   412    86
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    61   103   103   369   214    63    14   499    18    74   412    86
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   61   103   103   369   214    63    14   499    18    74   412    86
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   61   103   103   369   214    63    14   499    18    74   412    86
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.23  0.38  0.39  0.63  0.37  1.00  0.03  0.97  1.00  0.15  0.85  1.00
Final Sat.:    86   146   146   251   146   447    11   398   446    62   346   447
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.71  0.71  0.71  1.47  1.47  0.14  1.25  1.25  0.04  1.19  1.19  0.19
Crit Moves:              ****        ****              ****              ****
Delay/Veh:   32.5  32.5  32.5 247.8   248  12.1 158.7   159  11.1 136.0   136  12.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  32.5  32.5  32.5 247.8   248  12.1 158.7   159  11.1 136.0   136  12.7
LOS by Move:    D     D     D     F     F     B     F     F     B     F     F     B
ApproachDel:       32.5             224.8             153.7             117.5
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        32.5             224.8             153.7             117.5
LOS by Appr:          D                 F                 F                 F
AllWayAvgQ:  52.5  52.5  52.5   651   651   4.1   419   419   1.1   353   353   5.9
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #57 13th St / M St
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   61  103   103   369  214    63    14  499    18    74  412    86
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1103
Minor Approach Volume:           646
Minor Approach Volume Threshold: 332
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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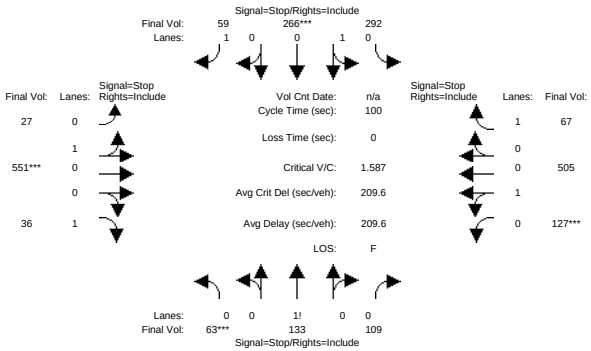
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #57: 13th St / M St




```
Street Name:            13th Street                          M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63   133   100   172   266    59    27   541    36   100   486    67
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   63   133   100   172   266    59    27   541    36   100   486    67
Added Vol:      0     0     9   120     0     0     0    10     0    27    19     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   63   133   109   292   266    59    27   551    36   127   505    67
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    63   133   109   292   266    59    27   551    36   127   505    67
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   63   133   109   292   266    59    27   551    36   127   505    67
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   63   133   109   292   266    59    27   551    36   127   505    67
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.21  0.43  0.36  0.52  0.48  1.00  0.05  0.95  1.00  0.20  0.80  1.00
Final Sat.:    78   164   135   205   187   437    19   383   436    80   318   437
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.81  0.81  0.81  1.43  1.43  0.13  1.44  1.44  0.08  1.59  1.59  0.15
Crit Moves:  ****                  ****              ****        ****
Delay/Veh:   42.5  42.5  42.5 230.2   230  12.2 235.8   236  11.7 298.5   299  12.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  42.5  42.5  42.5 230.2   230  12.2 235.8   236  11.7 298.5   299  12.4
LOS by Move:    E     E     E     F     F     B     F     F     B     F     F     B
ApproachDel:      42.5            209.3            222.7            271.1
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       42.5            209.3            222.7            271.1
LOS by Appr:         E                F                F                F
AllWayAvgQ:  78.5  78.5  78.5   594   594   3.9   625   625   2.2   793   793   4.5
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #57 13th St / M St
*******************************************************************************
```



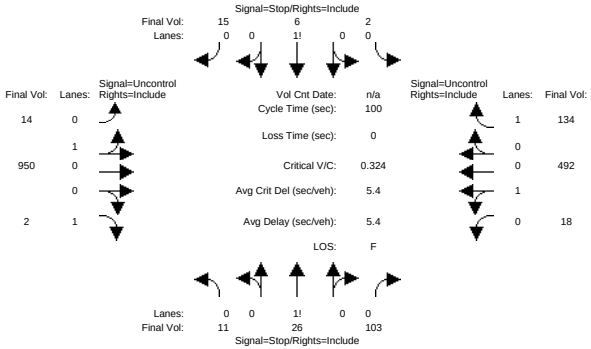
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   63  133   109   292  266    59    27  551    36   127  505    67
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1313
Minor Approach Volume:           617
Minor Approach Volume Threshold: 257
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #58: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      11   26    13     2    6    15    14  684     2     6  471    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   11   26    13     2    6    15    14  684     2     6  471    12
Added Vol:      0    0    90     0    0     0     0  266     0    12   21   122
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   11   26   103     2    6    15    14  950     2    18  492   134
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    11   26   103     2    6    15    14  950     2    18  492   134
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   11   26   103     2    6    15    14  950     2    18  492   134
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1584 1640   950  1572 1508   492   626 xxxx xxxxx   952 xxxx xxxxx
Potent Cap.:   89  101   318    90  122   581   965 xxxx xxxxx   730 xxxx xxxxx
Move Cap.:     81   97   318    47  117   581   965 xxxx xxxxx   730 xxxx xxxxx
Volume/Cap:  0.14 0.27  0.32  0.04 0.05  0.03  0.01 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx   1.9 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.8 xxxx xxxxx  10.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  192 xxxxx  xxxx  193 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  4.7 xxxxx xxxxx  0.4 xxxxx   0.0 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 61.8 xxxxx xxxxx 26.2 xxxxx   8.8 xxxx xxxxx  10.1 xxxx xxxxx
Shared LOS:     *    F     *     *    D     *     A    *     *     B    *     *
ApproachDel:      61.8             26.2           xxxxxx           xxxxxx
ApproachLOS:         F                D                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:   11   26   103     2    6    15    14  950     2    18  492   134
ApproachDel:      61.8             26.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=140]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1773]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1773]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:   11   26   103     2    6    15    14  950     2    18  492   134
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1610
Minor Approach Volume:           140
Minor Approach Volume Threshold: 121
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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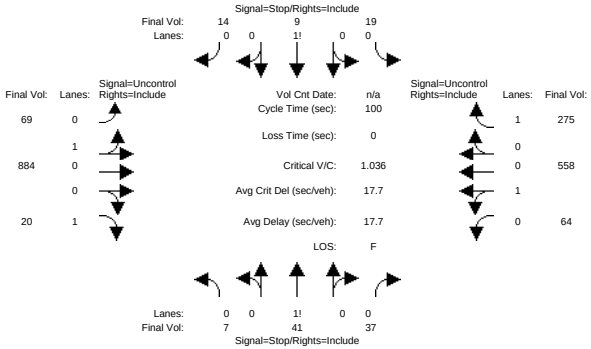
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #58: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7   41    15    19    9    14    69  745    20    17  511    29
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7   41    15    19    9    14    69  745    20    17  511    29
Added Vol:      0    0    22     0    0     0     0  139     0    47   47   246
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7   41    37    19    9    14    69  884    20    64  558   275
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7   41    37    19    9    14    69  884    20    64  558   275
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7   41    37    19    9    14    69  884    20    64  558   275
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1857 1983   884  1757 1728   558   833 xxxx xxxxx   904 xxxx xxxxx
Potent Cap.:   57   62   347    67   89   533   809 xxxx xxxxx   761 xxxx xxxxx
Move Cap.:     44   52   347    18   74   533   809 xxxx xxxxx   761 xxxx xxxxx
Volume/Cap:  0.16 0.79  0.11  1.04 0.12  0.03  0.09 xxxx  xxxx  0.08 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   7.0 xxxx xxxxx   6.9 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.9 xxxx xxxxx  10.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   80 xxxxx  xxxx   36 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  6.0 xxxxx xxxxx  4.4 xxxxx   0.3 xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx  210 xxxxx xxxxx  383 xxxxx   9.9 xxxx xxxxx  10.2 xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     A    *     *     B    *     *
ApproachDel:     210.0            383.4           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    7   41    37    19    9    14    69  884    20    64  558   275
ApproachDel:     210.0            383.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=85]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1997]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=42]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1997]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    7   41    37    19    9    14    69  884    20    64  558   275
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1870
Minor Approach Volume:           85
Minor Approach Volume Threshold: 69 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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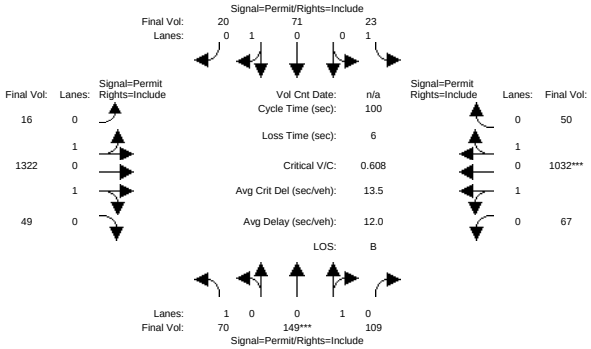
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #59: Main St / M St



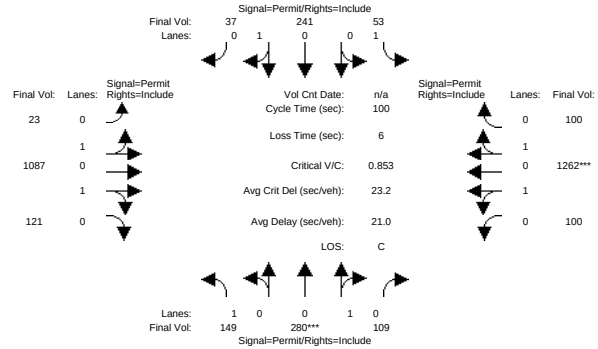
Street Name:	Main Street									M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	67	149	109	23	71	20	16	1301	48	67	1017	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	67	149	109	23	71	20	16	1301	48	67	1017	50
Added Vol:	3	0	0	0	0	0	0	21	1	0	15	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	70	149	109	23	71	20	16	1322	49	67	1032	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	149	109	23	71	20	16	1322	49	67	1032	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	149	109	23	71	20	16	1322	49	67	1032	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	149	109	23	71	20	16	1322	49	67	1032	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.67	0.94	0.94	0.35	0.97	0.97	0.88	0.88	0.88	0.71	0.71	0.71
Lanes:	1.00	0.58	0.42	1.00	0.78	0.22	0.02	1.91	0.07	0.12	1.79	0.09
Final Sat.:	1264	1028	752	665	1433	404	39	3198	119	157	2418	117
Capacity Analysis Module:												
Vol/Sat:	0.06	0.14	0.14	0.03	0.05	0.05	0.41	0.41	0.41	0.43	0.43	0.43
Crit Moves:		****									****	
Green/Cycle:	0.24	0.24	0.24	0.24	0.24	0.24	0.70	0.70	0.70	0.70	0.70	0.70
Volume/Cap:	0.23	0.61	0.61	0.15	0.21	0.21	0.59	0.59	0.59	0.61	0.61	0.61
Delay/Veh:	31.1	36.5	36.5	30.5	30.8	30.8	8.0	8.0	8.0	8.3	8.3	8.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.1	36.5	36.5	30.5	30.8	30.8	8.0	8.0	8.0	8.3	8.3	8.3
LOS by Move:	C	D	D	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	47	196	196	17	57	57	270	270	270	241	241	241

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #59: Main St / M St



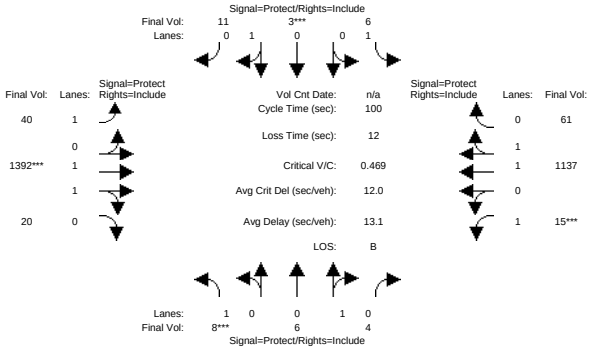
Street Name:	Main Street									M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	148	280	109	53	241	37	23	1072	118	100	1241	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	148	280	109	53	241	37	23	1072	118	100	1241	100
Added Vol:	1	0	0	0	0	0	0	15	3	0	21	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	149	280	109	53	241	37	23	1087	121	100	1262	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	149	280	109	53	241	37	23	1087	121	100	1262	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	149	280	109	53	241	37	23	1087	121	100	1262	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	149	280	109	53	241	37	23	1087	121	100	1262	100
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.36	0.96	0.96	0.20	0.98	0.98	0.84	0.84	0.84	0.65	0.65	0.65
Lanes:	1.00	0.72	0.28	1.00	0.87	0.13	0.04	1.76	0.20	0.14	1.72	0.14
Final Sat.:	693	1310	510	383	1614	248	60	2828	315	170	2147	170
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.21	0.14	0.15	0.15	0.38	0.38	0.38	0.59	0.59	0.59
Crit Moves:		****									****	
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.69	0.69	0.69	0.69	0.69	0.69
Volume/Cap:	0.86	0.85	0.85	0.55	0.60	0.60	0.56	0.56	0.56	0.85	0.85	0.85
Delay/Veh:	67.9	50.1	50.1	39.4	35.1	35.1	8.2	8.2	8.2	16.1	16.1	16.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	67.9	50.1	50.1	39.4	35.1	35.1	8.2	8.2	8.2	16.1	16.1	16.1
LOS by Move:	E	D	D	D	D	D	A	A	A	B	B	B
HCM2kAvgQ:	175	356	356	58	205	205	229	229	229	467	467	467

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #60: 18th St / M St



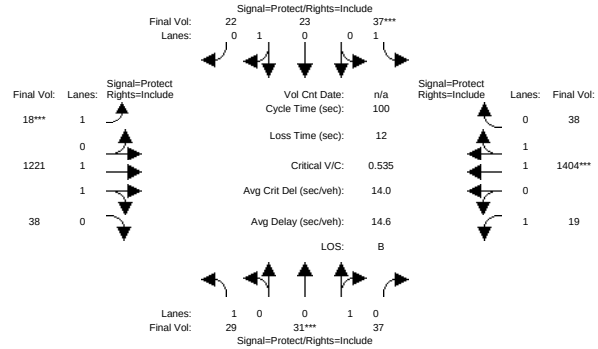
Street Name:	18th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	4	6	4	6	3	11	40	1387	4	15	1126	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	6	4	6	3	11	40	1387	4	15	1126	61
Added Vol:	4	0	0	0	0	0	0	5	16	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	6	4	6	3	11	40	1392	20	15	1137	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	6	4	6	3	11	40	1392	20	15	1137	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	6	4	6	3	11	40	1392	20	15	1137	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	8	6	4	6	3	11	40	1392	20	15	1137	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.88	0.88	0.95	0.95	0.95	0.95	0.94	0.94
Lanes:	1.00	0.60	0.40	1.00	0.21	0.79	1.00	1.97	0.03	1.00	1.90	0.10
Final Sat.:	1805	1072	714	1805	359	1317	1805	3552	51	1805	3399	182
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.00	0.01	0.01	0.02	0.39	0.39	0.01	0.33	0.33
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.10	0.10	0.07	0.10	0.10	0.12	0.64	0.64	0.07	0.59	0.59
Volume/Cap:	0.06	0.06	0.06	0.05	0.08	0.08	0.18	0.61	0.61	0.12	0.57	0.57
Delay/Veh:	43.6	40.9	40.9	43.5	41.1	41.1	39.7	11.1	11.1	44.0	13.2	13.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.6	40.9	40.9	43.5	41.1	41.1	39.7	11.1	11.1	44.0	13.2	13.2
LOS by Move:	D	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	7	8	8	4	9	9	26	331	331	13	304	304

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #60: 18th St / M St



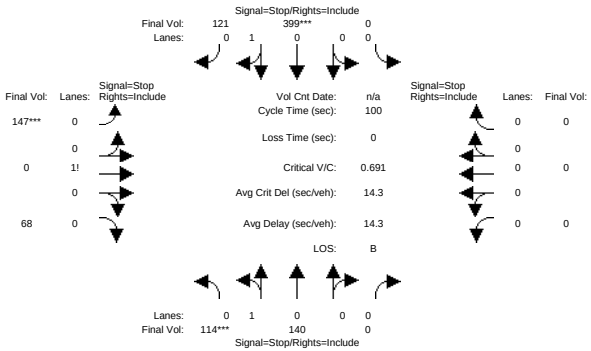
Street Name:	18th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	13	31	37	37	23	22	18	1210	34	19	1399	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	31	37	37	23	22	18	1210	34	19	1399	38
Added Vol:	16	0	0	0	0	0	0	11	4	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	31	37	37	23	22	18	1221	38	19	1404	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	31	37	37	23	22	18	1221	38	19	1404	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	31	37	37	23	22	18	1221	38	19	1404	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	31	37	37	23	22	18	1221	38	19	1404	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	1.00	0.46	0.54	1.00	0.51	0.49	1.00	1.94	0.06	1.00	1.95	0.05
Final Sat.:	1805	795	949	1805	900	861	1805	3487	109	1805	3501	95
Capacity Analysis Module:												
Vol/Sat:	0.02	0.04	0.04	0.02	0.03	0.03	0.01	0.35	0.35	0.01	0.40	0.40
Crit Moves:		****		****			****				****	
Green/Cycle:	0.07	0.10	0.10	0.07	0.10	0.10	0.07	0.59	0.59	0.12	0.64	0.64
Volume/Cap:	0.23	0.39	0.39	0.29	0.26	0.26	0.14	0.59	0.59	0.09	0.63	0.63
Delay/Veh:	44.9	43.6	43.6	45.4	42.3	42.3	44.2	13.3	13.3	39.5	11.4	11.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.9	43.6	43.6	45.4	42.3	42.3	44.2	13.3	13.3	39.5	11.4	11.4
LOS by Move:	D	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	26	59	59	27	31	31	12	312	312	14	358	358

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #61: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     114    64     0     0    94   121   147     0    68     0     0     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:  114    64     0     0    94   121   147     0    68     0     0     0
Added Vol:      0    76     0     0   305     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  114   140     0     0   399   121   147     0    68     0     0     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:   114   140     0     0   399   121   147     0    68     0     0     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  114   140     0     0   399   121   147     0    68     0     0     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:  114   140     0     0   399   121   147     0    68     0     0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.45  0.55  0.00  0.00  0.77  0.23  0.68  0.00  0.32  0.00  0.00  0.00
Final Sat.:   299   367     0     0   577   175   411     0   190     0     0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.38  0.38  xxxx  xxxx  0.69  0.69  0.36  xxxx  0.36  xxxx  xxxx  xxxx
Crit Moves:  ****                    ****        ****
Delay/Veh:   11.2  11.2   0.0   0.0  17.0  17.0  11.3   0.0  11.3   0.0   0.0   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  11.2  11.2   0.0   0.0  17.0  17.0  11.3   0.0  11.3   0.0   0.0   0.0
LOS by Move:    B     B     *     *     C     C     B     *     B     *     *     *
ApproachDel:       11.2             17.0             11.3            xxxxxx
Delay Adj:         1.00             1.00             1.00             xxxxx
ApprAdjDel:        11.2             17.0             11.3            xxxxxx
LOS by Appr:          B                C                B                 *
AllWayAvgQ:  13.8  13.8  13.8  48.8  48.8  48.8  11.4  11.4  11.4   0.0   0.0   0.0
Note: Queue reported is the distance per lane in feet.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #61 15th St / Canal St

****


```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  114  140     0    0  399   121   147    0    68    0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             774
Minor Approach Volume:           215
Minor Approach Volume Threshold: 288
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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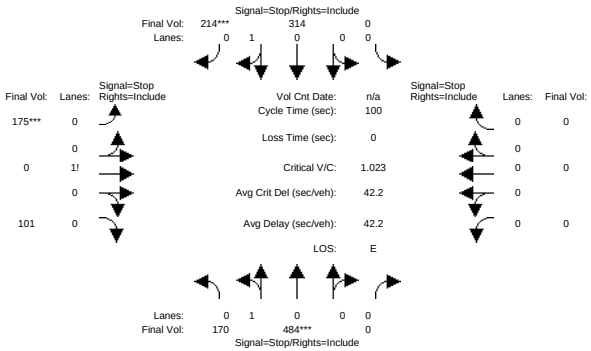
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #61: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     170  179     0     0  238   214   175    0   101     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  170  179     0     0  238   214   175    0   101     0    0     0
Added Vol:      0  305     0     0   76     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  170  484     0     0  314   214   175    0   101     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   170  484     0     0  314   214   175    0   101     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  170  484     0     0  314   214   175    0   101     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  170  484     0     0  314   214   175    0   101     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.26 0.74  0.00  0.00 0.59  0.41  0.63 0.00  0.37  0.00 0.00  0.00
Final Sat.:   166  473     0     0  386   263   344    0   199     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.02 1.02  xxxx  xxxx 0.81  0.81  0.51 xxxx  0.51  xxxx xxxx  xxxx
Crit Moves:        ****                    ****  ****
Delay/Veh:   65.0 65.0   0.0   0.0 27.7  27.7  15.6  0.0  15.6   0.0  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  65.0 65.0   0.0   0.0 27.7  27.7  15.6  0.0  15.6   0.0  0.0   0.0
LOS by Move:    F    F     *     *    D     D     C    *     C     *    *     *
ApproachDel:      65.0             27.7             15.6           xxxxxx
Delay Adj:        1.00             1.00             1.00            xxxxx
ApprAdjDel:       65.0             27.7             15.6           xxxxxx
LOS by Appr:         F                D                C                *
AllWayAvgQ:   250  250 250.4  86.2 86.2  86.2  23.3 23.3  23.3   0.0  0.0   0.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
```



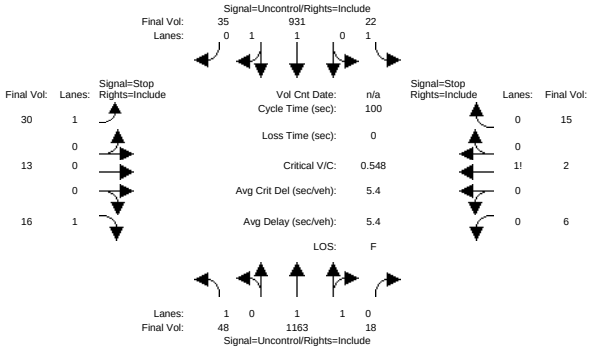
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  170  484     0    0  314   214   175    0   101     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1182
Minor Approach Volume:           276
Minor Approach Volume Threshold: 175
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      48  969    18    22  716    35    30   13    16     6    2    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   48  969    18    22  716    35    30   13    16     6    2    15
Added Vol:      0  194     0     0  215     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   48 1163    18    22  931    35    30   13    16     6    2    15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    48 1163    18    22  931    35    30   13    16     6    2    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   48 1163    18    22  931    35    30   13    16     6    2    15
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  966 xxxx xxxxx  1181 xxxx xxxxx  1671 2270   483  1784 2278   591
Potent Cap.:  721 xxxx xxxxx   599 xxxx xxxxx    64   41   535    53   40   456
Move Cap.:    721 xxxx xxxxx   599 xxxx xxxxx    55   37   535    34   36   456
Volume/Cap:  0.07 xxxx  xxxx  0.04 xxxx  xxxx  0.55 0.35  0.03  0.17 0.05  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    5.3 xxxx xxxxx   2.9 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.3 xxxx xxxxx  11.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx    48 xxxx    76  xxxx   88 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.7 xxxx   1.5 xxxxx  1.0 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 234.2 xxxx  79.3 xxxxx 60.0 xxxxx
Shared LOS:     *    *     *     *    *     *     F    *     F     *    F     *
ApproachDel:    xxxxxx           xxxxxx            171.8            60.0
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   48 1163    18    22  931    35    30   13    16     6    2    15
ApproachDel:    xxxxxx           xxxxxx            171.8            60.0
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.8]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=59]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2299]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2299]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

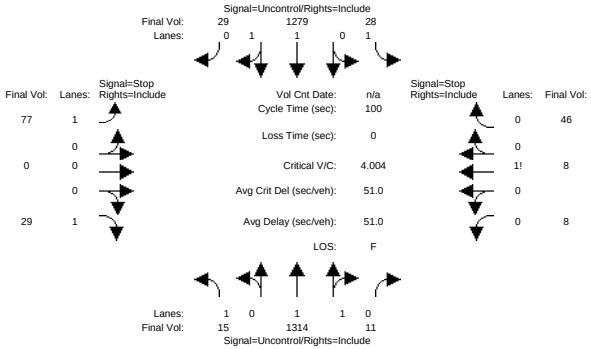
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   48 1163    18    22  931    35    30   13    16     6    2    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2217
Minor Approach Volume:           59
Minor Approach Volume Threshold: 32 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15 1099    11    28 1085    29    77    0    29     8    8    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15 1099    11    28 1085    29    77    0    29     8    8    46
Added Vol:      0  215     0     0  194     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   15 1314    11    28 1279    29    77    0    29     8    8    46
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    15 1314    11    28 1279    29    77    0    29     8    8    46
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   15 1314    11    28 1279    29    77    0    29     8    8    46
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1308 xxxx xxxxx  1325 xxxx xxxxx  2041 xxxx   654  2045 2714   663
Potent Cap.:  536 xxxx xxxxx   528 xxxx xxxxx    34 xxxx   414    33   21   409
Move Cap.:    536 xxxx xxxxx   528 xxxx xxxxx    19 xxxx   414    29   20   409
Volume/Cap:  0.03 xxxx  xxxx  0.05 xxxx  xxxx  4.00 xxxx  0.07  0.27 0.41  0.11
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.2 xxxx xxxxx   4.2 xxxx xxxxx   252 xxxx   5.6  xxxx xxxx xxxxx
Control Del: 11.9 xxxx xxxxx  12.2 xxxx xxxxx  1759 xxxx  14.3 xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx   78 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  3.9 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  142 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    F     *
ApproachDel:    xxxxxx           xxxxxx           1281.8            141.6
ApproachLOS:         *                *                F                 F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   15 1314    11    28 1279    29    77    0    29     8    8    46
ApproachDel:    xxxxxx           xxxxxx           1281.8            141.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=37.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=106]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2844]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2844]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   15 1314    11    28 1279    29    77    0    29     8    8    46
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2676
Minor Approach Volume:           106
Minor Approach Volume Threshold: -49 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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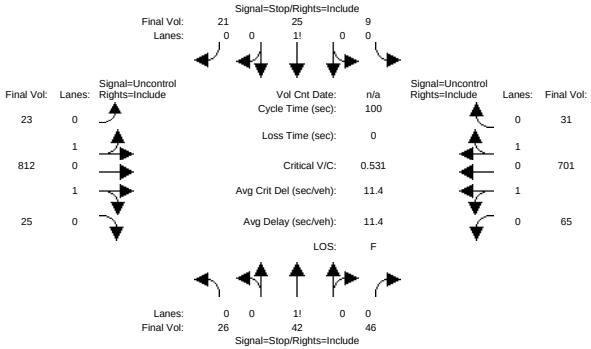
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #63: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26   42    46     9   25    11     4  794    25    65  692    31
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26   42    46     9   25    11     4  794    25    65  692    31
Added Vol:      0    0     0     0    0    10    19   18     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26   42    46     9   25    21    23  812    25    65  701    31
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26   42    46     9   25    21    23  812    25    65  701    31
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26   42    46     9   25    21    23  812    25    65  701    31
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1364 1733   419  1320 1730   366   732 xxxx xxxxx   837 xxxx xxxxx
Potent Cap.:  108   89   589   117   89   637   882 xxxx xxxxx   806 xxxx xxxxx
Move Cap.:     73   79   589    58   79   637   882 xxxx xxxxx   806 xxxx xxxxx
Volume/Cap:  0.36 0.53  0.08  0.16 0.31  0.03  0.03 xxxx  xxxx  0.08 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.0 xxxx xxxxx   6.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.2 xxxx xxxxx   9.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  118 xxxxx  xxxx  109 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  6.3 xxxxx xxxxx  2.3 xxxxx   0.1 xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx  143 xxxxx xxxxx 67.4 xxxxx   9.2 xxxx xxxxx   9.9 xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     A    *     *     A    *     *
ApproachDel:     143.0             67.4            xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   26   42    46     9   25    21    23  812    25    65  701    31
ApproachDel:     143.0             67.4            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=114]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1826]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=55]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1826]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

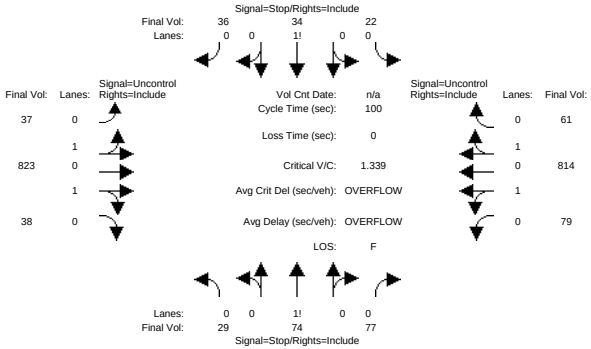
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   26   42    46     9   25    21    23  812    25    65  701    31
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1657
Minor Approach Volume:           114
Minor Approach Volume Threshold: 111
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #63: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      29   74    77    22   34    17    27  814    38    79  796    61
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   29   74    77    22   34    17    27  814    38    79  796    61
Added Vol:      0    0     0     0    0    19    10    9     0     0   18     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   29   74    77    22   34    36    37  823    38    79  814    61
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    29   74    77    22   34    36    37  823    38    79  814    61
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   29   74    77    22   34    36    37  823    38    79  814    61
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1498 1949   431  1525 1938   438   875 xxxx xxxxx   861 xxxx xxxxx
Potent Cap.:   86   65   579    82   66   573   780 xxxx xxxxx   789 xxxx xxxxx
Move Cap.:     37   55   579     0   56   573   780 xxxx xxxxx   789 xxxx xxxxx
Volume/Cap:  0.77 1.34  0.13  xxxx 0.61  0.06  0.05 xxxx  xxxx  0.10 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.7 xxxx xxxxx   8.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.8 xxxx xxxxx  10.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   80 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 16.6 xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx  682 xxxxx xxxxx xxxx xxxxx   9.8 xxxx xxxxx  10.1 xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     A    *     *     B    *     *
ApproachDel:     682.2           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         F                F                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   29   74    77    22   34    36    37  823    38    79  814    61
ApproachDel:     682.2           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=34.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=180]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2124]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=92]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2124]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

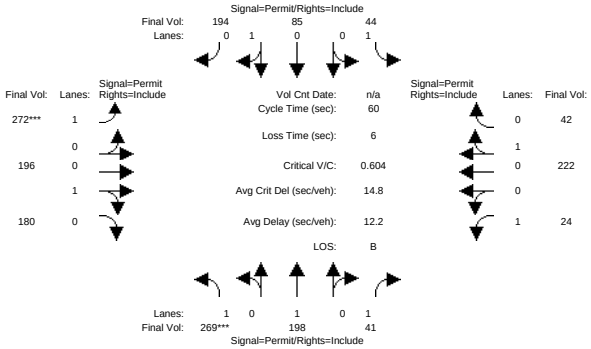
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   29   74    77    22   34    36    37  823    38    79  814    61
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1852
Minor Approach Volume:           180
Minor Approach Volume Threshold: 73 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #64: Main St / Martin Luther King Wy



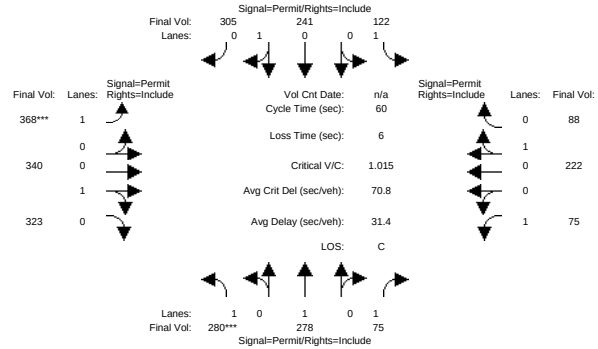
Street Name:	Main Street									Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	269	195	41	44	84	194	272	196	180	24	222	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	269	195	41	44	84	194	272	196	180	24	222	42
Added Vol:	0	3	0	0	1	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	269	198	41	44	85	194	272	196	180	24	222	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	269	198	41	44	85	194	272	196	180	24	222	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	269	198	41	44	85	194	272	196	180	24	222	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	269	198	41	44	85	194	272	196	180	24	222	42
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.52	1.00	0.85	0.60	0.90	0.90	0.53	0.93	0.93	0.42	0.98	0.98
Lanes:	1.00	1.00	1.00	1.00	0.30	0.70	1.00	0.52	0.48	1.00	0.84	0.16
Final Sat.:	982	1900	1615	1144	519	1184	1007	919	844	800	1559	295
Capacity Analysis Module:												
Vol/Sat:	0.27	0.10	0.03	0.04	0.16	0.16	0.27	0.21	0.21	0.03	0.14	0.14
Crit Moves:	****						****					
Green/Cycle:	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Volume/Cap:	0.60	0.23	0.06	0.08	0.36	0.36	0.60	0.48	0.48	0.07	0.32	0.32
Delay/Veh:	14.7	10.2	9.2	9.4	11.0	11.0	14.9	12.1	12.1	9.5	10.9	10.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	14.7	10.2	9.2	9.4	11.0	11.0	14.9	12.1	12.1	9.5	10.9	10.9
LOS by Move:	B	B	A	A	B	B	B	B	B	A	B	B
HCM2kAvgQ:	120	58	11	13	90	90	91	115	115	7	83	83

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #64: Main St / Martin Luther King Wy



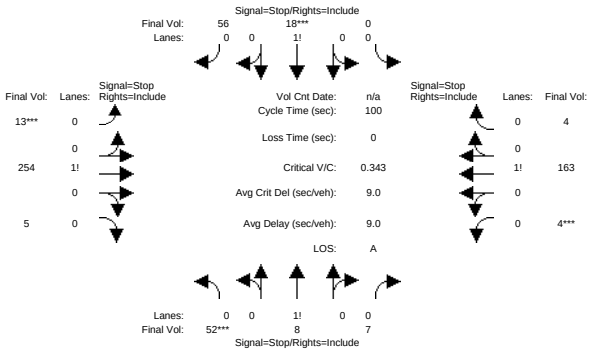
Street Name:	Main Street									Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	280	277	75	122	238	305	368	340	323	75	222	88
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	280	277	75	122	238	305	368	340	323	75	222	88
Added Vol:	0	1	0	0	3	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	280	278	75	122	241	305	368	340	323	75	222	88
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	280	278	75	122	241	305	368	340	323	75	222	88
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	280	278	75	122	241	305	368	340	323	75	222	88
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	280	278	75	122	241	305	368	340	323	75	222	88
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.30	1.00	0.85	0.53	0.92	0.92	0.47	0.93	0.93	0.16	0.96	0.96
Lanes:	1.00	1.00	1.00	1.00	0.44	0.56	1.00	0.51	0.49	1.00	0.72	0.28
Final Sat.:	562	1900	1615	1009	768	972	885	903	858	310	1302	516
Capacity Analysis Module:												
Vol/Sat:	0.50	0.15	0.05	0.12	0.31	0.31	0.42	0.38	0.38	0.24	0.17	0.17
Crit Moves:	****						****					
Green/Cycle:	0.49	0.49	0.49	0.49	0.49	0.49	0.41	0.41	0.41	0.41	0.41	0.41
Volume/Cap:	1.01	0.30	0.09	0.25	0.64	0.64	1.01	0.92	0.92	0.59	0.42	0.42
Delay/Veh:	73.4	9.3	8.2	9.1	13.0	13.0	68.8	33.7	33.7	21.0	13.0	13.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	73.4	9.3	8.2	9.1	13.0	13.0	68.8	33.7	33.7	21.0	13.0	13.0
LOS by Move:	E	A	A	A	B	B	E	C	C	C	B	B
HCM2kAvgQ:	271	80	19	38	211	211	191	272	272	55	110	110

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #65: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      52     4     7     0     2    56    13   254     5     4   163     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   52     4     7     0     2    56    13   254     5     4   163     4
Added Vol:      0     4     0     0    16     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   52     8     7     0    18    56    13   254     5     4   163     4
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    52     8     7     0    18    56    13   254     5     4   163     4
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   52     8     7     0    18    56    13   254     5     4   163     4
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   52     8     7     0    18    56    13   254     5     4   163     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.78  0.12  0.10  0.00  0.24  0.76  0.05  0.93  0.02  0.02  0.96  0.02
Final Sat.:   511    79    69     0   178   554    38   741    15    18   734    18
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10  0.10  0.10  xxxx  0.10  0.10  0.34  0.34  0.34  0.22  0.22  0.22
Crit Moves:  ****                    ****        ****              ****
Delay/Veh:    8.6   8.6   8.6   0.0   8.0   8.0   9.6   9.6   9.6   8.7   8.7   8.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.6   8.6   8.6   0.0   8.0   8.0   9.6   9.6   9.6   8.7   8.7   8.7
LOS by Move:    A     A     A     *     A     A     A     A     A     A     A     A
ApproachDel:        8.6                 8.0                 9.6                 8.7
Delay Adj:         1.00                1.00                1.00                1.00
ApprAdjDel:         8.6                 8.0                 9.6                 8.7
LOS by Appr:          A                   A                   A                   A
AllWayAvgQ:   2.4   2.4   2.4   2.3   2.3   2.3  12.1  12.1  12.1   6.6   6.6   6.6
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #65 18th St / Martin Luther King Wy
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   52    8     7    0   18    56    13  254     5    4  163     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             443
Minor Approach Volume:           74
Minor Approach Volume Threshold: 437
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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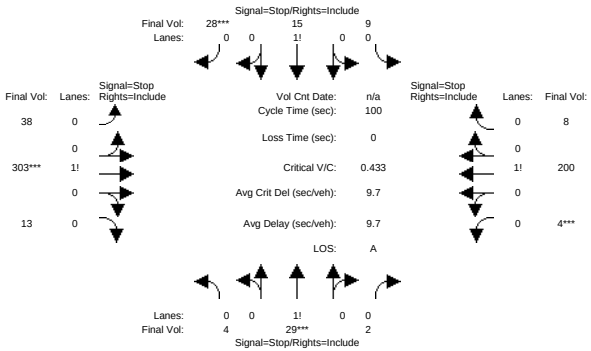
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #65: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    13     2     9    11    28    38   303    13     4   200     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4    13     2     9    11    28    38   303    13     4   200     8
Added Vol:      0    16     0     0     4     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    4    29     2     9    15    28    38   303    13     4   200     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4    29     2     9    15    28    38   303    13     4   200     8
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    4    29     2     9    15    28    38   303    13     4   200     8
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    4    29     2     9    15    28    38   303    13     4   200     8
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.11 0.83  0.06  0.17 0.29  0.54  0.11 0.85  0.04  0.02 0.94  0.04
Final Sat.:    72  524    36   116  193   361    88  699    30    15  743    30
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.06  0.06  0.08 0.08  0.08  0.43 0.43  0.43  0.27 0.27  0.27
Crit Moves:        ****                    ****        ****        ****
Delay/Veh:    8.4  8.4   8.4   8.2  8.2   8.2  10.5 10.5  10.5   9.0  9.0   9.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.4  8.4   8.4   8.2  8.2   8.2  10.5 10.5  10.5   9.0  9.0   9.0
LOS by Move:    A    A     A     A    A     A     B    B     B     A    A     A
ApproachDel:       8.4              8.2             10.5              9.0
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.4              8.2             10.5              9.0
LOS by Appr:         A                A                B                A
AllWayAvgQ:   1.2  1.2   1.2   1.7  1.7   1.7  18.1 18.1  18.1   8.6  8.6   8.6
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #65 18th St / Martin Luther King Wy
*******************************************************************************
```



```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4   29     2     9   15    28    38  303    13     4  200     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             566
Minor Approach Volume:           52
Minor Approach Volume Threshold: 371
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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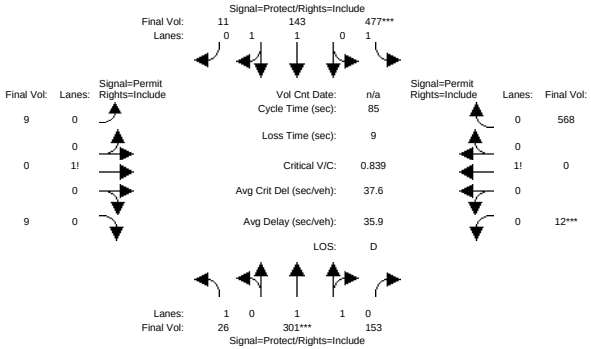
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #66: 16th St / H St



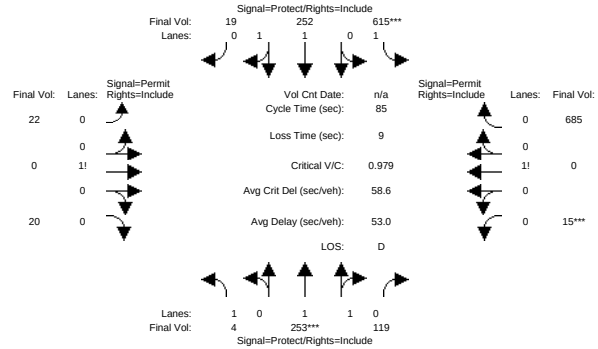
Street Name:	16th Street						H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	26	273	153	466	132	11	9	0	9	12	0	560
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	273	153	466	132	11	9	0	9	12	0	560
Added Vol:	0	28	0	11	11	0	0	0	0	0	0	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	301	153	477	143	11	9	0	9	12	0	568
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	301	153	477	143	11	9	0	9	12	0	568
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	301	153	477	143	11	9	0	9	12	0	568
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	301	153	477	143	11	9	0	9	12	0	568
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.94	0.94	0.78	1.00	0.78	0.86	1.00	0.86
Lanes:	1.00	1.33	0.67	1.00	1.86	0.14	0.50	0.00	0.50	0.02	0.00	0.98
Final Sat.:	1805	2271	1155	1805	3315	255	744	0	744	34	0	1609
Capacity Analysis Module:												
Vol/Sat:	0.01	0.13	0.13	0.26	0.04	0.04	0.01	0.00	0.01	0.35	0.00	0.35
Crit Moves:		****		****						****		
Green/Cycle:	0.19	0.16	0.16	0.32	0.28	0.28	0.42	0.00	0.42	0.42	0.00	0.42
Volume/Cap:	0.07	0.84	0.84	0.84	0.15	0.15	0.03	0.00	0.03	0.84	0.00	0.84
Delay/Veh:	28.0	45.9	45.9	37.7	23.2	23.2	14.4	0.0	14.4	31.0	0.0	31.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.0	45.9	45.9	37.7	23.2	23.2	14.4	0.0	14.4	31.0	0.0	31.0
LOS by Move:	C	D	D	D	C	C	B	A	B	C	A	C
HCM2kAvgQ:	15	219	219	359	41	41	7	0	7	407	0	407

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #66: 16th St / H St



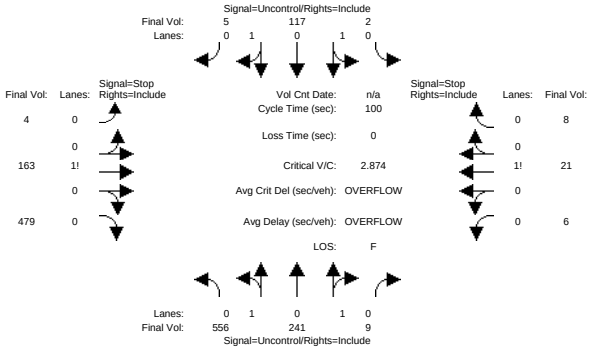
Street Name:	16th Street						H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	4	236	119	600	231	19	22	0	20	15	0	680
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	236	119	600	231	19	22	0	20	15	0	680
Added Vol:	0	17	0	15	21	0	0	0	0	0	0	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	253	119	615	252	19	22	0	20	15	0	685
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	253	119	615	252	19	22	0	20	15	0	685
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	253	119	615	252	19	22	0	20	15	0	685
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	253	119	615	252	19	22	0	20	15	0	685
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.94	0.94	0.72	1.00	0.72	0.86	1.00	0.86
Lanes:	1.00	1.36	0.64	1.00	1.86	0.14	0.52	0.00	0.48	0.02	0.00	0.98
Final Sat.:	1805	2337	1099	1805	3323	251	714	0	649	35	0	1607
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.11	0.34	0.08	0.08	0.03	0.00	0.03	0.43	0.00	0.43
Crit Moves:		****		****						****		
Green/Cycle:	0.19	0.12	0.12	0.34	0.27	0.27	0.43	0.00	0.43	0.43	0.00	0.43
Volume/Cap:	0.01	0.92	0.92	0.99	0.28	0.28	0.07	0.00	0.07	0.99	0.00	0.99
Delay/Veh:	27.9	63.1	63.1	60.5	24.5	24.5	14.2	0.0	14.2	54.5	0.0	54.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.9	63.1	63.1	60.5	24.5	24.5	14.2	0.0	14.2	54.5	0.0	54.5
LOS by Move:	C	E	E	E	C	C	B	A	B	D	A	D
HCM2kAvgQ:	2	214	214	568	76	76	16	0	16	630	0	630

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     548  238     9     2  116     5     4  163   468     6   21     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  548  238     9     2  116     5     4  163   468     6   21     8
Added Vol:      8    3     0     0    1     0     0    0    11     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  556  241     9     2  117     5     4  163   479     6   21     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   556  241     9     2  117     5     4  163   479     6   21     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  556  241     9     2  117     5     4  163   479     6   21     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  122 xxxx xxxxx   250 xxxx xxxxx  1367 1486    61  1502 1484   125
Potent Cap.: 1478 xxxx xxxxx  1327 xxxx xxxxx   108  126   998    86  126   909
Move Cap.:   1478 xxxx xxxxx  1327 xxxx xxxxx    45   57   998     0   57   909
Volume/Cap:  0.38 xxxx  xxxx  0.00 xxxx  xxxx  0.09 2.87  0.48  xxxx 0.37  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   44.5 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.9 xxxx xxxxx   7.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  188 xxxxx  xxxx    0 xxxxx
SharedQueue:  1.8 xxxx xxxxx   0.0 xxxx xxxxx xxxxx 61.3 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.9 xxxx xxxxx   7.7 xxxx xxxxx xxxxx 1150 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     A    *     *     *    F     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           1150.0           xxxxxx
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  556  241     9     2  117     5     4  163   479     6   21     8
ApproachDel:    xxxxxx           xxxxxx           1150.0           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=206.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=646]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1611]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1611]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

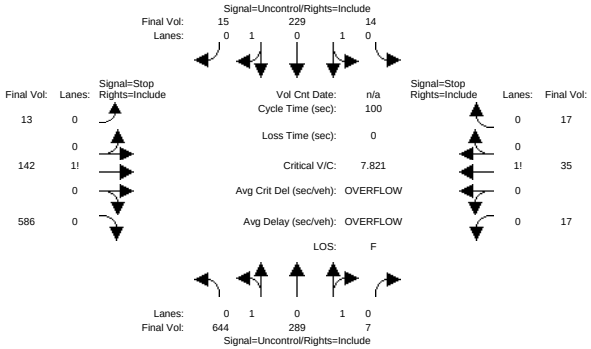
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  556  241     9     2  117     5     4  163   479     6   21     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             930
Minor Approach Volume:           646
Minor Approach Volume Threshold: 310
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #67: Main St / H St




```
Street Name:            Main Street                     H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     639  288     7    14  226    15    13  142   571    17   35    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  639  288     7    14  226    15    13  142   571    17   35    17
Added Vol:      5    1     0     0    3     0     0    0    15     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  644  289     7    14  229    15    13  142   586    17   35    17
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   644  289     7    14  229    15    13  142   586    17   35    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  644  289     7    14  229    15    13  142   586    17   35    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  244 xxxx xxxxx   296 xxxx xxxxx  1715 1849   122  1794 1853   148
Potent Cap.: 1334 xxxx xxxxx  1277 xxxx xxxxx    59   75   913    52   75   878
Move Cap.:   1334 xxxx xxxxx  1277 xxxx xxxxx     0   18   913     0   18   878
Volume/Cap:  0.48 xxxx  xxxx  0.01 xxxx  xxxx  xxxx 7.82  0.64  xxxx 1.94  0.02
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   67.9 xxxx xxxxx   0.8 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.2 xxxx xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx    0 xxxxx  xxxx    0 xxxxx
SharedQueue:  2.7 xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 10.2 xxxx xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     A    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  644  289     7    14  229    15    13  142   586    17   35    17
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=741]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2008]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=69]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2008]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

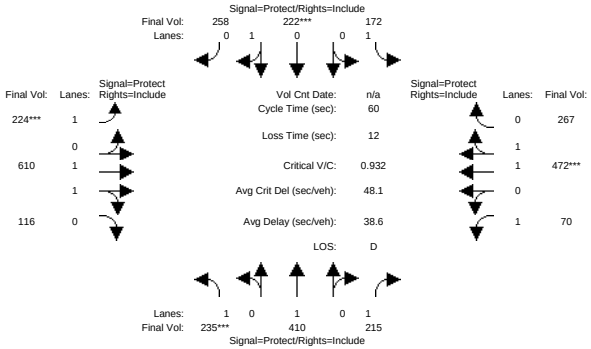
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  644  289     7    14  229    15    13  142   586    17   35    17
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1198
Minor Approach Volume:           741
Minor Approach Volume Threshold: 223
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #69: Main St / G St



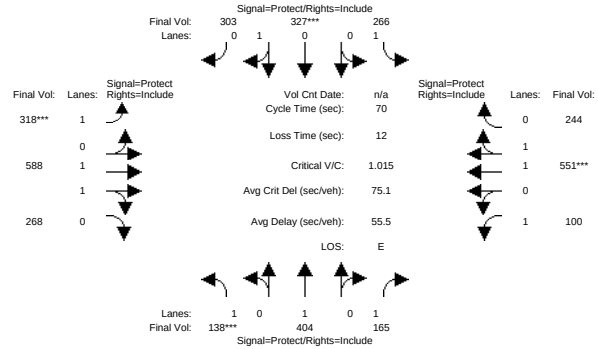
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	235	410	214	166	222	252	224	609	116	70	472	256
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	410	214	166	222	252	224	609	116	70	472	256
Added Vol:	0	0	1	6	0	6	0	1	0	0	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	235	410	215	172	222	258	224	610	116	70	472	267
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	235	410	215	172	222	258	224	610	116	70	472	267
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	410	215	172	222	258	224	610	116	70	472	267
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	410	215	172	222	258	224	610	116	70	472	267
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.00	1.00	1.00	0.46	0.54	1.00	1.68	0.32	1.00	1.28	0.72
Final Sat.:	1805	1900	1615	1805	808	939	1805	2960	563	1805	2181	1234
Capacity Analysis Module:												
Vol/Sat:	0.13	0.22	0.13	0.10	0.27	0.27	0.12	0.21	0.21	0.04	0.22	0.22
Crit Moves:	****				****		****				****	
Green/Cycle:	0.14	0.28	0.28	0.15	0.29	0.29	0.13	0.23	0.23	0.13	0.23	0.23
Volume/Cap:	0.93	0.76	0.47	0.62	0.93	0.93	0.93	0.88	0.88	0.29	0.93	0.93
Delay/Veh:	64.1	26.2	18.6	28.3	44.5	44.5	65.5	33.3	33.3	24.2	40.2	40.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.1	26.2	18.6	28.3	44.5	44.5	65.5	33.3	33.3	24.2	40.2	40.2
LOS by Move:	E	C	B	C	D	D	E	C	C	C	D	D
HCM2kAvgQ:	208	226	96	104	341	341	202	265	265	29	222	222

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #69: Main St / G St



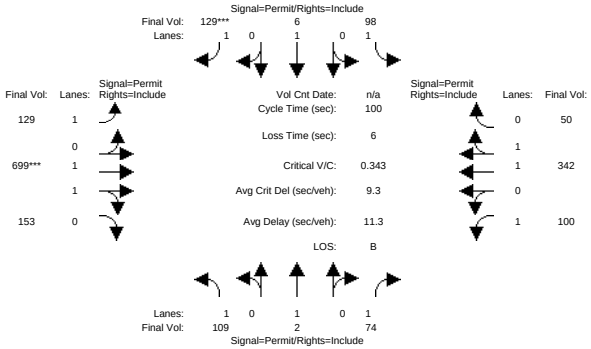
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	138	404	165	255	327	296	318	588	268	99	549	238
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	138	404	165	255	327	296	318	588	268	99	549	238
Added Vol:	0	0	0	11	0	7	0	0	0	1	2	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	138	404	165	266	327	303	318	588	268	100	551	244
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	138	404	165	266	327	303	318	588	268	100	551	244
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	138	404	165	266	327	303	318	588	268	100	551	244
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	138	404	165	266	327	303	318	588	268	100	551	244
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.91	0.91	0.95	0.91	0.91
Lanes:	1.00	1.00	1.00	1.00	0.52	0.48	1.00	1.37	0.63	1.00	1.39	0.61
Final Sat.:	1805	1900	1615	1805	915	848	1805	2363	1077	1805	2387	1057
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.10	0.15	0.36	0.36	0.18	0.25	0.25	0.06	0.23	0.23
Crit Moves:	****				****		****				****	
Green/Cycle:	0.10	0.26	0.26	0.18	0.34	0.34	0.17	0.28	0.28	0.11	0.22	0.22
Volume/Cap:	0.76	0.82	0.39	0.82	1.05	1.05	1.05	0.90	0.90	0.50	1.05	1.05
Delay/Veh:	48.2	34.6	21.9	42.4	73.3	73.3	94.2	35.7	35.7	31.2	73.6	73.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.2	34.6	21.9	42.4	73.3	73.3	94.2	35.7	35.7	31.2	73.6	73.6
LOS by Move:	D	C	C	D	E	E	F	D	D	C	E	E
HCM2kAvgQ:	122	270	82	203	579	579	337	335	335	51	343	343

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #70: 18th St / G St



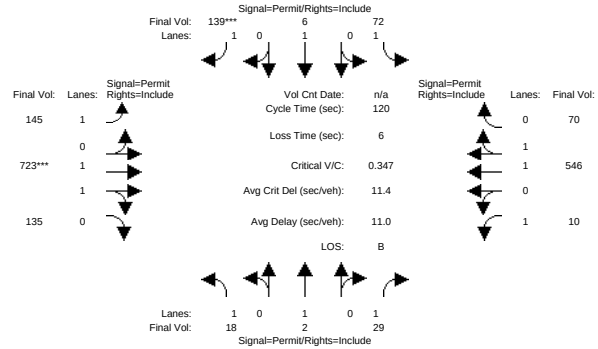
Street Name:	18th Street									G Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	109		2	74	98		6	128	126		693	153	100		331	50
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	109		2	74	98		6	128	126		693	153	100		331	50
Added Vol:	0		0	0	0		0	1	3		6	0	0		11	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	109		2	74	98		6	129	129		699	153	100		342	50
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	109		2	74	98		6	129	129		699	153	100		342	50
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	109		2	74	98		6	129	129		699	153	100		342	50
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	109		2	74	98		6	129	129		699	153	100		342	50
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.76		1.00	0.85	0.77		1.00	0.85	0.51		0.92	0.92	0.30		0.93	0.93
Lanes:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.64	0.36	1.00		1.74	0.26
Final Sat.:	1452		1900	1615	1457		1900	1615	975		2882	631	564		3090	452
Capacity Analysis Module:																
Vol/Sat:	0.08		0.00	0.05	0.07		0.00	0.08	0.13		0.24	0.24	0.18		0.11	0.11
Crit Moves:								****			****					
Green/Cycle:	0.23		0.23	0.23	0.23		0.23	0.23	0.71		0.71	0.71	0.71		0.71	0.71
Volume/Cap:	0.32		0.00	0.20	0.29		0.01	0.34	0.19		0.34	0.34	0.25		0.16	0.16
Delay/Veh:	32.4		29.5	31.1	32.0		29.5	32.5	5.1		5.7	5.7	5.5		4.9	4.9
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	32.4		29.5	31.1	32.0		29.5	32.5	5.1		5.7	5.7	5.5		4.9	4.9
LOS by Move:	C		C	C	C		C	C	A		A	A	A		A	A
HCM2kAvgQ:	74		1	47	66		4	88	31		124	124	33		52	52

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #70: 18th St / G St



Street Name:	18th Street									G Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	18		2	29	72		6	136	144		712	135	10		540	70
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	18		2	29	72		6	136	144		712	135	10		540	70
Added Vol:	0		0	0	0		0	3	1		11	0	0		6	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	18		2	29	72		6	139	145		723	135	10		546	70
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	18		2	29	72		6	139	145		723	135	10		546	70
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	18		2	29	72		6	139	145		723	135	10		546	70
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	18		2	29	72		6	139	145		723	135	10		546	70
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.76		1.00	0.85	0.77		1.00	0.85	0.39		0.93	0.93	0.29		0.93	0.93
Lanes:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.69	0.31	1.00		1.77	0.23
Final Sat.:	1452		1900	1615	1457		1900	1615	739		2969	554	555		3145	403
Capacity Analysis Module:																
Vol/Sat:	0.01		0.00	0.02	0.05		0.00	0.09	0.20		0.24	0.24	0.02		0.17	0.17
Crit Moves:								****			****					
Green/Cycle:	0.25		0.25	0.25	0.25		0.25	0.25	0.70		0.70	0.70	0.70		0.70	0.70
Volume/Cap:	0.05		0.00	0.07	0.20		0.01	0.35	0.28		0.35	0.35	0.03		0.25	0.25
Delay/Veh:	34.4		34.0	34.6	36.0		34.0	37.6	6.9		7.1	7.1	5.5		6.5	6.5
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	34.4		34.0	34.6	36.0		34.0	37.6	6.9		7.1	7.1	5.5		6.5	6.5
LOS by Move:	C		C	C	D		C	D	A		A	A	A		A	A
HCM2kAvgQ:	13		1	20	54		4	108	47		152	152	3		106	106

Note: Queue reported is the distance per lane in feet.

HEAVY MANTENANCE FACILITY ANALYSIS - CASTLE COMMERCE

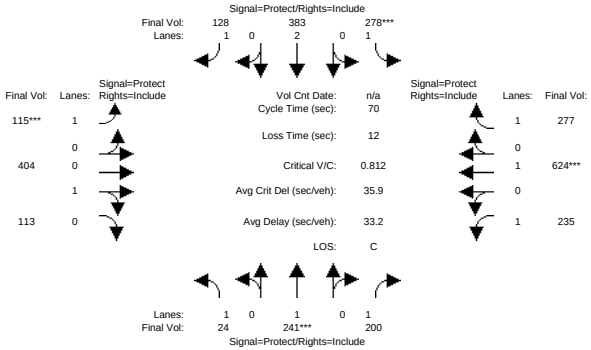
2035 BUILD_OPTION-A MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #2: Atwater Blvd / Applegate Rd



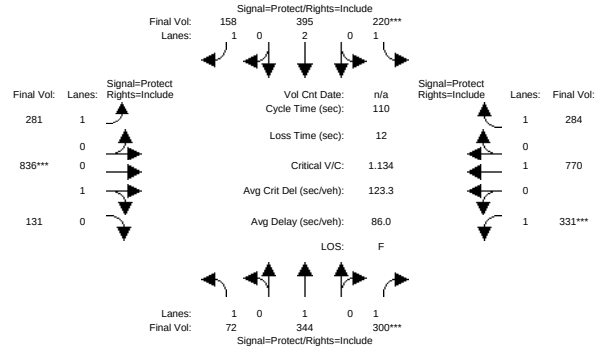
Street Name:	Atwater Boulevard						Applegate Road-Winton Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	24	241	200	278	383	128	115	381	113	235	611	277
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	241	200	278	383	128	115	381	113	235	611	277
Added Vol:	0	0	0	0	0	0	0	23	0	0	13	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	24	241	200	278	383	128	115	404	113	235	624	277
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	24	241	200	278	383	128	115	404	113	235	624	277
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	241	200	278	383	128	115	404	113	235	624	277
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	241	200	278	383	128	115	404	113	235	624	277
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.95	0.85	0.95	0.97	0.97	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	2.00	1.00	1.00	0.78	0.22	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	3610	1615	1805	1436	402	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.13	0.12	0.15	0.11	0.08	0.06	0.28	0.28	0.13	0.33	0.17
Crit Moves:		****		****			****				****	
Green/Cycle:	0.14	0.15	0.15	0.18	0.20	0.20	0.10	0.34	0.34	0.16	0.39	0.39
Volume/Cap:	0.10	0.84	0.82	0.84	0.54	0.40	0.64	0.84	0.84	0.84	0.84	0.44
Delay/Veh:	26.5	47.6	47.6	44.2	26.0	25.3	37.6	31.0	31.0	47.7	27.4	16.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.5	47.6	47.6	44.2	26.0	25.3	37.6	31.0	31.0	47.7	27.4	16.1
LOS by Move:	C	D	D	D	C	C	D	C	C	D	C	B
HCM2kAvgQ:	1	8	7	9	5	3	2	11	11	8	15	5

Note: Queue reported the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #2: Atwater Blvd / Applegate Rd



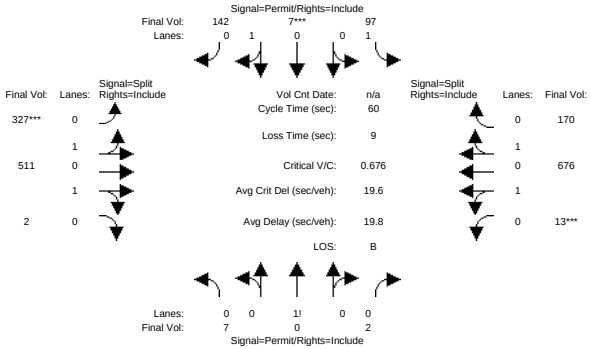
Street Name:	Atwater Boulevard						Applegate Road-Winton Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	72	344	300	220	395	158	281	823	131	331	747	284
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	72	344	300	220	395	158	281	823	131	331	747	284
Added Vol:	0	0	0	0	0	0	0	13	0	0	23	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	72	344	300	220	395	158	281	836	131	331	770	284
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	72	344	300	220	395	158	281	836	131	331	770	284
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	344	300	220	395	158	281	836	131	331	770	284
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	72	344	300	220	395	158	281	836	131	331	770	284
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.95	0.85	0.95	0.98	0.98	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	2.00	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	3610	1615	1805	1610	252	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.18	0.19	0.12	0.11	0.10	0.16	0.52	0.52	0.18	0.41	0.18
Crit Moves:			****	****				****		****		
Green/Cycle:	0.10	0.16	0.16	0.11	0.17	0.17	0.17	0.46	0.46	0.16	0.45	0.45
Volume/Cap:	0.40	1.11	1.13	1.13	0.64	0.57	0.91	1.13	1.13	1.13	0.91	0.39
Delay/Veh:	47.9	128	142.4	154.4	44.6	44.7	72.9	105	104.6	140.0	41.3	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.9	128	142.4	154.4	44.6	44.7	72.9	105	104.6	140.0	41.3	20.7
LOS by Move:	D	F	F	F	D	D	E	F	F	F	D	C
HCM2kAvgQ:	3	19	18	14	7	6	9	45	45	19	28	6

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #4: Sycamore Ave / Applegate Rd



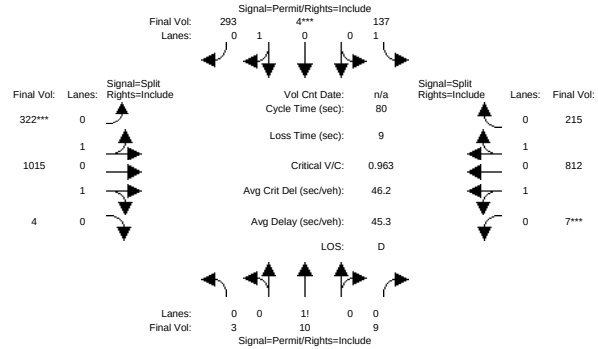
Street Name:	Sycamore Avenue									Applegate Road								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10	10	10			10	10	10			10	10	10			10	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	7	0	2			97	7	142			327	488	2			13	676	157		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	7	0	2			97	7	142			327	488	2			13	676	157		
Added Vol:	0	0	0			0	0	0			0	23	0			0	0	13		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	7	0	2			97	7	142			327	511	2			13	676	170		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	7	0	2			97	7	142			327	511	2			13	676	170		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	7	0	2			97	7	142			327	511	2			13	676	170		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	7	0	2			97	7	142			327	511	2			13	676	170		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.79	1.00	0.79			0.76	0.86	0.86			0.93	0.93	0.93			0.92	0.92	0.92		
Lanes:	0.78	0.00	0.22			1.00	0.05	0.95			0.78	1.21	0.01			0.03	1.57	0.40		
Final Sat.:	1161	0	332			1446	76	1552			1379	2154	8			53	2753	692		
Capacity Analysis Module:																				
Vol/Sat:	0.01	0.00	0.01			0.07	0.09	0.09			0.24	0.24	0.24			0.25	0.25	0.25		
Crit Moves:							****				****					****				
Green/Cycle:	0.17	0.00	0.17			0.17	0.17	0.17			0.34	0.34	0.34			0.35	0.35	0.35		
Volume/Cap:	0.04	0.00	0.04			0.40	0.55	0.55			0.71	0.71	0.71			0.71	0.71	0.71		
Delay/Veh:	21.0	0.0	21.0			23.4	25.3	25.3			19.3	19.3	19.3			18.9	18.9	18.9		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	21.0	0.0	21.0			23.4	25.3	25.3			19.3	19.3	19.3			18.9	18.9	18.9		
LOS by Move:	C	A	C			C	C	C			B	B	B			B	B	B		
HCM2kAvgQ:	0	0	0			2	3	3			7	7	7			7	7	7		

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #4: Sycamore Ave / Applegate Rd



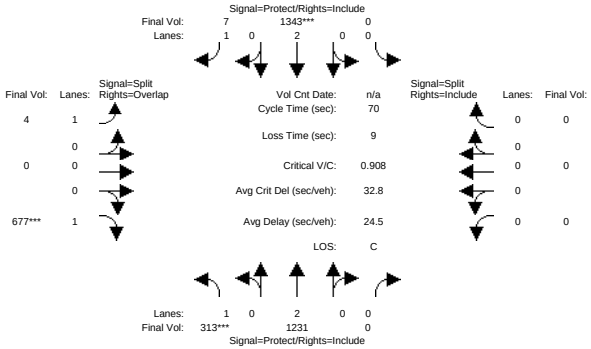
Street Name:	Sycamore Avenue									Applegate Road								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10	10	10			10	10	10			10	10	10			10	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	3	10	9			137	4	293			322	1002	4			7	812	192		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	3	10	9			137	4	293			322	1002	4			7	812	192		
Added Vol:	0	0	0			0	0	0			0	13	0			0	0	23		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	3	10	9			137	4	293			322	1015	4			7	812	215		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	3	10	9			137	4	293			322	1015	4			7	812	215		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	3	10	9			137	4	293			322	1015	4			7	812	215		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	3	10	9			137	4	293			322	1015	4			7	812	215		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.87	0.87	0.87			0.75	0.85	0.85			0.94	0.94	0.94			0.92	0.92	0.92		
Lanes:	0.14	0.45	0.41			1.00	0.01	0.99			0.48	1.51	0.01			0.01	1.57	0.42		
Final Sat.:	225	750	675			1425	22	1597			856	2700	11			24	2747	727		
Capacity Analysis Module:																				
Vol/Sat:	0.01	0.01	0.01			0.10	0.18	0.18			0.38	0.38	0.38			0.30	0.30	0.30		
Crit Moves:							****				****					****				
Green/Cycle:	0.19	0.19	0.19			0.19	0.19	0.19			0.39	0.39	0.39			0.31	0.31	0.31		
Volume/Cap:	0.07	0.07	0.07			0.50	0.96	0.96			0.96	0.96	0.96			0.96	0.96	0.96		
Delay/Veh:	26.7	26.7	26.7			30.5	73.4	73.4			40.0	40.0	40.0			46.5	46.5	46.5		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	26.7	26.7	26.7			30.5	73.4	73.4			40.0	40.0	40.0			46.5	46.5	46.5		
LOS by Move:	C	C	C			C	E	E			D	D	D			D	D	D		
HCM2kAvgQ:	0	0	0			4	12	12			20	20	20			14	14	14		

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #16: Santa Fe Dr / W Ave 2



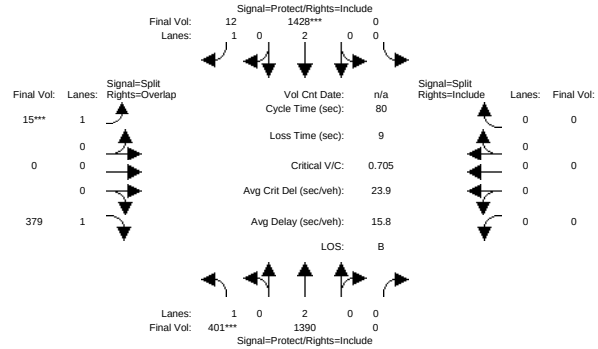
Street Name:	Santa Fe Drive								W Ave 2							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	7	10	0		0	10	10		10	0	10		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	313	825	0		0	1114	7		4	0	677		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	313	825	0		0	1114	7		4	0	677		0	0	0	
Added Vol:	0	406	0		0	229	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	313	1231	0		0	1343	7		4	0	677		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	313	1231	0		0	1343	7		4	0	677		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	313	1231	0		0	1343	7		4	0	677		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	313	1231	0		0	1343	7		4	0	677		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.95	1.00		1.00	0.95	0.85		0.95	1.00	0.85		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		0.00	2.00	1.00		1.00	0.00	1.00		0.00	0.00	0.00	
Final Sat.:	1805	3610	0		0	3610	1615		1805	0	1615		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.17	0.34	0.00		0.00	0.37	0.00		0.00	0.00	0.42		0.00	0.00	0.00	
Crit Moves:	****					****					****					
Green/Cycle:	0.19	0.60	0.00		0.00	0.41	0.41		0.27	0.00	0.46		0.00	0.00	0.00	
Volume/Cap:	0.91	0.57	0.00		0.00	0.91	0.01		0.01	0.00	0.91		0.00	0.00	0.00	
Delay/Veh:	54.4	8.8	0.0		0.0	27.9	12.3		18.7	0.0	32.4		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	54.4	8.8	0.0		0.0	27.9	12.3		18.7	0.0	32.4		0.0	0.0	0.0	
LOS by Move:	D	A	A		A	C	B		B	A	C		A	A	A	
HCM2kAvgQ:	6	8	0		0	16	0		0	0	18		0	0	0	

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #16: Santa Fe Dr / W Ave 2



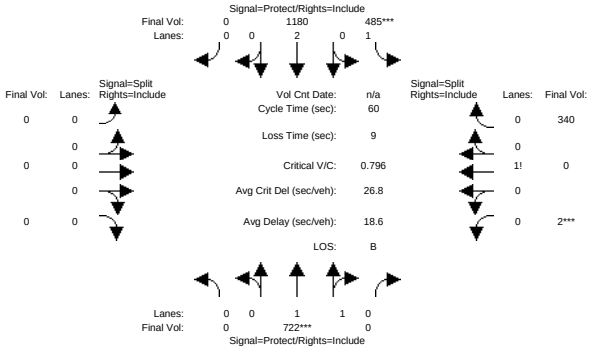
Street Name:	Santa Fe Drive								W Ave 2							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	7	10	0		0	10	10		10	0	10		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	401	1161	0		0	1022	12		15	0	379		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	401	1161	0		0	1022	12		15	0	379		0	0	0	
Added Vol:	0	229	0		0	406	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	401	1390	0		0	1428	12		15	0	379		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	401	1390	0		0	1428	12		15	0	379		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	401	1390	0		0	1428	12		15	0	379		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	401	1390	0		0	1428	12		15	0	379		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.95	1.00		1.00	0.95	0.85		0.95	1.00	0.85		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		0.00	2.00	1.00		1.00	0.00	1.00		0.00	0.00	0.00	
Final Sat.:	1805	3610	0		0	3610	1615		1805	0	1615		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.22	0.39	0.00		0.00	0.40	0.01		0.01	0.00	0.23		0.00	0.00	0.00	
Crit Moves:	****					****			****							
Green/Cycle:	0.27	0.76	0.00		0.00	0.49	0.49		0.13	0.00	0.40		0.00	0.00	0.00	
Volume/Cap:	0.81	0.50	0.00		0.00	0.81	0.02		0.07	0.00	0.59		0.00	0.00	0.00	
Delay/Veh:	36.8	3.8	0.0		0.0	20.3	10.6		31.0	0.0	20.3		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	36.8	3.8	0.0		0.0	20.3	10.6		31.0	0.0	20.3		0.0	0.0	0.0	
LOS by Move:	D	A	A		A	C	B		C	A	C		A	A	A	
HCM2kAvgQ:	8	6	0		0	16	0		0	0	8		0	0	0	

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #19: Santa Fe Dr / Belcher Ave

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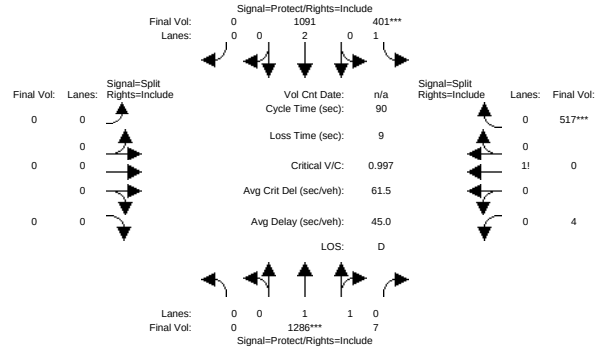
Street Name:          Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10     0     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  675     0   485 1154     0     0    0     0     2    0   340
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  675     0   485 1154     0     0    0     0     2    0   340
Added Vol:      0   47     0     0   26     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  722     0   485 1180     0     0    0     0     2    0   340
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  722     0   485 1180     0     0    0     0     2    0   340
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  722     0   485 1180     0     0    0     0     2    0   340
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  722     0   485 1180     0     0    0     0     2    0   340
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.95  0.95  0.95 0.95  1.00  1.00 1.00  1.00  0.87 1.00  0.87
Lanes:       0.00 2.00  0.00  1.00 2.00  0.00  0.00 0.00  0.00  0.01 0.00  0.99
Final Sat.:     0 3610     0  1805 3610     0     0    0     0    10    0  1636
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.20  0.00  0.27 0.33  0.00  0.00 0.00  0.00  0.21 0.00  0.21
Crit Moves:        ****        ****                             ****
Green/Cycle: 0.00 0.25  0.00  0.34 0.59  0.00  0.00 0.00  0.00  0.26 0.00  0.26
Volume/Cap:  0.00 0.80  0.00  0.80 0.56  0.00  0.00 0.00  0.00  0.80 0.00  0.80
Delay/Veh:    0.0 26.0   0.0  25.2  7.9   0.0   0.0  0.0   0.0  30.6  0.0  30.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 26.0   0.0  25.2  7.9   0.0   0.0  0.0   0.0  30.6  0.0  30.6
LOS by Move:    A    C     A     C    A     A     A    A     A     C    A     C
HCM2kAvgQ:      0    9     0     7    6     0     0    0     0     8    0     8
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #19: Santa Fe Dr / Belcher Ave

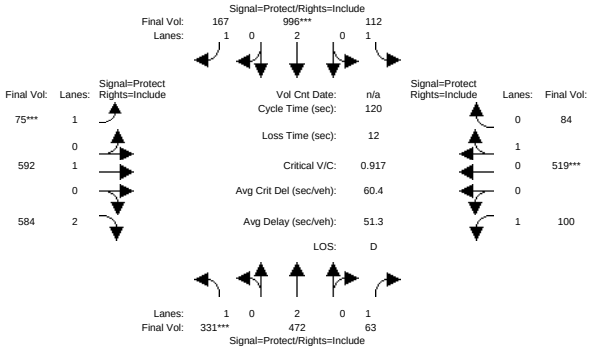



```
Street Name:          Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1260     7   401 1044     0     0    0     0     4    0   517
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1260     7   401 1044     0     0    0     0     4    0   517
Added Vol:      0   26     0     0   47     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0 1286     7   401 1091     0     0    0     0     4    0   517
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1286     7   401 1091     0     0    0     0     4    0   517
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1286     7   401 1091     0     0    0     0     4    0   517
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0 1286     7   401 1091     0     0    0     0     4    0   517
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.95  0.95  0.95 0.95  1.00  1.00 1.00  1.00  0.87 1.00  0.87
Lanes:       0.00 1.99  0.01  1.00 2.00  0.00  0.00 0.00  0.00  0.01 0.00  0.99
Final Sat.:     0 3587    20  1805 3610     0     0    0     0    13    0  1633
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.36  0.36  0.22 0.30  0.00  0.00 0.00  0.00  0.32 0.00  0.32
Crit Moves:        ****        ****                             ****
Green/Cycle: 0.00 0.36  0.36  0.22 0.58  0.00  0.00 0.00  0.00  0.32 0.00  0.32
Volume/Cap:  0.00 1.00  1.00  1.00 0.52  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Delay/Veh:    0.0 53.0  53.0  79.0 11.5   0.0   0.0  0.0   0.0  69.2  0.0  69.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 53.0  53.0  79.0 11.5   0.0   0.0  0.0   0.0  69.2  0.0  69.2
LOS by Move:    A    D     D     E    B     A     A    A     A     E    A     E
HCM2kAvgQ:      0   26    26    12    9     0     0    0     0    21    0    21
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

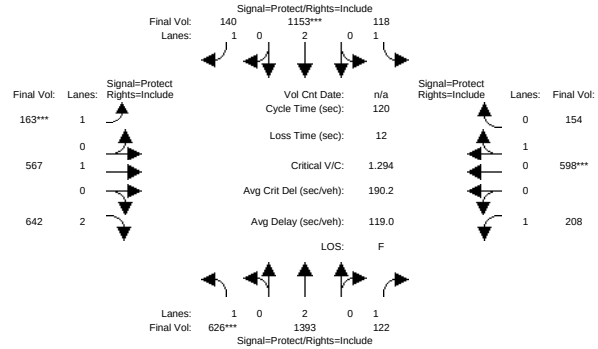



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     331 425  63   112 970 167    75 584 584   100 502  84
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  331 425  63   112 970 167    75 584 584   100 502  84
Added Vol:      0   0   0     0   0   0     0   8   0     0  17   0
Added Vol:      0  47   0     0  26   0     0   0   0     0   0   0
Initial Fut:  331 472  63   112 996 167    75 592 584   100 519  84
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   331 472  63   112 996 167    75 592 584   100 519  84
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  331 472  63   112 996 167    75 592 584   100 519  84
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  331 472  63   112 996 167    75 592 584   100 519  84
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 1.00 0.75 0.95 0.98 0.98
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 1.00 2.00 1.00 0.86 0.14
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 1900 2842 1805 1601  259
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.13 0.04 0.06 0.28 0.10 0.04 0.31 0.21 0.06 0.32 0.32
Crit Moves:  ****                ****        ****                ****
Green/Cycle: 0.20 0.33 0.33 0.16 0.30 0.30 0.06 0.34 0.34 0.06 0.35 0.35
Volume/Cap:  0.93 0.39 0.12 0.39 0.93 0.35 0.71 0.91 0.60 0.86 0.93 0.93
Delay/Veh:   77.9 30.8 27.7 46.1 54.9 33.6 75.9 54.5 33.7 100.3 57.9 57.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  77.9 30.8 27.7 46.1 54.9 33.6 75.9 54.5 33.7 100.3 57.9 57.9
LOS by Move:    E    C    C    D    D    C    E    D    C    F    E    E
HCM2kAvgQ:    342 168   38   99 575 122   104 613 264   150 643 643
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

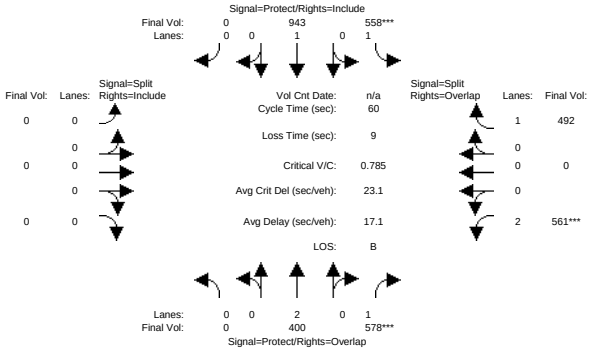



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     626 1367 122   118 1106 140   163 550 642   208 590 154
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  626 1367 122   118 1106 140   163 550 642   208 590 154
Added Vol:      0    0   0     0    0   0     0  17   0     0   8   0
Added Vol:      0   26   0     0   47   0     0   0   0     0   0   0
Initial Fut:  626 1393 122   118 1153 140   163 567 642   208 598 154
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   626 1393 122   118 1153 140   163 567 642   208 598 154
Reduct Vol:     0    0   0     0    0   0     0   0   0     0   0   0
Reduced Vol:  626 1393 122   118 1153 140   163 567 642   208 598 154
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  626 1393 122   118 1153 140   163 567 642   208 598 154
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 1.00 0.75 0.95 0.97 0.97
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 1.00 2.00 1.00 0.80 0.20
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 1900 2842 1805 1464  377
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35 0.39 0.08 0.07 0.32 0.09 0.09 0.30 0.23 0.12 0.41 0.41
Crit Moves:  ****                ****        ****                ****
Green/Cycle: 0.27 0.44 0.44 0.07 0.25 0.25 0.07 0.28 0.28 0.11 0.32 0.32
Volume/Cap:  1.29 0.88 0.17 0.88 1.29 0.35 1.29 1.07 0.81 1.07 1.29 1.29
Delay/Veh:  191.1 36.5 20.5 98.0 186 37.8 234.8 104 46.8 139.1 186 186.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 191.1 36.5 20.5 98.0 186 37.8 234.8 104 46.8 139.1 186 186.0
LOS by Move:    F    D    C    F    F    F    F    F    D    F    F    F
HCM2kAvgQ:    972 568   62  171 1028 110   321 752 366   325 1255 1255
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #25: 16th St / SR-59

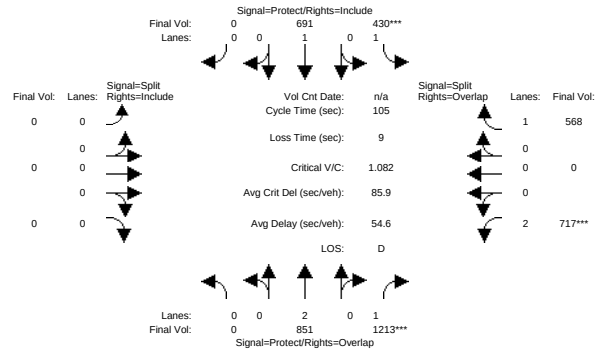



```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10   10     7   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  371  570   558  943    0     0    0    0   544    0  492
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0  371  570   558  943    0     0    0    0   544    0  492
Added Vol:      0   29    8     0    0    0     0    0    0    17    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  400  578   558  943    0     0    0    0   561    0  492
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0  400  578   558  943    0     0    0    0   561    0  492
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  400  578   558  943    0     0    0    0   561    0  492
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0  400  578   558  943    0     0    0    0   561    0  492
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.95 0.85  0.95 1.00 1.00  1.00 1.00 1.00  0.92 1.00 0.85
Lanes:       0.00 2.00 1.00  1.00 1.00 0.00  0.00 0.00 0.00  2.00 0.00 1.00
Final Sat.:     0 3610 1615  1805 1900    0     0    0    0  3502    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.11 0.36  0.31 0.50 0.00  0.00 0.00 0.00  0.16 0.00 0.30
Crit Moves:                ****  ****                          ****
Green/Cycle: 0.00 0.25 0.45  0.40 0.65 0.00  0.00 0.00 0.00  0.20 0.00 0.60
Volume/Cap:  0.00 0.45 0.79  0.77 0.77 0.00  0.00 0.00 0.00  0.78 0.00 0.51
Delay/Veh:    0.0 19.5 20.1  21.0 10.5  0.0   0.0  0.0  0.0  28.3  0.0  7.2
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 19.5 20.1  21.0 10.5  0.0   0.0  0.0  0.0  28.3  0.0  7.2
LOS by Move:    A    B    C     C    B    A     A    A    A     C    A    A
HCM2kAvgQ:      0   94  288   277  353    0     0    0    0   185    0  142
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #25: 16th St / SR-59

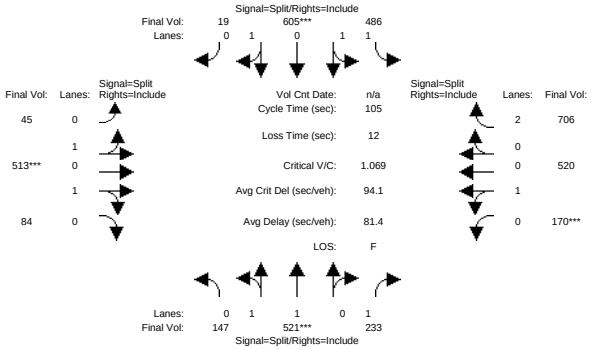



```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10   10     7   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  817 1196   430  691    0     0    0    0   709    0  568
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0  817 1196   430  691    0     0    0    0   709    0  568
Added Vol:      0   34   17     0    0    0     0    0    0     8    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  851 1213   430  691    0     0    0    0   717    0  568
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0  851 1213   430  691    0     0    0    0   717    0  568
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  851 1213   430  691    0     0    0    0   717    0  568
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0  851 1213   430  691    0     0    0    0   717    0  568
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.95 0.85  0.95 1.00 1.00  1.00 1.00 1.00  0.92 1.00 0.85
Lanes:       0.00 2.00 1.00  1.00 1.00 0.00  0.00 0.00 0.00  2.00 0.00 1.00
Final Sat.:     0 3610 1615  1805 1900    0     0    0    0  3502    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.24 0.75  0.24 0.36 0.00  0.00 0.00 0.00  0.20 0.00 0.35
Crit Moves:                ****  ****                          ****
Green/Cycle: 0.00 0.50 0.69  0.22 0.73 0.00  0.00 0.00 0.00  0.19 0.00 0.41
Volume/Cap:  0.00 0.47 1.08  1.08 0.50 0.00  0.00 0.00 0.00  1.08 0.00 0.86
Delay/Veh:    0.0 17.0 68.0 109.9  6.5  0.0   0.0  0.0  0.0 101.8  0.0 39.2
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 17.0 68.0 109.9  6.5  0.0   0.0  0.0  0.0 101.8  0.0 39.2
LOS by Move:    A    B    E     F    A    A     A    A    A     F    A    D
HCM2kAvgQ:      0  233 1368   555  243    0     0    0    0   489    0  488
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

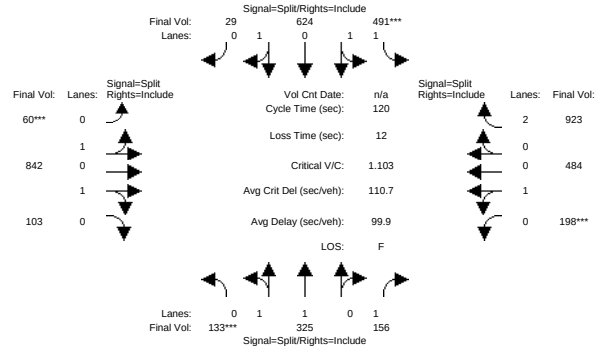



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     113  229   233  484  585    19   45  513    84  170  520   695
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  113  229   233  484  585    19   45  513    84  170  520   695
Added Vol:     34  292     0    2   20     0    0    0     0    0    0    11
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  147  521   233  486  605    19   45  513    84  170  520   706
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   147  521   233  486  605    19   45  513    84  170  520   706
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  147  521   233  486  605    19   45  513    84  170  520   706
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  147  521   233  486  605    19   45  513    84  170  520   706
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.94 0.94  0.85 0.93 0.93  0.93 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.44 1.56  1.00 1.31 1.64  0.05 0.14 1.60  0.26 0.25 0.75  2.00
Final Sat.:   786 2785  1615 2314 2881    90  247 2818   462  462 1415  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.19  0.14 0.21 0.21  0.21 0.18 0.18  0.18 0.37 0.37  0.25
Crit Moves:        ****            ****            ****            ****
Green/Cycle: 0.18 0.18  0.18 0.20 0.20  0.17 0.17 0.17  0.17 0.34 0.34  0.34
Volume/Cap:  1.07 1.07  0.82 1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  0.72
Delay/Veh:   99.1 99.1  59.3 90.4 90.4  90.4 100.1  100 100.1 89.7 89.7  32.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  99.1 99.1  59.3 90.4 90.4  90.4 100.1  100 100.1 89.7 89.7  32.7
LOS by Move:    F    F     E    F    F     F    F    F     F    F    F     C
HCM2kAvgQ:    461  461   242  502  502   502  446  446   446  815  815   313
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

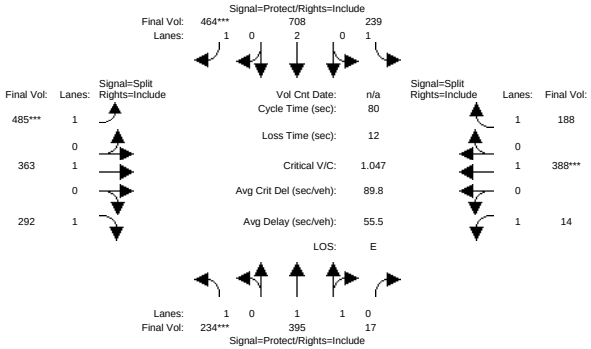



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     104  172   156  489  615    29   60  842   103  198  484   901
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  104  172   156  489  615    29   60  842   103  198  484   901
Added Vol:     29  153     0    2    9     0    0    0     0    0    0    22
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  133  325   156  491  624    29   60  842   103  198  484   923
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   133  325   156  491  624    29   60  842   103  198  484   923
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  133  325   156  491  624    29   60  842   103  198  484   923
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  133  325   156  491  624    29   60  842   103  198  484   923
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.94 0.94  0.85 0.93 0.93  0.93 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.58 1.42  1.00 1.29 1.64  0.07 0.12 1.68  0.20 0.29 0.71  2.00
Final Sat.:  1034 2526  1615 2266 2880   134  212 2970   363  544 1330  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.10 0.22 0.22  0.22 0.28 0.28  0.28 0.36 0.36  0.32
Crit Moves:  ****            ****            ****            ****
Green/Cycle: 0.12 0.12  0.12 0.20 0.20  0.20 0.26 0.26  0.26 0.33 0.33  0.33
Volume/Cap:  1.10 1.10  0.83 1.10 1.10  1.10 1.10 1.10  1.10 1.10 1.10  0.98
Delay/Veh:  128.1  128  77.0 108.9  109 108.9 106.8  107 106.8 108.0  108  65.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 128.1  128  77.0 108.9  109 108.9 106.8  107 106.8 108.0  108  65.3
LOS by Move:    F    F     E    F    F     F    F    F     F    F    F     E
HCM2kAvgQ:    378  378   198  580  580   580  736  736   736  919  919   623
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #29: 16th St / V St



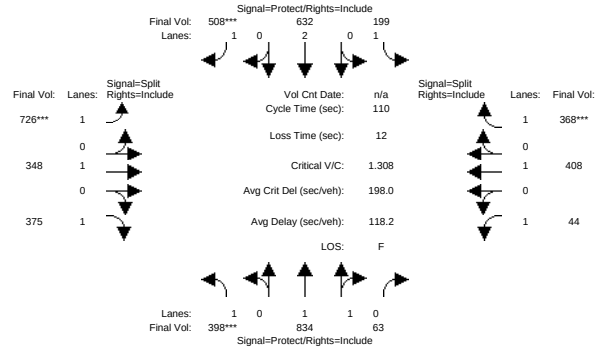
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	212	358	17	239	691	464	485	363	256	14	388	188
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	212	358	17	239	691	464	485	363	256	14	388	188
Added Vol:	22	37	0	0	17	0	0	0	36	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	395	17	239	708	464	485	363	292	14	388	188
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	395	17	239	708	464	485	363	292	14	388	188
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	395	17	239	708	464	485	363	292	14	388	188
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	395	17	239	708	464	485	363	292	14	388	188
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.92	0.08	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3440	148	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.11	0.11	0.13	0.20	0.29	0.27	0.19	0.18	0.01	0.20	0.12
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.19	0.19	0.20	0.27	0.27	0.26	0.26	0.26	0.20	0.20	0.20
Volume/Cap:	1.05	0.59	0.59	0.65	0.71	1.05	1.05	0.74	0.70	0.04	1.05	0.60
Delay/Veh:	108.1	30.8	30.8	33.1	28.7	84.6	84.3	33.5	32.4	26.2	91.7	32.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	108.1	30.8	30.8	33.1	28.7	84.6	84.3	33.5	32.4	26.2	91.7	32.4
LOS by Move:	F	C	C	C	C	F	F	C	C	C	F	C
HCM2kAvgQ:	213	121	121	163	243	483	423	210	166	7	419	129

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #29: 16th St / V St



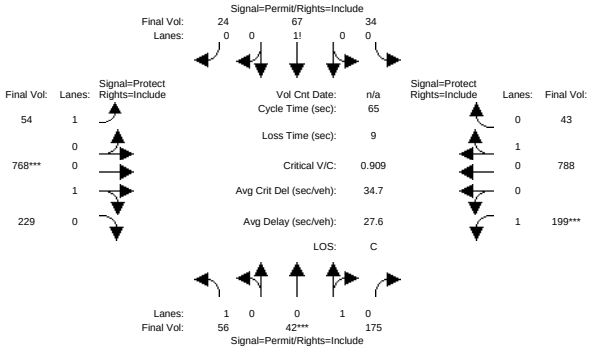
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	371	783	63	199	624	508	726	348	344	44	408	368
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	371	783	63	199	624	508	726	348	344	44	408	368
Added Vol:	27	51	0	0	8	0	0	0	31	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	398	834	63	199	632	508	726	348	375	44	408	368
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	398	834	63	199	632	508	726	348	375	44	408	368
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	398	834	63	199	632	508	726	348	375	44	408	368
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	398	834	63	199	632	508	726	348	375	44	408	368
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.86	0.14	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3323	251	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.22	0.25	0.25	0.11	0.18	0.31	0.40	0.18	0.23	0.02	0.21	0.23
Crit Moves:	****					****	****					****
Green/Cycle:	0.17	0.28	0.28	0.12	0.24	0.24	0.31	0.31	0.31	0.17	0.17	0.17
Volume/Cap:	1.31	0.88	0.88	0.88	0.73	1.31	1.31	0.60	0.75	0.14	1.23	1.31
Delay/Veh:	206.0	46.9	46.9	78.2	41.6	197.8	189.2	34.0	40.9	38.6	174	207.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	206.0	46.9	46.9	78.2	41.6	197.8	189.2	34.0	40.9	38.6	174	207.2
LOS by Move:	F	D	D	E	D	F	F	C	D	D	F	F
HCM2kAvgQ:	616	386	386	240	292	848	1122	238	281	32	647	633

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #37: 15th St / M St



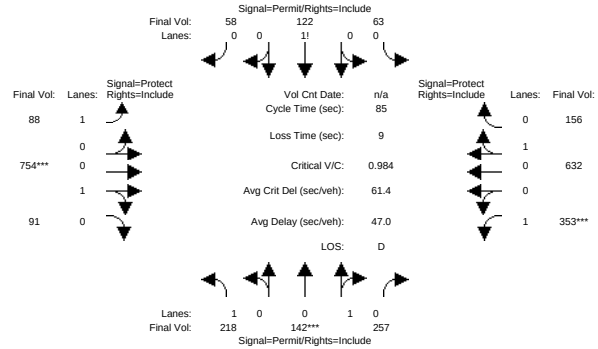
Street Name:	15th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	4	26	167	34	14	24	54	631	11	165	685	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	26	167	34	14	24	54	631	11	165	685	43
Added Vol:	52	16	8	0	53	0	0	137	218	34	103	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	42	175	34	67	24	54	768	229	199	788	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	42	175	34	67	24	54	768	229	199	788	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	42	175	34	67	24	54	768	229	199	788	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	42	175	34	67	24	54	768	229	199	788	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.88	0.88	0.62	0.62	0.62	0.95	0.97	0.97	0.95	0.99	0.99
Lanes:	1.00	0.19	0.81	0.27	0.54	0.19	1.00	0.77	0.23	1.00	0.95	0.05
Final Sat.:	1569	323	1347	319	629	225	1805	1414	422	1805	1787	98
Capacity Analysis Module:												
Vol/Sat:	0.04	0.13	0.13	0.11	0.11	0.11	0.03	0.54	0.54	0.11	0.44	0.44
Crit Moves:		****						****		****		
Green/Cycle:	0.15	0.15	0.15	0.15	0.15	0.15	0.14	0.59	0.59	0.12	0.57	0.57
Volume/Cap:	0.23	0.84	0.84	0.69	0.69	0.69	0.22	0.92	0.92	0.92	0.78	0.78
Delay/Veh:	24.6	48.5	48.5	37.0	37.0	37.0	25.3	24.9	24.9	68.9	14.4	14.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.6	48.5	48.5	37.0	37.0	37.0	25.3	24.9	24.9	68.9	14.4	14.4
LOS by Move:	C	D	D	D	D	D	C	C	C	E	B	B
HCM2kAvgQ:	24	122	122	98	98	98	23	496	496	121	326	326

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #37: 15th St / M St



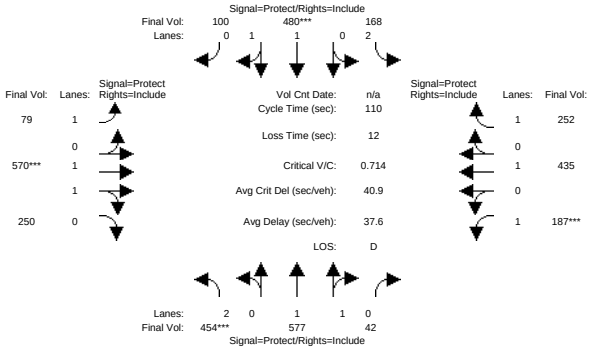
Street Name:	15th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	79	223	63	109	58	88	647	37	345	500	156
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	79	223	63	109	58	88	647	37	345	500	156
Added Vol:	208	63	34	0	13	0	0	107	54	8	132	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	218	142	257	63	122	58	88	754	91	353	632	156
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	218	142	257	63	122	58	88	754	91	353	632	156
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	218	142	257	63	122	58	88	754	91	353	632	156
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	218	142	257	63	122	58	88	754	91	353	632	156
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.73	0.90	0.90	0.61	0.61	0.61	0.95	0.98	0.98	0.95	0.97	0.97
Lanes:	1.00	0.36	0.64	0.26	0.50	0.24	1.00	0.89	0.11	1.00	0.80	0.20
Final Sat.:	1387	611	1105	301	583	277	1805	1668	201	1805	1478	365
Capacity Analysis Module:												
Vol/Sat:	0.16	0.23	0.23	0.21	0.21	0.21	0.05	0.45	0.45	0.20	0.43	0.43
Crit Moves:		****						****		****		
Green/Cycle:	0.24	0.24	0.24	0.24	0.24	0.24	0.11	0.46	0.46	0.20	0.55	0.55
Volume/Cap:	0.67	0.98	0.98	0.89	0.89	0.89	0.46	0.98	0.98	0.98	0.78	0.78
Delay/Veh:	34.5	72.7	72.7	58.6	58.6	58.6	37.4	49.5	49.5	77.1	18.7	18.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.5	72.7	72.7	58.6	58.6	58.6	37.4	49.5	49.5	77.1	18.7	18.7
LOS by Move:	C	E	E	E	E	E	D	D	D	E	B	B
HCM2kAvgQ:	127	313	313	236	236	236	52	639	639	269	392	392

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #38: 16th St / M St



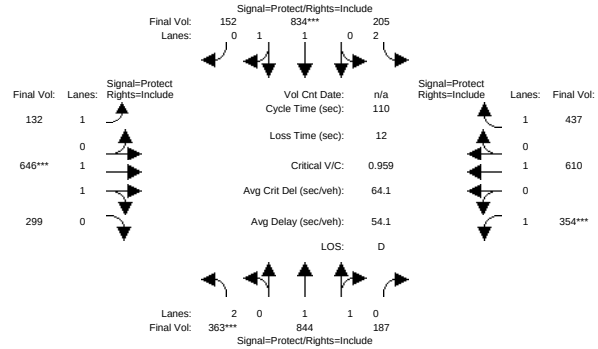
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	339		502	38	167		396	91	77		553	124	182		422	252
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	339		502	38	167		396	91	77		553	124	182		422	252
Added Vol:	115		75	4	1		84	9	2		17	126	5		13	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	454		577	42	168		480	100	79		570	250	187		435	252
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	454		577	42	168		480	100	79		570	250	187		435	252
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	454		577	42	168		480	100	79		570	250	187		435	252
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	454		577	42	168		480	100	79		570	250	187		435	252
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.92		0.94	0.94	0.92		0.93	0.93	0.95		0.91	0.91	0.95		1.00	0.85
Lanes:	2.00		1.86	0.14	2.00		1.66	0.34	1.00		1.39	0.61	1.00		1.00	1.00
Final Sat.:	3502		3331	242	3502		2910	606	1805		2394	1050	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.13		0.17	0.17	0.05		0.16	0.16	0.04		0.24	0.24	0.10		0.23	0.16
Crit Moves:	****						****				****		****			
Green/Cycle:	0.18		0.30	0.30	0.11		0.23	0.23	0.10		0.33	0.33	0.15		0.37	0.37
Volume/Cap:	0.71		0.57	0.57	0.43		0.71	0.71	0.42		0.71	0.71	0.71		0.61	0.42
Delay/Veh:	46.2		33.2	33.2	46.5		42.0	42.0	47.7		34.2	34.2	53.8		29.5	26.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	46.2		33.2	33.2	46.5		42.0	42.0	47.7		34.2	34.2	53.8		29.5	26.0
LOS by Move:	D		C	C	D		D	D	D		C	C	D		C	C
HCM2kAvgQ:	184		223	223	80		269	269	58		298	298	152		288	150

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #38: 16th St / M St



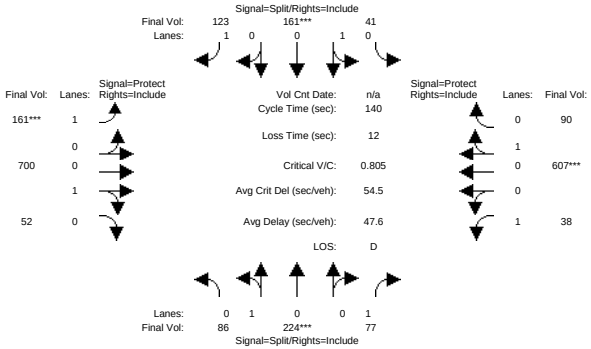
Street Name:	16th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	241		755	182	205		763	150	123		633	180	350		594	436
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	241		755	182	205		763	150	123		633	180	350		594	436
Added Vol:	122		89	5	0		71	2	9		13	119	4		16	1
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	363		844	187	205		834	152	132		646	299	354		610	437
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	363		844	187	205		834	152	132		646	299	354		610	437
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	363		844	187	205		834	152	132		646	299	354		610	437
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	363		844	187	205		834	152	132		646	299	354		610	437
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.92		0.92	0.92	0.92		0.93	0.93	0.95		0.91	0.91	0.95		1.00	0.85
Lanes:	2.00		1.64	0.36	2.00		1.69	0.31	1.00		1.37	0.63	1.00		1.00	1.00
Final Sat.:	3502		2875	637	3502		2983	544	1805		2352	1089	1805		1900	1615
Capacity Analysis Module:																
Vol/Sat:	0.10		0.29	0.29	0.06		0.28	0.28	0.07		0.27	0.27	0.20		0.32	0.27
Crit Moves:	****						****				****		****			
Green/Cycle:	0.11		0.33	0.33	0.07		0.29	0.29	0.09		0.29	0.29	0.20		0.40	0.40
Volume/Cap:	0.96		0.89	0.89	0.82		0.96	0.96	0.80		0.96	0.96	0.96		0.80	0.68
Delay/Veh:	84.2		44.2	44.2	69.6		57.1	57.1	73.0		58.0	58.0	79.3		35.3	30.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	84.2		44.2	44.2	69.6		57.1	57.1	73.0		58.0	58.0	79.3		35.3	30.0
LOS by Move:	F		D	D	E		E	E	E		E	E	E		D	C
HCM2kAvgQ:	179		445	445	142		559	559	102		401	401	317		438	287

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #41: Childs Ave / Martin Luther King Wy



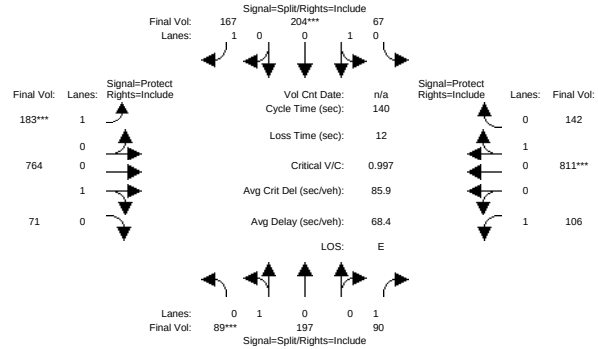
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	224	77	41	161	123	161	662	51	38	588	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	224	77	41	161	123	161	662	51	38	588	90
Added Vol:	0	0	0	0	0	0	0	38	1	0	19	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	86	224	77	41	161	123	161	700	52	38	607	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	224	77	41	161	123	161	700	52	38	607	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	224	77	41	161	123	161	700	52	38	607	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	224	77	41	161	123	161	700	52	38	607	90
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.99	0.99	0.85	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.20	0.80	1.00	1.00	0.93	0.07	1.00	0.87	0.13
Final Sat.:	520	1354	1615	382	1499	1615	1805	1751	130	1805	1623	241
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.05	0.11	0.11	0.08	0.09	0.40	0.40	0.02	0.37	0.37
Crit Moves:		****			****		****				****	
Green/Cycle:	0.21	0.21	0.21	0.13	0.13	0.13	0.11	0.51	0.51	0.06	0.46	0.46
Volume/Cap:	0.81	0.81	0.23	0.81	0.81	0.57	0.81	0.78	0.78	0.33	0.81	0.81
Delay/Veh:	64.7	64.7	46.8	76.0	76.0	60.5	81.5	32.1	32.1	64.3	37.6	37.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.7	64.7	46.8	76.0	76.0	60.5	81.5	32.1	32.1	64.3	37.6	37.6
LOS by Move:	E	E	D	E	E	E	F	C	C	E	D	D
HCM2kAvgQ:	364	364	70	261	261	142	220	675	675	38	650	650

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #41: Childs Ave / Martin Luther King Wy



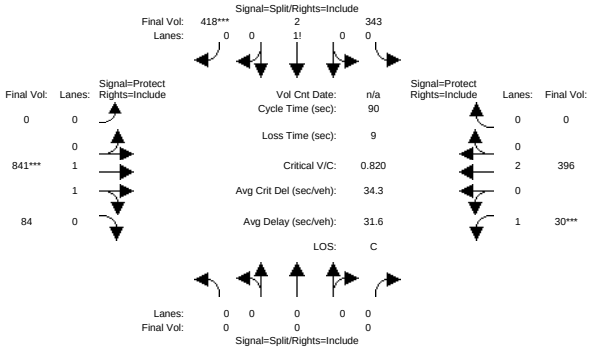
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	197	90	67	204	167	183	745	71	106	773	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	197	90	67	204	167	183	745	71	106	773	142
Added Vol:	1	0	0	0	0	0	0	19	0	0	38	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	197	90	67	204	167	183	764	71	106	811	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	197	90	67	204	167	183	764	71	106	811	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	197	90	67	204	167	183	764	71	106	811	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	197	90	67	204	167	183	764	71	106	811	142
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.99	0.99	0.85	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.31	0.69	1.00	0.25	0.75	1.00	1.00	0.91	0.09	1.00	0.85	0.15
Final Sat.:	582	1289	1615	464	1413	1615	1805	1716	159	1805	1581	277
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.06	0.14	0.14	0.10	0.10	0.45	0.45	0.06	0.51	0.51
Crit Moves:	****				****		****				****	
Green/Cycle:	0.15	0.15	0.15	0.14	0.14	0.14	0.10	0.54	0.54	0.07	0.51	0.51
Volume/Cap:	1.00	1.00	0.36	1.00	1.00	0.71	1.00	0.82	0.82	0.82	1.00	1.00
Delay/Veh:	111.5	111	54.1	113.5	113	67.1	128.3	31.5	31.5	95.9	62.2	62.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	111.5	111	54.1	113.5	113	67.1	128.3	31.5	31.5	95.9	62.2	62.2
LOS by Move:	F	F	D	F	F	E	F	C	C	F	E	E
HCM2kAvgQ:	426	426	92	408	408	205	297	763	763	122	1157	1157

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy



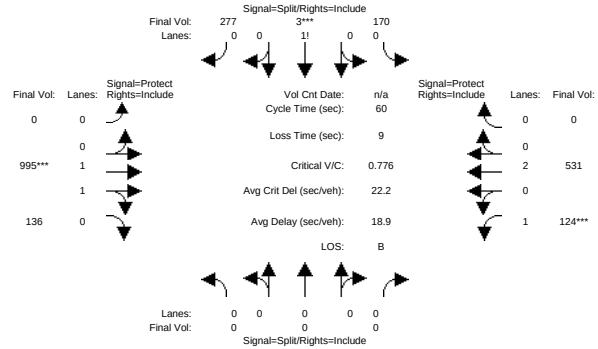
Street Name:	SR-99 SB Ramp						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	0	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	263	2	418	0	841	82	30	396	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	263	2	418	0	841	82	30	396	0
Added Vol:	0	0	0	80	0	0	0	0	2	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	343	2	418	0	841	84	30	396	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	343	2	418	0	841	84	30	396	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	343	2	418	0	841	84	30	396	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	343	2	418	0	841	84	30	396	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.87	0.87	0.87	1.00	0.94	0.94	0.95	0.95	1.00
Lanes:	0.00	0.00	0.00	0.45	0.01	0.54	0.00	1.82	0.18	1.00	2.00	0.00
Final Sat.:	0	0	0	743	4	905	0	3236	323	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.46	0.46	0.46	0.00	0.26	0.26	0.02	0.11	0.00
Crit Moves:						****		****		****		
Green/Cycle:	0.00	0.00	0.00	0.53	0.53	0.53	0.00	0.30	0.30	0.08	0.37	0.00
Volume/Cap:	0.00	0.00	0.00	0.88	0.88	0.88	0.00	0.88	0.88	0.21	0.29	0.00
Delay/Veh:	0.0	0.0	0.0	28.9	28.9	28.9	0.0	38.7	38.7	39.7	19.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	28.9	28.9	28.9	0.0	38.7	38.7	39.7	19.9	0.0
LOS by Move:	A	A	A	C	C	C	A	D	D	D	B	A
HCM2kAvgQ:	0	0	0	549	549	549	0	343	343	19	96	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy



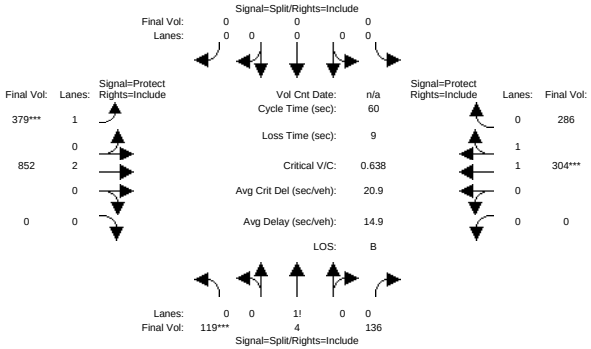
Street Name:	SR-99 SB Ramp						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	150	3	277	0	995	127	124	531	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	150	3	277	0	995	127	124	531	0
Added Vol:	0	0	0	20	0	0	0	0	9	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	170	3	277	0	995	136	124	531	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	170	3	277	0	995	136	124	531	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	170	3	277	0	995	136	124	531	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	170	3	277	0	995	136	124	531	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.87	0.87	0.87	1.00	0.93	0.93	0.95	0.95	1.00
Lanes:	0.00	0.00	0.00	0.38	0.01	0.61	0.00	1.76	0.24	1.00	2.00	0.00
Final Sat.:	0	0	0	625	11	1018	0	3119	426	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.27	0.27	0.27	0.00	0.32	0.32	0.07	0.15	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.34	0.34	0.34	0.00	0.40	0.40	0.12	0.51	0.00
Volume/Cap:	0.00	0.00	0.00	0.81	0.81	0.81	0.00	0.81	0.81	0.59	0.29	0.00
Delay/Veh:	0.0	0.0	0.0	26.5	26.5	26.5	0.0	19.6	19.6	29.5	8.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	26.5	26.5	26.5	0.0	19.6	19.6	29.5	8.4	0.0
LOS by Move:	A	A	A	C	C	C	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	254	254	254	0	233	233	53	69	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy



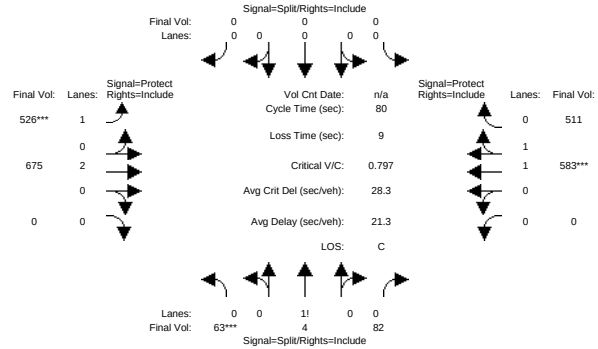
Street Name:	SR-99 NB Ramps						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	119	4	136	0	0	0	379	772	0	0	304	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	119	4	136	0	0	0	379	772	0	0	304	274
Added Vol:	0	0	0	0	0	0	0	80	0	0	0	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	119	4	136	0	0	0	379	852	0	0	304	286
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	119	4	136	0	0	0	379	852	0	0	304	286
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	119	4	136	0	0	0	379	852	0	0	304	286
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	119	4	136	0	0	0	379	852	0	0	304	286
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.88	0.88
Lanes:	0.46	0.02	0.52	0.00	0.00	0.00	1.00	2.00	0.00	0.00	1.03	0.97
Final Sat.:	761	26	869	0	0	0	1805	3610	0	0	1724	1622
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.16	0.00	0.00	0.00	0.21	0.24	0.00	0.00	0.18	0.18
Crit Moves:	****						****				****	
Green/Cycle:	0.25	0.25	0.25	0.00	0.00	0.00	0.33	0.60	0.00	0.00	0.28	0.28
Volume/Cap:	0.64	0.64	0.64	0.00	0.00	0.00	0.64	0.39	0.00	0.00	0.64	0.64
Delay/Veh:	23.7	23.7	23.7	0.0	0.0	0.0	19.4	6.2	0.0	0.0	20.6	20.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.7	23.7	23.7	0.0	0.0	0.0	19.4	6.2	0.0	0.0	20.6	20.6
LOS by Move:	C	C	C	A	A	A	B	A	A	A	C	C
HCM2kAvgQ:	137	137	137	0	0	0	140	100	0	0	128	128

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy



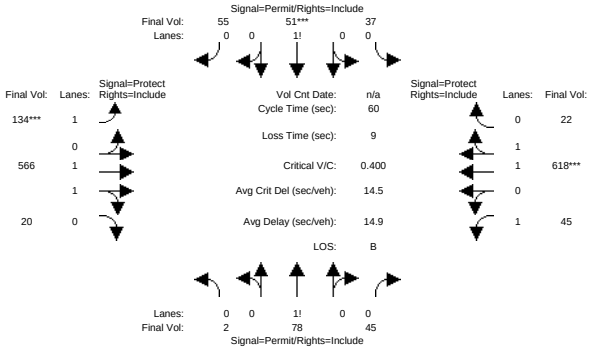
Street Name:	SR-99 NB Ramps						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	63	4	82	0	0	0	526	655	0	0	583	464
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	63	4	82	0	0	0	526	655	0	0	583	464
Added Vol:	0	0	0	0	0	0	0	20	0	0	0	47
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	63	4	82	0	0	0	526	675	0	0	583	511
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	4	82	0	0	0	526	675	0	0	583	511
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	4	82	0	0	0	526	675	0	0	583	511
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	4	82	0	0	0	526	675	0	0	583	511
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.88	0.88
Lanes:	0.42	0.03	0.55	0.00	0.00	0.00	1.00	2.00	0.00	0.00	1.07	0.93
Final Sat.:	702	45	913	0	0	0	1805	3610	0	0	1789	1568
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.00	0.00	0.00	0.29	0.19	0.00	0.00	0.33	0.33
Crit Moves:	****						****				****	
Green/Cycle:	0.13	0.13	0.13	0.00	0.00	0.00	0.36	0.76	0.00	0.00	0.40	0.40
Volume/Cap:	0.72	0.72	0.72	0.00	0.00	0.00	0.81	0.25	0.00	0.00	0.81	0.81
Delay/Veh:	45.1	45.1	45.1	0.0	0.0	0.0	30.6	2.8	0.0	0.0	25.0	25.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.1	45.1	45.1	0.0	0.0	0.0	30.6	2.8	0.0	0.0	25.0	25.0
LOS by Move:	D	D	D	A	A	A	C	A	A	A	C	C
HCM2kAvgQ:	130	130	130	0	0	0	288	61	0	0	322	322

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #45: 14th St / Martin Luther King Wy



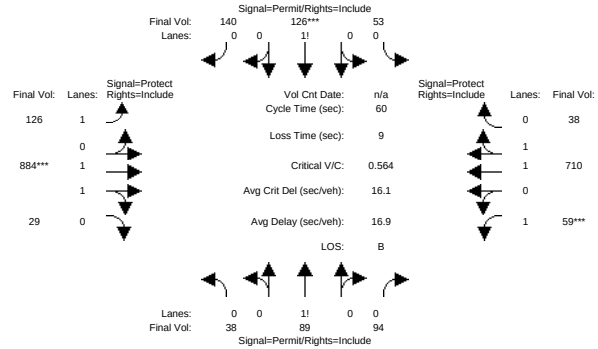
Street Name:	14th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	2	69	45	37	51	43	54	566	20	45	618	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	69	45	37	51	43	54	566	20	45	618	22
Added Vol:	0	9	0	0	0	12	80	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	78	45	37	51	55	134	566	20	45	618	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	78	45	37	51	55	134	566	20	45	618	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	78	45	37	51	55	134	566	20	45	618	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	78	45	37	51	55	134	566	20	45	618	22
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.86	0.86	0.86	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.02	0.62	0.36	0.26	0.36	0.38	1.00	1.93	0.07	1.00	1.93	0.07
Final Sat.:	29	1123	648	422	581	627	1805	3469	123	1805	3468	123
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.09	0.09	0.09	0.07	0.16	0.16	0.02	0.18	0.18
Crit Moves:					****		****				****	
Green/Cycle:	0.22	0.22	0.22	0.22	0.22	0.22	0.19	0.37	0.37	0.26	0.45	0.45
Volume/Cap:	0.32	0.32	0.32	0.40	0.40	0.40	0.40	0.44	0.44	0.10	0.40	0.40
Delay/Veh:	20.1	20.1	20.1	20.8	20.8	20.8	22.3	14.4	14.4	16.9	11.4	11.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.1	20.1	20.1	20.8	20.8	20.8	22.3	14.4	14.4	16.9	11.4	11.4
LOS by Move:	C	C	C	C	C	C	C	B	B	B	B	B
HCM2kAvgQ:	47	47	47	56	56	56	53	104	104	15	103	103

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #45: 14th St / Martin Luther King Wy



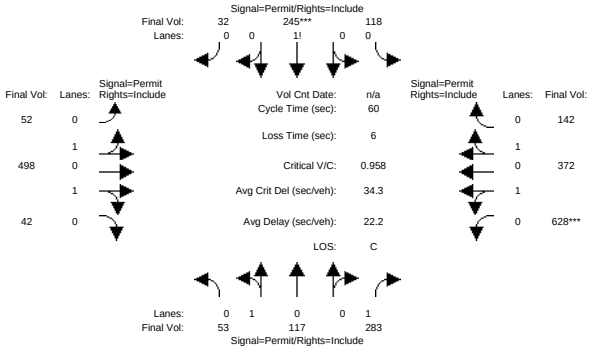
Street Name:	14th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	38	87	94	53	126	93	106	884	29	59	710	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	38	87	94	53	126	93	106	884	29	59	710	38
Added Vol:	0	2	0	0	0	47	20	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	89	94	53	126	140	126	884	29	59	710	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	89	94	53	126	140	126	884	29	59	710	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	89	94	53	126	140	126	884	29	59	710	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	38	89	94	53	126	140	126	884	29	59	710	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	0.87	0.87	0.87	0.95	0.95	0.95	0.95	0.94	0.94
Lanes:	0.17	0.40	0.43	0.17	0.39	0.44	1.00	1.94	0.06	1.00	1.90	0.10
Final Sat.:	284	665	703	275	653	726	1805	3478	114	1805	3399	182
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.13	0.19	0.19	0.19	0.07	0.25	0.25	0.03	0.21	0.21
Crit Moves:					****			****			****	
Green/Cycle:	0.32	0.32	0.32	0.32	0.32	0.32	0.19	0.42	0.42	0.12	0.34	0.34
Volume/Cap:	0.42	0.42	0.42	0.61	0.61	0.61	0.37	0.61	0.61	0.28	0.61	0.61
Delay/Veh:	16.7	16.7	16.7	19.5	19.5	19.5	21.8	14.4	14.4	24.9	17.3	17.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.7	16.7	16.7	19.5	19.5	19.5	21.8	14.4	14.4	24.9	17.3	17.3
LOS by Move:	B	B	B	B	B	B	C	B	B	C	B	B
HCM2kAvgQ:	79	79	79	126	126	126	50	174	174	24	151	151

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #48: 13th St / G St



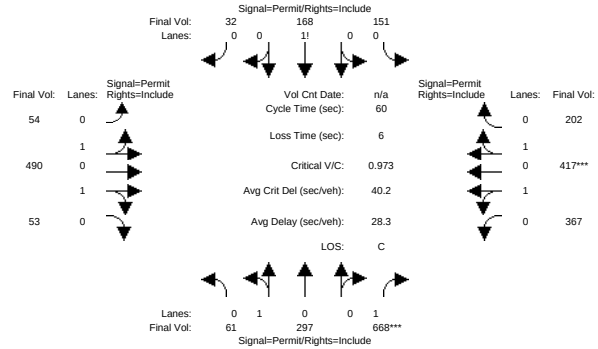
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	117	283	118	245	32	52	497	42	628	372	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	117	283	118	245	32	52	497	42	628	372	142
Added Vol:	0	0	0	0	0	0	0	1	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	117	283	118	245	32	52	498	42	628	372	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	117	283	118	245	32	52	498	42	628	372	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	117	283	118	245	32	52	498	42	628	372	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	117	283	118	245	32	52	498	42	628	372	142
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.77	0.85	0.81	0.81	0.81	0.76	0.76	0.76	0.55	0.55	0.55
Lanes:	0.31	0.69	1.00	0.30	0.62	0.08	0.18	1.68	0.14	1.00	0.72	0.28
Final Sat.:	455	1004	1615	460	955	125	255	2439	206	1038	751	287
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.18	0.26	0.26	0.26	0.20	0.20	0.20	0.61	0.50	0.50
Crit Moves:					****					****		
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.63	0.63	0.63	0.63	0.63	0.63
Volume/Cap:	0.43	0.43	0.65	0.96	0.96	0.96	0.32	0.32	0.32	0.96	0.78	0.78
Delay/Veh:	19.0	19.0	23.1	55.0	55.0	55.0	5.2	5.2	5.2	27.2	10.9	10.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.0	19.0	23.1	55.0	55.0	55.0	5.2	5.2	5.2	27.2	10.9	10.9
LOS by Move:	B	B	C	E	E	E	A	A	A	C	B	B
HCM2kAvgQ:	77	77	148	221	221	221	72	72	72	360	197	197

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #48: 13th St / G St



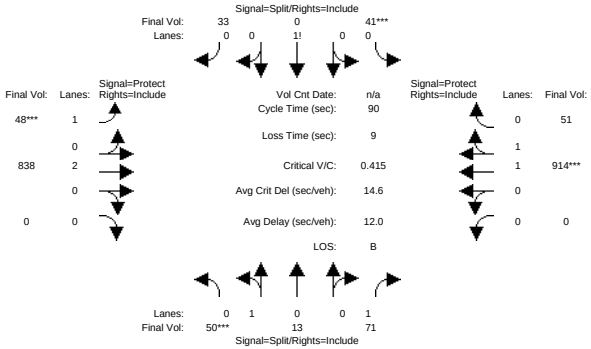
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	61	297	668	151	168	32	54	490	53	367	416	202
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	297	668	151	168	32	54	490	53	367	416	202
Added Vol:	0	0	0	0	0	0	0	0	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	297	668	151	168	32	54	490	53	367	417	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	297	668	151	168	32	54	490	53	367	417	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	297	668	151	168	32	54	490	53	367	417	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	297	668	151	168	32	54	490	53	367	417	202
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.90	0.85	0.63	0.63	0.63	0.76	0.76	0.76	0.56	0.56	0.56
Lanes:	0.17	0.83	1.00	0.43	0.48	0.09	0.18	1.64	0.18	0.74	0.85	0.41
Final Sat.:	291	1415	1615	511	569	108	262	2381	257	794	902	437
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.41	0.30	0.30	0.30	0.21	0.21	0.21	0.46	0.46	0.46
Crit Moves:			****								****	
Green/Cycle:	0.43	0.43	0.43	0.43	0.43	0.43	0.47	0.47	0.47	0.47	0.47	0.47
Volume/Cap:	0.49	0.49	0.97	0.69	0.69	0.69	0.43	0.43	0.43	0.97	0.97	0.97
Delay/Veh:	13.1	13.1	44.5	18.3	18.3	18.3	10.6	10.6	10.6	37.2	37.2	37.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.1	13.1	44.5	18.3	18.3	18.3	10.6	10.6	10.6	37.2	37.2	37.2
LOS by Move:	B	B	D	B	B	B	B	B	B	D	D	D
HCM2kAvgQ:	132	132	474	125	125	125	105	105	105	300	300	300

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #49: SR-99 - 14th St / G St

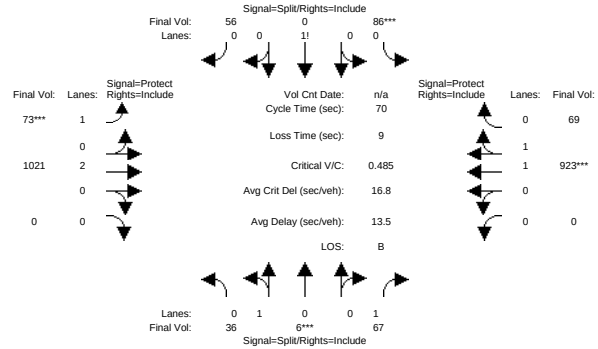



```
Street Name: SR-99 NB Off-Ramp - 14th Street              G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10    0    10     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      50    4    71   41    0    33    48  837     0     0  908    51
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   50    4    71   41    0    33    48  837     0     0  908    51
Added Vol:      0    9     0    0    0     0     0    1     0     0    6     0
PasserByVol:    0    0     0    0    0     0     0    0     0     0    0     0
Initial Fut:   50   13    71   41    0    33    48  838     0     0  914    51
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    50   13    71   41    0    33    48  838     0     0  914    51
Reduct Vol:     0    0     0    0    0     0     0    0     0     0    0     0
Reduced Vol:   50   13    71   41    0    33    48  838     0     0  914    51
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   50   13    71   41    0    33    48  838     0     0  914    51
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.96 0.96  0.85 0.91 1.00  0.91  0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       0.79 0.21  1.00 0.55 0.00  0.45  1.00 2.00  0.00  0.00 1.89  0.11
Final Sat.:  1451  377  1615  963    0   775  1805 3610     0     0 3392   189
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.03  0.04 0.04 0.00  0.04  0.03 0.23  0.00  0.00 0.27  0.27
Crit Moves:  ****            ****            ****                  ****
Green/Cycle: 0.11 0.11  0.11 0.11 0.00  0.11  0.08 0.68  0.00  0.00 0.60  0.60
Volume/Cap:  0.31 0.31  0.40 0.38 0.00  0.38  0.34 0.34  0.00  0.00 0.45  0.45
Delay/Veh:   37.7 37.7  38.6 38.4  0.0  38.4  40.8  6.2   0.0   0.0 10.0  10.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  37.7 37.7  38.6 38.4  0.0  38.4  40.8  6.2   0.0   0.0 10.0  10.0
LOS by Move:    D    D     D    D    A     D     D    A     A     A    B     B
HCM2kAvgQ:     47   47    57   47    0    47    31  126     0     0  179   179
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #49: SR-99 - 14th St / G St

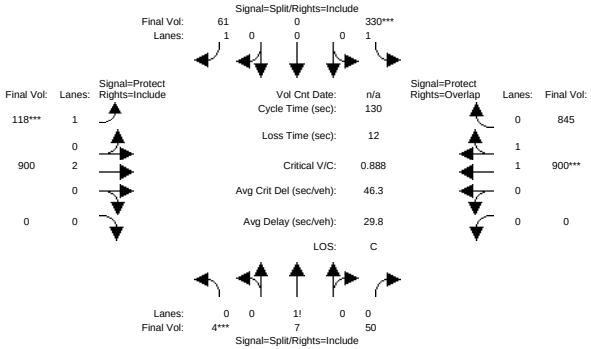



```
Street Name: SR-99 NB Off-Ramp - 14th Street              G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10    0    10     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36    4    67   86    0    56    73 1021     0     0  914    69
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36    4    67   86    0    56    73 1021     0     0  914    69
Added Vol:      0    2     0    0    0     0     0    0     0     0    9     0
PasserByVol:    0    0     0    0    0     0     0    0     0     0    0     0
Initial Fut:   36    6    67   86    0    56    73 1021     0     0  923    69
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    36    6    67   86    0    56    73 1021     0     0  923    69
Reduct Vol:     0    0     0    0    0     0     0    0     0     0    0     0
Reduced Vol:   36    6    67   86    0    56    73 1021     0     0  923    69
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   36    6    67   86    0    56    73 1021     0     0  923    69
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.96 0.96  0.85 0.92 1.00  0.92  0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       0.86 0.14  1.00 0.61 0.00  0.39  1.00 2.00  0.00  0.00 1.86  0.14
Final Sat.:  1562  260  1615 1058    0   689  1805 3610     0     0 3325   249
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.02  0.04 0.08 0.00  0.08  0.04 0.28  0.00  0.00 0.28  0.28
Crit Moves:       ****        ****            ****                  ****
Green/Cycle: 0.14 0.14  0.14 0.14 0.00  0.14  0.10 0.59  0.00  0.00 0.49  0.49
Volume/Cap:  0.16 0.16  0.29 0.57 0.00  0.57  0.40 0.48  0.00  0.00 0.57  0.57
Delay/Veh:   26.6 26.6  27.5 31.1  0.0  31.1  31.0  8.6   0.0   0.0 13.3  13.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  26.6 26.6  27.5 31.1  0.0  31.1  31.0  8.6   0.0   0.0 13.3  13.3
LOS by Move:    C    C     C    C    A     C     C    A     A     A    B     B
HCM2kAvgQ:     23   23    39   71    0    71    37  164     0     0  184   184
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

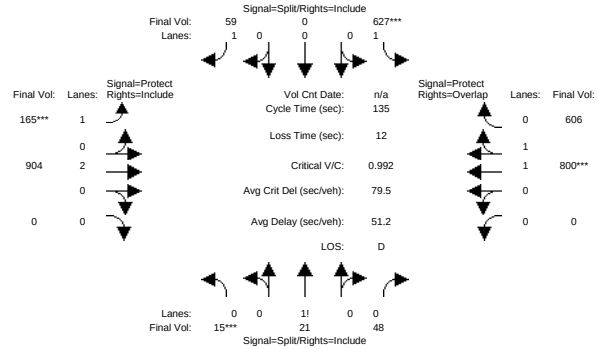



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10    0   10     7   10     0     0   10   10
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0   4.0  4.0   4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    6    50  330    0   61   118  889     0     0  879  844
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
Initial Bse:    4    6    50  330    0   61   118  889     0     0  879  844
Added Vol:      0    1     0    0    0    0     0   11     0     0   21    1
PasserByVol:    0    0     0    0    0    0     0    0     0     0    0    0
Initial Fut:    4    7    50  330    0   61   118  900     0     0  900  845
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
PHF Volume:     4    7    50  330    0   61   118  900     0     0  900  845
Reduct Vol:     0    0     0    0    0    0     0    0     0     0    0    0
Reduced Vol:    4    7    50  330    0   61   118  900     0     0  900  845
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
FinalVolume:    4    7    50  330    0   61   118  900     0     0  900  845
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900  1900 1900  1900  1900 1900 1900
Adjustment:  0.89 0.89  0.89 0.95 1.00 0.85  0.95 0.95  1.00  1.00 0.88 0.88
Lanes:       0.07 0.11  0.82 1.00 0.00 1.00  1.00 2.00  0.00  0.00 1.03 0.97
Final Sat.:   110  193  1380 1805    0 1615  1805 3610     0     0 1726 1620
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.04  0.04 0.18 0.00 0.04  0.07 0.25  0.00  0.00 0.52 0.52
Crit Moves:  ****            ****            ****                 ****
Green/Cycle: 0.08 0.08  0.08 0.20 0.00 0.20  0.07 0.63  0.00  0.00 0.56 0.76
Volume/Cap:  0.47 0.47  0.47 0.93 0.00 0.19  0.93 0.39  0.00  0.00 0.93 0.69
Delay/Veh:   60.2 60.2  60.2 80.9  0.0 43.8 117.5 11.7   0.0   0.0 34.4  8.6
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
AdjDel/Veh:  60.2 60.2  60.2 80.9  0.0 43.8 117.5 11.7   0.0   0.0 34.4  8.6
LOS by Move:    E    E     E    F    A    D     F    B     A     A    C    A
HCM2kAvgQ:     73   73    73  417    0   52   188  225     0     0  779  420
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

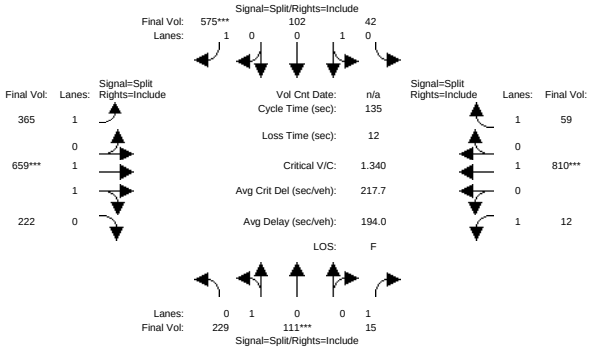



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10    0   10     7   10     0     0   10   10
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0   4.0  4.0   4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   21    48  626    0   59   165  883     0     0  789  606
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
Initial Bse:   15   21    48  626    0   59   165  883     0     0  789  606
Added Vol:      0    0     0    1    0    0     0   21     0     0   11    0
PasserByVol:    0    0     0    0    0    0     0    0     0     0    0    0
Initial Fut:   15   21    48  627    0   59   165  904     0     0  800  606
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
PHF Volume:    15   21    48  627    0   59   165  904     0     0  800  606
Reduct Vol:     0    0     0    0    0    0     0    0     0     0    0    0
Reduced Vol:   15   21    48  627    0   59   165  904     0     0  800  606
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
FinalVolume:   15   21    48  627    0   59   165  904     0     0  800  606
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900  1900 1900  1900  1900 1900 1900
Adjustment:  0.91 0.91  0.91 0.95 1.00 0.85  0.95 0.95  1.00  1.00 0.89 0.89
Lanes:       0.18 0.25  0.57 1.00 0.00 1.00  1.00 2.00  0.00  0.00 1.14 0.86
Final Sat.:   310  434   993 1805    0 1615  1805 3610     0     0 1921 1455
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.05  0.05 0.35 0.00 0.04  0.09 0.25  0.00  0.00 0.42 0.42
Crit Moves:  ****            ****            ****                 ****
Green/Cycle: 0.07 0.07  0.07 0.34 0.00 0.34  0.09 0.50  0.00  0.00 0.41 0.75
Volume/Cap:  0.65 0.65  0.65 1.02 0.00 0.11  1.02 0.50  0.00  0.00 1.02 0.56
Delay/Veh:   72.2 72.2  72.2 86.5  0.0 30.6 138.1 23.0   0.0   0.0 69.9  7.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00 1.00
AdjDel/Veh:  72.2 72.2  72.2 86.5  0.0 30.6 138.1 23.0   0.0   0.0 69.9  7.7
LOS by Move:    E    E     E    F    A    C     F    C     A     A    E    A
HCM2kAvgQ:    114  114   114  831    0   41   274  324     0     0  785  303
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)



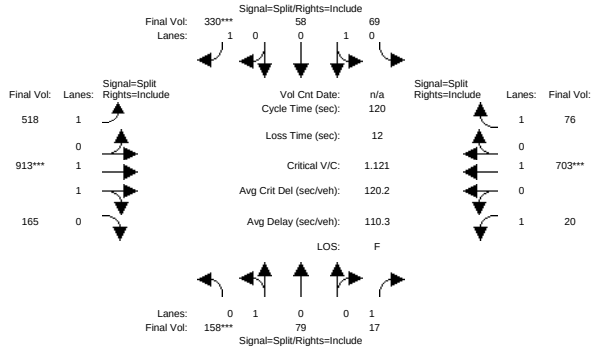
Street Name:	Motel Drive - Glen Avenue						Yosemite Parkway (SR-140)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	229	111	15	42	102	575	365	648	222	12	788	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	229	111	15	42	102	575	365	648	222	12	788	59
Added Vol:	0	0	0	0	0	0	0	11	0	0	22	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	229	111	15	42	102	575	365	659	222	12	810	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	229	111	15	42	102	575	365	659	222	12	810	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	229	111	15	42	102	575	365	659	222	12	810	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	229	111	15	42	102	575	365	659	222	12	810	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.99	0.99	0.85	0.95	0.91	0.91	0.95	1.00	0.85
Lanes:	0.67	0.33	1.00	0.29	0.71	1.00	1.00	1.50	0.50	1.00	1.00	1.00
Final Sat.:	1237	600	1615	546	1327	1615	1805	2598	875	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.01	0.08	0.08	0.36	0.20	0.25	0.25	0.01	0.43	0.04
Crit Moves:		****				****		****			****	
Green/Cycle:	0.14	0.14	0.14	0.27	0.27	0.27	0.19	0.19	0.19	0.32	0.32	0.32
Volume/Cap:	1.34	1.34	0.07	0.29	0.29	1.34	1.07	1.34	1.34	0.02	1.34	0.11
Delay/Veh:	235.4	235	50.7	39.8	39.8	217.7	122.7	218	217.9	31.6	210	32.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	235.4	235	50.7	39.8	39.8	217.7	122.7	218	217.9	31.6	210	32.7
LOS by Move:	F	F	D	D	D	F	F	F	F	C	F	C
HCM2kAvgQ:	665	665	14	117	117	1078	495	841	841	8	1489	42

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)



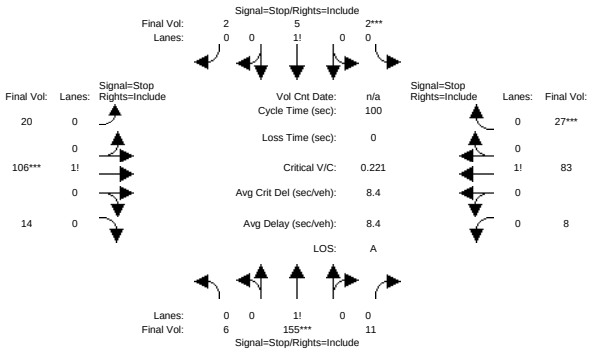
Street Name:	Motel Drive - Glen Avenue						Yosemite Parkway (SR-140)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	158	79	17	69	58	330	518	891	165	20	692	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	158	79	17	69	58	330	518	891	165	20	692	76
Added Vol:	0	0	0	0	0	0	0	22	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	158	79	17	69	58	330	518	913	165	20	703	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	158	79	17	69	58	330	518	913	165	20	703	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	158	79	17	69	58	330	518	913	165	20	703	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	158	79	17	69	58	330	518	913	165	20	703	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.97	0.97	0.85	0.95	0.93	0.93	0.95	1.00	0.85
Lanes:	0.67	0.33	1.00	0.54	0.46	1.00	1.00	1.69	0.31	1.00	1.00	1.00
Final Sat.:	1226	613	1615	1005	845	1615	1805	2987	540	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.01	0.07	0.07	0.20	0.29	0.31	0.31	0.01	0.37	0.05
Crit Moves:	****					****		****			****	
Green/Cycle:	0.11	0.11	0.11	0.18	0.18	0.18	0.27	0.27	0.27	0.33	0.33	0.33
Volume/Cap:	1.12	1.12	0.09	0.38	0.38	1.12	1.05	1.12	1.12	0.03	1.12	0.14
Delay/Veh:	151.3	151	47.7	43.8	43.8	138.1	98.7	112	111.9	27.3	114	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	151.3	151	47.7	43.8	43.8	138.1	98.7	112	111.9	27.3	114	28.4
LOS by Move:	F	F	D	D	D	F	F	F	F	C	F	C
HCM2kAvgQ:	379	379	15	108	108	501	614	741	741	12	967	49

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #56: 14th St / O St



Street Name:	14th Street									O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	6	33	11	2	5	2	20	106	14	8	83	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	33	11	2	5	2	20	106	14	8	83	13
Added Vol:	0	122	0	0	0	0	0	0	0	0	0	14
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	155	11	2	5	2	20	106	14	8	83	27
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	155	11	2	5	2	20	106	14	8	83	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	155	11	2	5	2	20	106	14	8	83	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	155	11	2	5	2	20	106	14	8	83	27
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.03	0.91	0.06	0.22	0.56	0.22	0.14	0.76	0.10	0.07	0.70	0.23
Final Sat.:	27	700	50	164	411	164	113	597	79	54	562	183
Capacity Analysis Module:												
Vol/Sat:	0.22	0.22	0.22	0.01	0.01	0.01	0.18	0.18	0.18	0.15	0.15	0.15
Crit Moves:		****		****				****				****
Delay/Veh:	8.6	8.6	8.6	7.6	7.6	7.6	8.3	8.3	8.3	8.1	8.1	8.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.6	8.6	8.6	7.6	7.6	7.6	8.3	8.3	8.3	8.1	8.1	8.1
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.6			7.6			8.3			8.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.6			7.6			8.3			8.1	
LOS by Appr:		A			A			A			A	
AllWayAvgQ:	6.4	6.4	6.4	0.3	0.3	0.3	5.0	5.0	5.0	4.0	4.0	4.0

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #56 14th St / O St

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L -	T -	R		L -	T -	R		L -	T -	R		L -	T -	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0	0	0	1!	0	0	0	1!	0	0	0	1!	0
Initial Vol:	6	155		11	2	5		2	20	106		14	8	83		27

Major Street Volume: 258
Minor Approach Volume: 172
Minor Approach Volume Threshold: 581

SIGNAL WARRANT DISCLAIMER

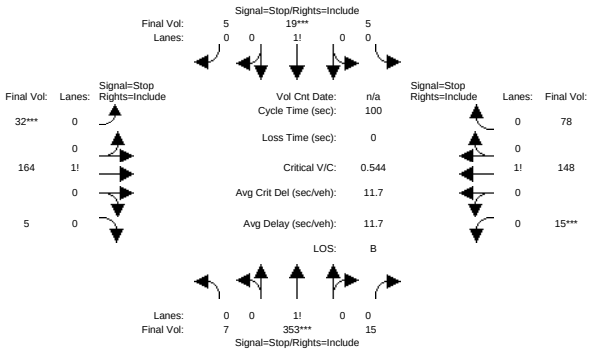
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  107    15     5   19     5    32  164     5    15  148    21
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7  107    15     5   19     5    32  164     5    15  148    21
Added Vol:      0  246     0     0    0     0     0    0     0     0    0    57
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7  353    15     5   19     5    32  164     5    15  148    78
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7  353    15     5   19     5    32  164     5    15  148    78
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    7  353    15     5   19     5    32  164     5    15  148    78
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    7  353    15     5   19     5    32  164     5    15  148    78
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.94  0.04  0.17 0.66  0.17  0.16 0.82  0.02  0.06 0.62  0.32
Final Sat.:    13  648    28   100  382   100   102  523    16    42  413   218
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.54 0.54  0.54  0.05 0.05  0.05  0.31 0.31  0.31  0.36 0.36  0.36
Crit Moves:        ****               ****        ****               ****
Delay/Veh:   13.4 13.4  13.4   8.7  8.7   8.7  10.5 10.5  10.5  10.6 10.6  10.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  13.4 13.4  13.4   8.7  8.7   8.7  10.5 10.5  10.5  10.6 10.6  10.6
LOS by Move:    B    B     B     A    A     A     B    B     B     B    B     B
ApproachDel:      13.4               8.7              10.5              10.6
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       13.4               8.7              10.5              10.6
LOS by Appr:         B                 A                 B                 B
AllWayAvgQ:  25.7 25.7  25.7   1.0  1.0   1.0   9.8  9.8   9.8  11.9 11.9  11.9
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
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Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  353    15     5   19     5    32  164     5    15  148    78
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             442
Minor Approach Volume:           375
Minor Approach Volume Threshold: 437
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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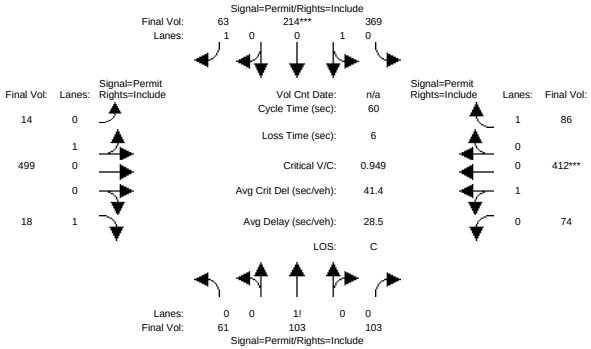
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #57: 13th St / M St



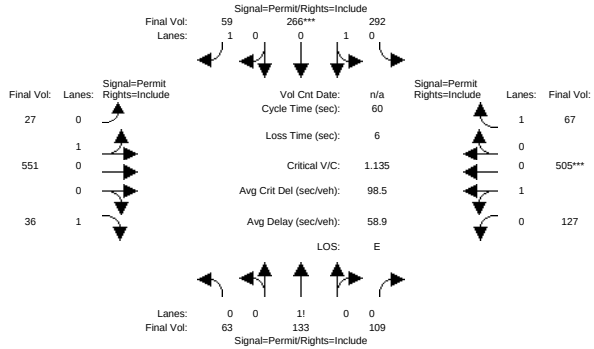
Street Name:	13th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	61	103	85	141	214	63	14	480	18	62	402	86
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	103	85	141	214	63	14	480	18	62	402	86
Added Vol:	0	0	18	228	0	0	0	19	0	12	10	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	103	103	369	214	63	14	499	18	74	412	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	103	103	369	214	63	14	499	18	74	412	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	103	103	369	214	63	14	499	18	74	412	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	103	103	369	214	63	14	499	18	74	412	86
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.72	0.72	0.65	0.65	0.85	0.99	0.99	0.85	0.67	0.67	0.85
Lanes:	0.23	0.39	0.38	0.63	0.37	1.00	0.03	0.97	1.00	0.15	0.85	1.00
Final Sat.:	314	531	531	784	455	1615	51	1820	1615	193	1074	1615
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.19	0.47	0.47	0.04	0.27	0.27	0.01	0.38	0.38	0.05
Crit Moves:					****						****	
Green/Cycle:	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.40	0.40	0.40	0.40	0.40
Volume/Cap:	0.39	0.39	0.39	0.95	0.95	0.08	0.68	0.68	0.03	0.95	0.95	0.13
Delay/Veh:	9.8	9.8	9.8	38.7	38.7	8.0	17.2	17.2	10.8	44.7	44.7	11.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.8	9.8	9.8	38.7	38.7	8.0	17.2	17.2	10.8	44.7	44.7	11.3
LOS by Move:	A	A	A	D	D	A	B	B	B	D	D	B
HCM2kAvgQ:	74	74	74	401	401	16	225	225	5	276	276	24

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #57: 13th St / M St



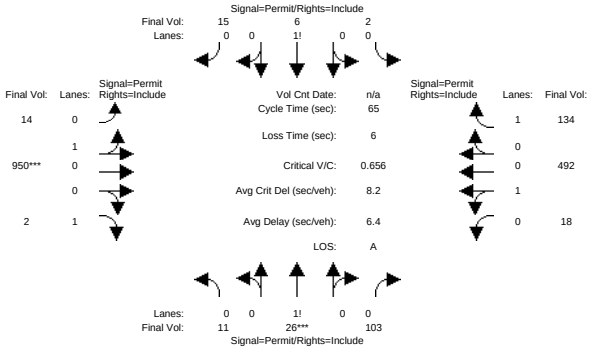
Street Name:	13th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	63	133	100	172	266	59	27	541	36	100	486	67
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	63	133	100	172	266	59	27	541	36	100	486	67
Added Vol:	0	0	9	120	0	0	0	10	0	27	19	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	63	133	109	292	266	59	27	551	36	127	505	67
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	133	109	292	266	59	27	551	36	127	505	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	133	109	292	266	59	27	551	36	127	505	67
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	133	109	292	266	59	27	551	36	127	505	67
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.60	0.60	0.60	0.64	0.64	0.85	0.96	0.96	0.85	0.59	0.59	0.85
Lanes:	0.21	0.43	0.36	0.52	0.48	1.00	0.05	0.95	1.00	0.20	0.80	1.00
Final Sat.:	235	495	406	635	579	1615	85	1742	1615	226	899	1615
Capacity Analysis Module:												
Vol/Sat:	0.27	0.27	0.27	0.46	0.46	0.04	0.32	0.32	0.02	0.56	0.56	0.04
Crit Moves:					****						****	
Green/Cycle:	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Volume/Cap:	0.66	0.66	0.66	1.13	1.13	0.09	0.64	0.64	0.05	1.13	1.13	0.08
Delay/Veh:	18.1	18.1	18.1	101.1	101	11.1	12.7	12.7	7.8	96.2	96.2	8.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.1	18.1	18.1	101.1	101	11.1	12.7	12.7	7.8	96.2	96.2	8.0
LOS by Move:	B	B	B	F	F	B	B	B	A	F	F	A
HCM2kAvgQ:	108	108	108	569	569	18	220	220	9	555	555	16

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #58: 14th St / M St



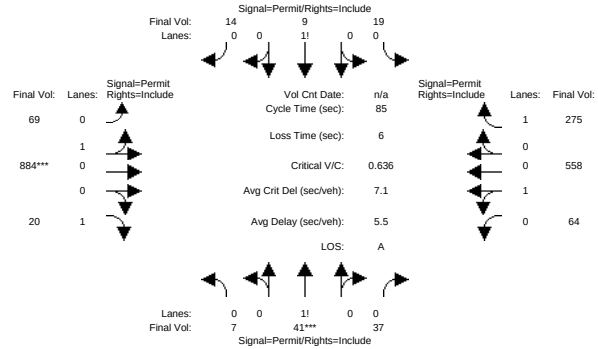
Street Name:	14th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	11		26	13	2		6	15	14		684	2	6		471	12
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	11		26	13	2		6	15	14		684	2	6		471	12
Added Vol:	0		0	90	0		0	0	0		266	0	12		21	122
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	11		26	103	2		6	15	14		950	2	18		492	134
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	11		26	103	2		6	15	14		950	2	18		492	134
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	11		26	103	2		6	15	14		950	2	18		492	134
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	11		26	103	2		6	15	14		950	2	18		492	134
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.88		0.88	0.88	0.89		0.89	0.89	0.99		0.99	0.85	0.96		0.96	0.85
Lanes:	0.08		0.19	0.73	0.09		0.26	0.65	0.01		0.99	1.00	0.04		0.96	1.00
Final Sat.:	132		311	1233	147		442	1104	27		1856	1615	65		1763	1615
Capacity Analysis Module:																
Vol/Sat:	0.08		0.08	0.08	0.01		0.01	0.01	0.51		0.51	0.00	0.28		0.28	0.08
Crit Moves:			****								****					
Green/Cycle:	0.15		0.15	0.15	0.15		0.15	0.15	0.75		0.75	0.75	0.75		0.75	0.75
Volume/Cap:	0.54		0.54	0.54	0.09		0.09	0.09	0.68		0.68	0.00	0.37		0.37	0.11
Delay/Veh:	27.8		27.8	27.8	23.7		23.7	23.7	5.4		5.4	2.0	2.9		2.9	2.2
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	27.8		27.8	27.8	23.7		23.7	23.7	5.4		5.4	2.0	2.9		2.9	2.2
LOS by Move:	C		C	C	C		C	C	A		A	A	A		A	A
HCM2kAvgQ:	65		65	65	11		11	11	244		244	0	84		84	17

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #58: 14th St / M St



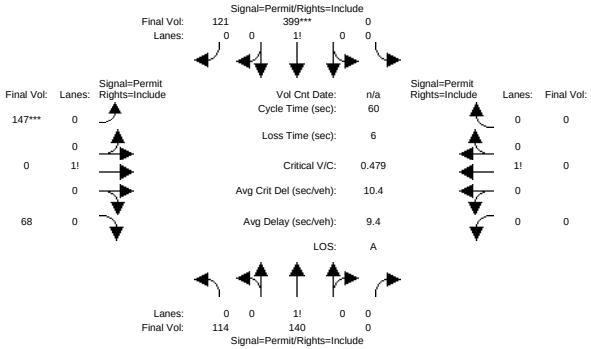
Street Name:	14th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	7		41	15	19		9	14	69		745	20	17		511	29
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	7		41	15	19		9	14	69		745	20	17		511	29
Added Vol:	0		0	22	0		0	0	0		139	0	47		47	246
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	7		41	37	19		9	14	69		884	20	64		558	275
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	7		41	37	19		9	14	69		884	20	64		558	275
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	7		41	37	19		9	14	69		884	20	64		558	275
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	7		41	37	19		9	14	69		884	20	64		558	275
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.92		0.92	0.92	0.85		0.85	0.85	0.93		0.93	0.85	0.85		0.85	0.85
Lanes:	0.08		0.48	0.44	0.46		0.21	0.33	0.07		0.93	1.00	0.10		0.90	1.00
Final Sat.:	144		843	760	731		346	539	127		1630	1615	166		1447	1615
Capacity Analysis Module:																
Vol/Sat:	0.05		0.05	0.05	0.03		0.03	0.03	0.54		0.54	0.01	0.39		0.39	0.17
Crit Moves:			****								****					
Green/Cycle:	0.12		0.12	0.12	0.12		0.12	0.12	0.81		0.81	0.81	0.81		0.81	0.81
Volume/Cap:	0.41		0.41	0.41	0.22		0.22	0.22	0.67		0.67	0.02	0.48		0.48	0.21
Delay/Veh:	36.1		36.1	36.1	34.6		34.6	34.6	4.5		4.5	1.5	2.7		2.7	1.9
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	36.1		36.1	36.1	34.6		34.6	34.6	4.5		4.5	1.5	2.7		2.7	1.9
LOS by Move:	D		D	D	C		C	C	A		A	A	A		A	A
HCM2kAvgQ:	51		51	51	29		29	29	261		261	2	122		122	40

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #61: 15th St / Canal St



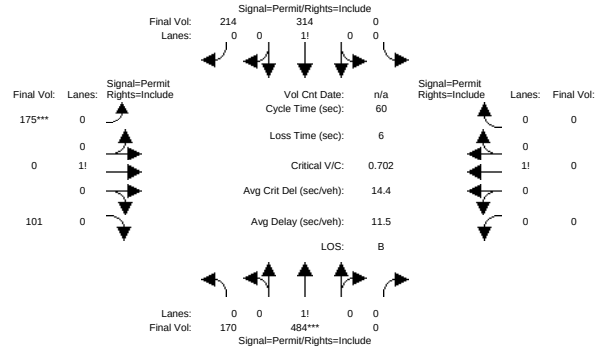
Street Name:	15th Street									Canal Street								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10	10	10			10	10	10			10	10	10			10	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	114	64	0			0	94	121			147	0	68			0	0	0		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	114	64	0			0	94	121			147	0	68			0	0	0		
Added Vol:	0	76	0			0	305	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	114	140	0			0	399	121			147	0	68			0	0	0		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	114	140	0			0	399	121			147	0	68			0	0	0		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	114	140	0			0	399	121			147	0	68			0	0	0		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	114	140	0			0	399	121			147	0	68			0	0	0		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.70	0.70	1.00			1.00	0.97	0.97			0.76	1.00	0.76			1.00	1.00	1.00		
Lanes:	0.45	0.55	0.00			0.00	0.77	0.23			0.68	0.00	0.32			0.00	1.00	0.00		
Final Sat.:	595	731	0			0	1413	428			988	0	457			0	1900	0		
Capacity Analysis Module:																				
Vol/Sat:	0.19	0.19	0.00			0.00	0.28	0.28			0.15	0.00	0.15			0.00	0.00	0.00		
Crit Moves:							****				****									
Green/Cycle:	0.59	0.59	0.00			0.00	0.59	0.59			0.31	0.00	0.31			0.00	0.00	0.00		
Volume/Cap:	0.32	0.32	0.00			0.00	0.48	0.48			0.48	0.00	0.48			0.00	0.00	0.00		
Delay/Veh:	6.5	6.5	0.0			0.0	7.4	7.4			17.6	0.0	17.6			0.0	0.0	0.0		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	6.5	6.5	0.0			0.0	7.4	7.4			17.6	0.0	17.6			0.0	0.0	0.0		
LOS by Move:	A	A	A			A	A	A			B	A	B			A	A	A		
HCM2kAvgQ:	66	66	0			0	133	133			95	0	95			0	0	0		

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #61: 15th St / Canal St



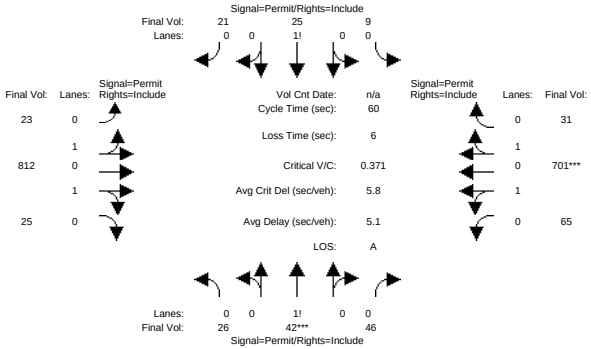
Street Name:	15th Street									Canal Street								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10	10	10			10	10	10			10	10	10			10	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	170	179	0			0	238	214			175	0	101			0	0	0		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	170	179	0			0	238	214			175	0	101			0	0	0		
Added Vol:	0	305	0			0	76	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	170	484	0			0	314	214			175	0	101			0	0	0		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	170	484	0			0	314	214			175	0	101			0	0	0		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	170	484	0			0	314	214			175	0	101			0	0	0		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	170	484	0			0	314	214			175	0	101			0	0	0		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.78	0.78	1.00			1.00	0.95	0.95			0.76	1.00	0.76			1.00	1.00	1.00		
Lanes:	0.26	0.74	0.00			0.00	0.59	0.41			0.63	0.00	0.37			0.00	1.00	0.00		
Final Sat.:	386	1100	0			0	1068	728			914	0	528			0	1900	0		
Capacity Analysis Module:																				
Vol/Sat:	0.44	0.44	0.00			0.00	0.29	0.29			0.19	0.00	0.19			0.00	0.00	0.00		
Crit Moves:		****									****									
Green/Cycle:	0.63	0.63	0.00			0.00	0.63	0.63			0.27	0.00	0.27			0.00	0.00	0.00		
Volume/Cap:	0.70	0.70	0.00			0.00	0.47	0.47			0.70	0.00	0.70			0.00	0.00	0.00		
Delay/Veh:	9.9	9.9	0.0			0.0	6.2	6.2			25.2	0.0	25.2			0.0	0.0	0.0		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	9.9	9.9	0.0			0.0	6.2	6.2			25.2	0.0	25.2			0.0	0.0	0.0		
LOS by Move:	A	A	A			A	A	A			C	A	C			A	A	A		
HCM2kAvgQ:	237	237	0			0	121	121			155	0	155			0	0	0		

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #63: 11th St / Martin Luther King Wy



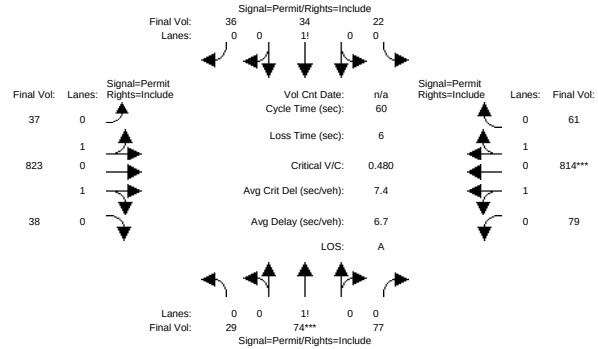
Street Name:	11th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	26	42	46	9	25	11	4	794	25	65	692	31
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	42	46	9	25	11	4	794	25	65	692	31
Added Vol:	0	0	0	0	0	10	19	18	0	0	9	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	42	46	9	25	21	23	812	25	65	701	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	42	46	9	25	21	23	812	25	65	701	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	42	46	9	25	21	23	812	25	65	701	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	42	46	9	25	21	23	812	25	65	701	31
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	0.88	0.88	0.90	0.90	0.90	0.88	0.88	0.88	0.79	0.79	0.79
Lanes:	0.23	0.37	0.40	0.16	0.46	0.38	0.05	1.89	0.06	0.16	1.76	0.08
Final Sat.:	380	614	672	280	779	654	89	3154	97	245	2639	117
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.03	0.03	0.03	0.26	0.26	0.26	0.27	0.27	0.27
Crit Moves:		****									****	
Green/Cycle:	0.18	0.18	0.18	0.18	0.18	0.18	0.72	0.72	0.72	0.72	0.72	0.72
Volume/Cap:	0.37	0.37	0.37	0.17	0.17	0.17	0.36	0.36	0.36	0.37	0.37	0.37
Delay/Veh:	22.2	22.2	22.2	20.9	20.9	20.9	3.4	3.4	3.4	3.4	3.4	3.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.2	22.2	22.2	20.9	20.9	20.9	3.4	3.4	3.4	3.4	3.4	3.4
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	56	56	56	25	25	25	77	77	77	73	73	73

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #63: 11th St / Martin Luther King Wy



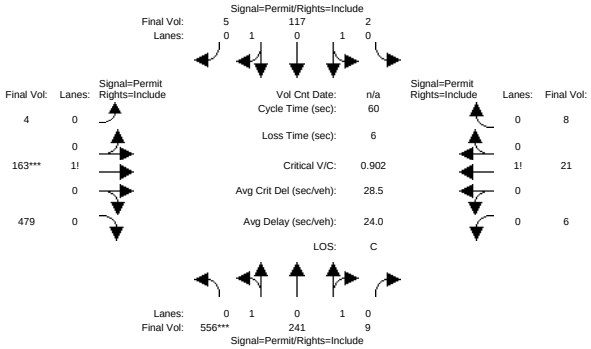
Street Name:	11th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	29	74	77	22	34	17	27	814	38	79	796	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	74	77	22	34	17	27	814	38	79	796	61
Added Vol:	0	0	0	0	0	19	10	9	0	0	18	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	74	77	22	34	36	37	823	38	79	814	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	74	77	22	34	36	37	823	38	79	814	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	74	77	22	34	36	37	823	38	79	814	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	74	77	22	34	36	37	823	38	79	814	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.89	0.87	0.87	0.87	0.85	0.85	0.85	0.77	0.77	0.77
Lanes:	0.16	0.41	0.43	0.24	0.37	0.39	0.08	1.84	0.08	0.16	1.71	0.13
Final Sat.:	272	695	724	397	613	649	132	2947	136	242	2497	187
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.11	0.06	0.06	0.06	0.28	0.28	0.28	0.33	0.33	0.33
Crit Moves:		****									****	
Green/Cycle:	0.22	0.22	0.22	0.22	0.22	0.22	0.68	0.68	0.68	0.68	0.68	0.68
Volume/Cap:	0.48	0.48	0.48	0.25	0.25	0.25	0.41	0.41	0.41	0.48	0.48	0.48
Delay/Veh:	21.3	21.3	21.3	19.6	19.6	19.6	4.4	4.4	4.4	4.8	4.8	4.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.3	21.3	21.3	19.6	19.6	19.6	4.4	4.4	4.4	4.8	4.8	4.8
LOS by Move:	C	C	C	B	B	B	A	A	A	A	A	A
HCM2kAvgQ:	88	88	88	40	40	40	93	93	93	104	104	104

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #67: Main St / H St



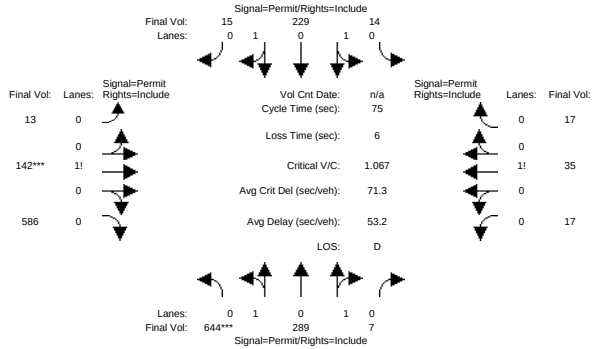
Street Name:	Main Street									H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	548	238	9	2	116	5	4	163	468	6	21	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	548	238	9	2	116	5	4	163	468	6	21	8
Added Vol:	8	3	0	0	1	0	0	0	11	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	556	241	9	2	117	5	4	163	479	6	21	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	556	241	9	2	117	5	4	163	479	6	21	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	556	241	9	2	117	5	4	163	479	6	21	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	556	241	9	2	117	5	4	163	479	6	21	8
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.68	0.68	0.68	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lanes:	1.00	0.96	0.04	0.03	1.89	0.08	0.01	0.25	0.74	0.17	0.60	0.23
Final Sat.:	1283	1236	46	55	3210	137	11	431	1267	293	1024	390
Capacity Analysis Module:												
Vol/Sat:	0.43	0.19	0.19	0.04	0.04	0.04	0.38	0.38	0.38	0.02	0.02	0.02
Crit Moves:	****							****				
Green/Cycle:	0.48	0.48	0.48	0.48	0.48	0.48	0.42	0.42	0.42	0.42	0.42	0.42
Volume/Cap:	0.90	0.41	0.41	0.08	0.08	0.08	0.90	0.90	0.90	0.05	0.05	0.05
Delay/Veh:	26.5	10.2	10.2	8.4	8.4	8.4	30.9	30.9	30.9	10.4	10.4	10.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.5	10.2	10.2	8.4	8.4	8.4	30.9	30.9	30.9	10.4	10.4	10.4
LOS by Move:	C	B	B	A	A	A	C	C	C	B	B	B
HCM2kAvgQ:	273	75	75	17	17	17	327	327	327	10	10	10

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #67: Main St / H St



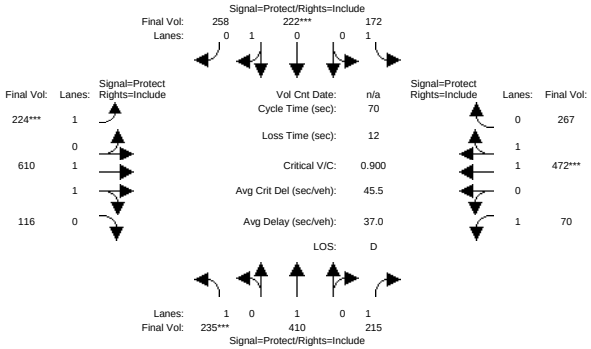
Street Name:	Main Street									H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	639	288	7	14	226	15	13	142	571	17	35	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	639	288	7	14	226	15	13	142	571	17	35	17
Added Vol:	5	1	0	0	3	0	0	0	15	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	644	289	7	14	229	15	13	142	586	17	35	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	644	289	7	14	229	15	13	142	586	17	35	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	644	289	7	14	229	15	13	142	586	17	35	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	644	289	7	14	229	15	13	142	586	17	35	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.62	0.62	0.62	0.85	0.85	0.85	0.89	0.89	0.89	0.84	0.84	0.84
Lanes:	1.00	0.98	0.02	0.11	1.77	0.12	0.02	0.19	0.79	0.25	0.51	0.24
Final Sat.:	1187	1158	28	176	2877	188	30	324	1336	392	806	392
Capacity Analysis Module:												
Vol/Sat:	0.54	0.25	0.25	0.08	0.08	0.08	0.44	0.44	0.44	0.04	0.04	0.04
Crit Moves:	****							****				
Green/Cycle:	0.51	0.51	0.51	0.51	0.51	0.51	0.41	0.41	0.41	0.41	0.41	0.41
Volume/Cap:	1.07	0.49	0.49	0.16	0.16	0.16	1.07	1.07	1.07	0.11	0.11	0.11
Delay/Veh:	68.1	12.2	12.2	9.9	9.9	9.9	75.4	75.4	75.4	13.7	13.7	13.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	68.1	12.2	12.2	9.9	9.9	9.9	75.4	75.4	75.4	13.7	13.7	13.7
LOS by Move:	E	B	B	A	A	A	E	E	E	B	B	B
HCM2kAvgQ:	548	112	112	42	42	42	643	643	643	25	25	25

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #69: Main St / G St



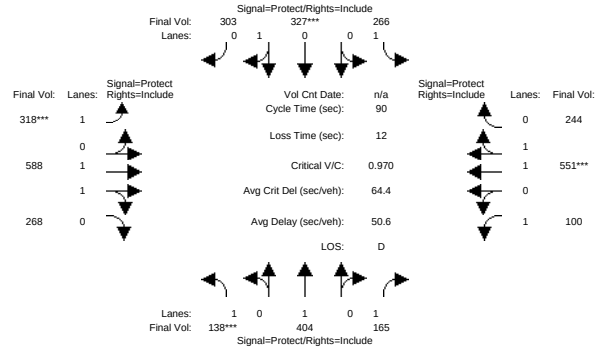
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	235	410	214	166	222	252	224	609	116	70	472	256
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	410	214	166	222	252	224	609	116	70	472	256
Added Vol:	0	0	1	6	0	6	0	1	0	0	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	235	410	215	172	222	258	224	610	116	70	472	267
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	235	410	215	172	222	258	224	610	116	70	472	267
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	410	215	172	222	258	224	610	116	70	472	267
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	410	215	172	222	258	224	610	116	70	472	267
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.00	1.00	1.00	0.46	0.54	1.00	1.68	0.32	1.00	1.28	0.72
Final Sat.:	1805	1900	1615	1805	808	939	1805	2960	563	1805	2181	1234
Capacity Analysis Module:												
Vol/Sat:	0.13	0.22	0.13	0.10	0.27	0.27	0.12	0.21	0.21	0.04	0.22	0.22
Crit Moves:	****				****		****				****	
Green/Cycle:	0.14	0.31	0.31	0.14	0.31	0.31	0.14	0.25	0.25	0.12	0.24	0.24
Volume/Cap:	0.90	0.70	0.43	0.67	0.90	0.90	0.90	0.81	0.81	0.31	0.90	0.90
Delay/Veh:	60.3	25.2	20.0	35.1	41.4	41.4	61.6	30.0	30.0	28.8	38.6	38.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.3	25.2	20.0	35.1	41.4	41.4	61.6	30.0	30.0	28.8	38.6	38.6
LOS by Move:	E	C	B	D	D	D	E	C	C	C	D	D
HCM2kAvgQ:	213	229	102	92	289	289	144	208	208	34	240	240

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION A_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #69: Main St / G St



Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	138	404	165	255	327	296	318	588	268	99	549	238
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	138	404	165	255	327	296	318	588	268	99	549	238
Added Vol:	0	0	0	11	0	7	0	0	0	1	2	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	138	404	165	266	327	303	318	588	268	100	551	244
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	138	404	165	266	327	303	318	588	268	100	551	244
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	138	404	165	266	327	303	318	588	268	100	551	244
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	138	404	165	266	327	303	318	588	268	100	551	244
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.91	0.91	0.95	0.91	0.91
Lanes:	1.00	1.00	1.00	1.00	0.52	0.48	1.00	1.37	0.63	1.00	1.39	0.61
Final Sat.:	1805	1900	1615	1805	915	848	1805	2363	1077	1805	2387	1057
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.10	0.15	0.36	0.36	0.18	0.25	0.25	0.06	0.23	0.23
Crit Moves:	****				****		****				****	
Green/Cycle:	0.08	0.26	0.26	0.18	0.37	0.37	0.18	0.32	0.32	0.10	0.24	0.24
Volume/Cap:	0.97	0.81	0.39	0.81	0.97	0.97	0.97	0.78	0.78	0.55	0.97	0.97
Delay/Veh:	107.5	40.2	27.7	48.7	55.8	55.8	78.1	31.3	31.3	42.3	58.2	58.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	107.5	40.2	27.7	48.7	55.8	55.8	78.1	31.3	31.3	42.3	58.2	58.2
LOS by Move:	F	D	C	D	E	E	E	C	C	D	E	E
HCM2kAvgQ:	183	318	100	191	521	521	271	290	290	67	356	356

Note: Queue reported is the distance per lane in feet.

HEAVY MANTENANCE FACILITY ANALYSIS - CASTLE COMMERCE

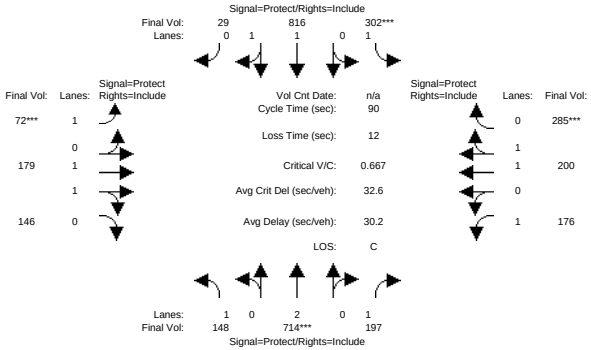
2035 BUILD_OPTION-B CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #1: Winton Wy/Bellevue Rd

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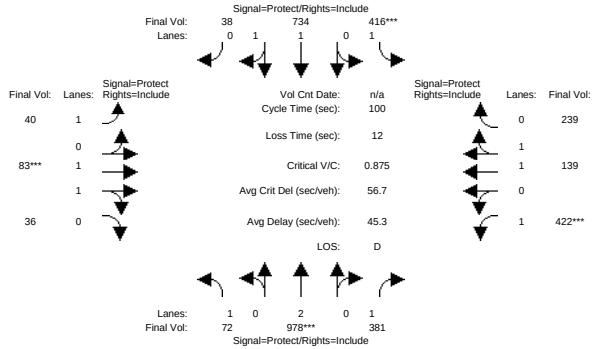
Street Name:          N. Winton Way                    Bellevue Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     148  714   174   302  816    29    72  179   146   163  200   285
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  148  714   174   302  816    29    72  179   146   163  200   285
Added Vol:      0    0    23     0    0     0     0    0     0    13    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  148  714   197   302  816    29    72  179   146   176  200   285
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   148  714   197   302  816    29    72  179   146   176  200   285
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  148  714   197   302  816    29    72  179   146   176  200   285
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  148  714   197   302  816    29    72  179   146   176  200   285
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.95  0.95 0.89  0.89  0.95 0.87  0.87
Lanes:       1.00 2.00  1.00  1.00 1.93  0.07  1.00 1.10  0.90  1.00 1.00  1.00
Final Sat.:  1805 3610  1615  1805 3469   123  1805 1855  1513  1805 1646  1646
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.20  0.12  0.17 0.24  0.24  0.04 0.10  0.10  0.10 0.12  0.17
Crit Moves:        ****        ****              ****                     ****
Green/Cycle: 0.14 0.29  0.29  0.25 0.40  0.40  0.08 0.18  0.18  0.15 0.25  0.25
Volume/Cap:  0.59 0.68  0.42  0.68 0.59  0.59  0.51 0.55  0.55  0.63 0.48  0.68
Delay/Veh:   40.2 30.2  26.5  35.1 22.1  22.1  43.1 34.8  34.8  40.1 28.9  33.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  40.2 30.2  26.5  35.1 22.1  22.1  43.1 34.8  34.8  40.1 28.9  33.0
LOS by Move:    D    C     C     D    C     C     D    C     C     D    C     C
HCM2kAvgQ:      5   10     5     9   10    10     3    5     5     6    5     9
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #1: Winton Wy/Bellevue Rd

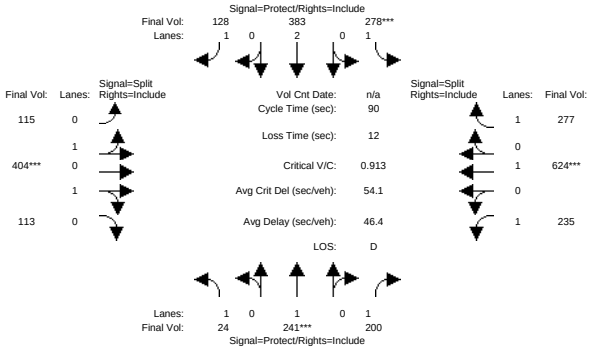



```
Street Name:          N. Winton Way                    Bellevue Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      72  978   368   416  734    38    40   83    36   399  139   239
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   72  978   368   416  734    38    40   83    36   399  139   239
Added Vol:      0    0    13     0    0     0     0    0     0    23    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   72  978   381   416  734    38    40   83    36   422  139   239
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    72  978   381   416  734    38    40   83    36   422  139   239
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   72  978   381   416  734    38    40   83    36   422  139   239
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   72  978   381   416  734    38    40   83    36   422  139   239
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.94  0.94  0.95 0.91  0.91  0.95 0.86  0.86
Lanes:       1.00 2.00  1.00  1.00 1.90  0.10  1.00 1.39  0.61  1.00 1.00  1.00
Final Sat.:  1805 3610  1615  1805 3408   176  1805 2405  1043  1805 1634  1634
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.27  0.24  0.23 0.22  0.22  0.02 0.03  0.03  0.23 0.09  0.15
Crit Moves:        ****        ****              ****         ****
Green/Cycle: 0.13 0.29  0.29  0.24 0.40  0.40  0.11 0.10  0.10  0.25 0.24  0.24
Volume/Cap:  0.31 0.94  0.82  0.94 0.54  0.54  0.20 0.35  0.35  0.94 0.36  0.62
Delay/Veh:   40.1 50.8  44.4  65.8 23.2  23.2  40.7 42.6  42.6  65.4 32.2  36.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  40.1 50.8  44.4  65.8 23.2  23.2  40.7 42.6  42.6  65.4 32.2  36.2
LOS by Move:    D    D     D     E    C     C     D    D     D     E    C     D
HCM2kAvgQ:      2   20    13    17   10    10     1    2     2    17    4     8
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #2: Atwater Blvd / Applegate Rd



Street Name:	Atwater Boulevard									Applegate Road-Winton Way								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	24		241		200	278		383		128	115		381		113	235		611		277
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	24		241		200	278		383		128	115		381		113	235		611		277
Added Vol:	0		0		0	0		0		0	0		23		0	0		13		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	24		241		200	278		383		128	115		404		113	235		624		277
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	24		241		200	278		383		128	115		404		113	235		624		277
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	24		241		200	278		383		128	115		404		113	235		624		277
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	24		241		200	278		383		128	115		404		113	235		624		277
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.95		0.85	0.92		0.92		0.92	0.95		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		2.00		1.00	0.36		1.28		0.36	1.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		3610		1615	633		2225		622	1805		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.01		0.13		0.12	0.15		0.11		0.08	0.18		0.18		0.18	0.13		0.33		0.17
Crit Moves:			****			****							****					****		
Green/Cycle:	0.13		0.14		0.14	0.17		0.18		0.18	0.20		0.20		0.20	0.36		0.36		0.36
Volume/Cap:	0.10		0.91		0.89	0.91		0.59		0.44	0.91		0.91		0.91	0.36		0.91		0.48
Delay/Veh:	35.0		71.4		70.6	66.8		35.1		33.8	51.7		51.7		51.7	21.5		44.1		22.9
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	35.0		71.4		70.6	66.8		35.1		33.8	51.7		51.7		51.7	21.5		44.1		22.9
LOS by Move:	C		E		E	E		D		C	D		D		D	C		D		C
HCM2kAvgQ:	1		10		9	11		6		4	9		9		9	5		21		6

Note: Queue reported is the number of cars per lane.

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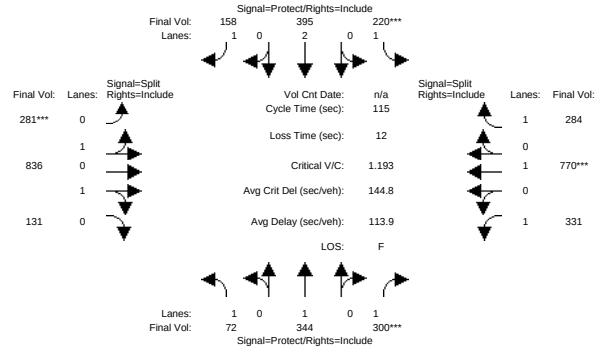
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #2: Atwater Blvd / Applegate Rd



Street Name:	Atwater Boulevard									Applegate Road-Winton Way								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	72		344		300	220		395		158	281		823		131	331		747		284
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	72		344		300	220		395		158	281		823		131	331		747		284
Added Vol:	0		0		0	0		0		0	0		13		0	0		23		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	72		344		300	220		395		158	281		836		131	331		770		284
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	72		344		300	220		395		158	281		836		131	331		770		284
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	72		344		300	220		395		158	281		836		131	331		770		284
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	72		344		300	220		395		158	281		836		131	331		770		284
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		0.95		0.85	0.92		0.92		0.92	0.95		1.00		0.85
Lanes:	1.00		1.00		1.00	1.00		2.00		1.00	0.45		1.34		0.21	1.00		1.00		1.00
Final Sat.:	1805		1900		1615	1805		3610		1615	791		2353		369	1805		1900		1615
Capacity Analysis Module:																				
Vol/Sat:	0.04		0.18		0.19	0.12		0.11		0.10	0.36		0.36		0.36	0.18		0.41		0.18
Crit Moves:					****	****					****							****		
Green/Cycle:	0.09		0.16		0.16	0.10		0.17		0.17	0.30		0.30		0.30	0.34		0.34		0.34
Volume/Cap:	0.43		1.16		1.19	1.19		0.66		0.59	1.19		1.19		1.19	0.54		1.19		0.52
Delay/Veh:	51.2		152		167.5	179.3		47.7		47.8	136.6		137		136.6	31.7		139		31.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	51.2		152		167.5	179.3		47.7		47.8	136.6		137		136.6	31.7		139		31.3
LOS by Move:	D		F		F	F		F		D	D		F		F	F		C		C
HCM2kAvgQ:	3		21		19	15		8		6	35		35		35	10		45		8

Note: Queue reported is the number of cars per lane.

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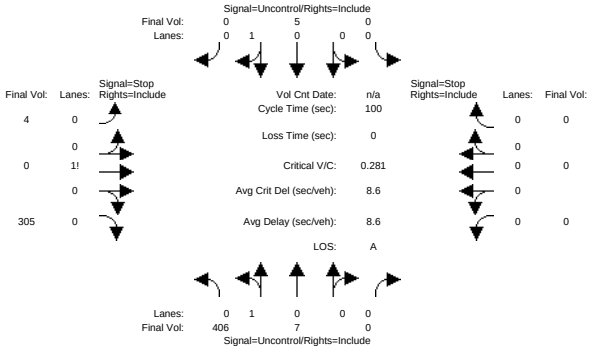
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #3: Sycamore Ave / SR-99 NB Ramps




```
Street Name:         Sycamore Avenue                    SR-99 NB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     393    7     0     0    5     0     4    0   305     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  393    7     0     0    5     0     4    0   305     0    0     0
Added Vol:     13    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  406    7     0     0    5     0     4    0   305     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   406    7     0     0    5     0     4    0   305     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  406    7     0     0    5     0     4    0   305     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:    5 xxxx xxxxx  xxxx xxxx xxxxx   824  824     5  xxxx xxxx xxxxx
Potent Cap.: 1630 xxxx xxxxx  xxxx xxxx xxxxx   346  310  1084  xxxx xxxx xxxxx
Move Cap.:   1630 xxxx xxxxx  xxxx xxxx xxxxx   259  211  1084  xxxx xxxx xxxxx
Volume/Cap:  0.25 xxxx  xxxx  xxxx xxxx  xxxx  0.02 0.00  0.28  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 1041 xxxxx  xxxx xxxx xxxxx
SharedQueue:  1.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  1.2 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.9 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              9.9           xxxxxx
ApproachLOS:         *                *               A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  406    7     0     0    5     0     4    0   305     0    0     0
ApproachDel:    xxxxxx           xxxxxx              9.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=309]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=727]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

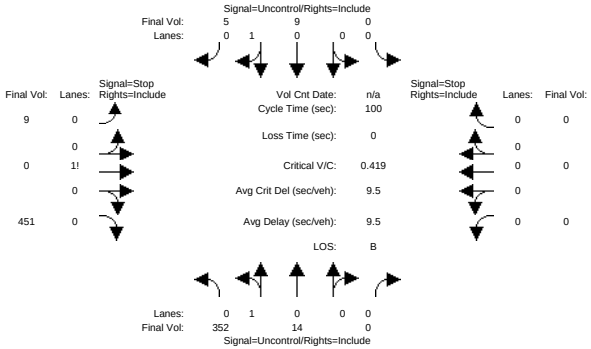
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  406    7     0     0    5     0     4    0   305     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             418
Minor Approach Volume:           309
Minor Approach Volume Threshold: 452
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #3: Sycamore Ave / SR-99 NB Ramps




```
Street Name:         Sycamore Avenue                    SR-99 NB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     329   14     0     0     9     5     9     0   451     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  329   14     0     0     9     5     9     0   451     0     0     0
Added Vol:     23    0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0    0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  352   14     0     0     9     5     9     0   451     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   352   14     0     0     9     5     9     0   451     0     0     0
Reduct Vol:     0    0     0     0     0     0     0     0     0     0     0     0
FinalVolume:  352   14     0     0     9     5     9     0   451     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   14 xxxx xxxxx  xxxx xxxx xxxxx   730  730    12  xxxx xxxx xxxxx
Potent Cap.: 1617 xxxx xxxxx  xxxx xxxx xxxxx   393  352  1075  xxxx xxxx xxxxx
Move Cap.:   1617 xxxx xxxxx  xxxx xxxx xxxxx   311  257  1075  xxxx xxxx xxxxx
Volume/Cap:  0.22 xxxx  xxxx  xxxx xxxx  xxxx  0.03 0.00  0.42  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.8 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 1026 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  2.4 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 11.3 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    B     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             11.3           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  352   14     0     0     9     5     9     0   451     0     0     0
ApproachDel:    xxxxxx           xxxxxx             11.3           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=460]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=840]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

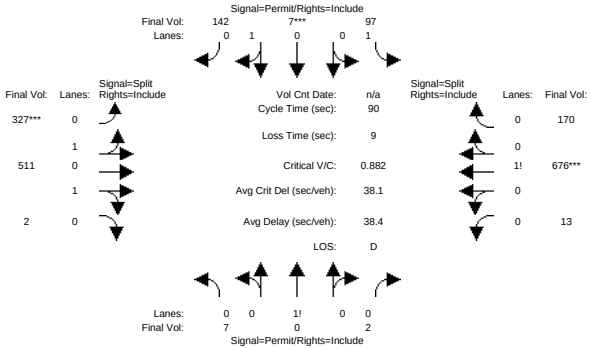
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Sycamore Ave / SR-99 NB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  352   14     0     0     9     5     9     0   451     0     0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             380
Minor Approach Volume:           460
Minor Approach Volume Threshold: 477
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #4: Sycamore Ave / Applegate Rd



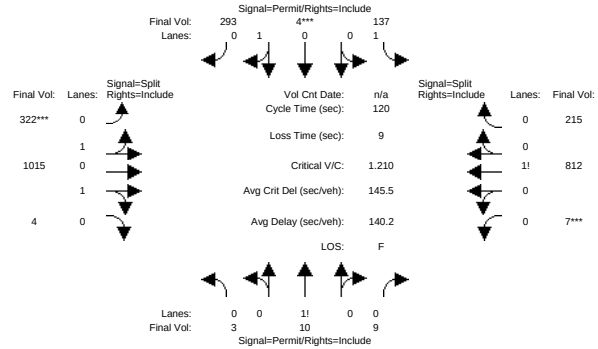
Street Name:	Sycamore Avenue												Applegate Road											
Approach:	North Bound				South Bound				East Bound				West Bound											
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																									
Base Vol:	7		0		2	97		7		142	327		488		2	13		676		157					
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
Initial Bse:	7		0		2	97		7		142	327		488		2	13		676		157					
Added Vol:	0		0		0	0		0		0	0		23		0	0		0		13					
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0					
Initial Fut:	7		0		2	97		7		142	327		511		2	13		676		170					
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Volume:	7		0		2	97		7		142	327		511		2	13		676		170					
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0					
Reduced Vol:	7		0		2	97		7		142	327		511		2	13		676		170					
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
FinalVolume:	7		0		2	97		7		142	327		511		2	13		676		170					
Saturation Flow Module:																									
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900					
Adjustment:	0.74		1.00		0.74	0.76		0.86		0.86	0.93		0.93		0.93	0.97		0.97		0.97					
Lanes:	0.78		0.00		0.22	1.00		0.05		0.95	0.78		1.21		0.01	0.01		0.79		0.20					
Final Sat.:	1095		0		313	1446		76		1552	1379		2154		8	28		1453		366					
Capacity Analysis Module:																									
Vol/Sat:	0.01		0.00		0.01	0.07		0.09		0.09	0.24		0.24		0.24	0.47		0.47		0.47					
Crit Moves:								****			****							****							
Green/Cycle:	0.11		0.00		0.11	0.11		0.11		0.11	0.27		0.27		0.27	0.52		0.52		0.52					
Volume/Cap:	0.06		0.00		0.06	0.60		0.82		0.82	0.89		0.89		0.89	0.89		0.89		0.89					
Delay/Veh:	35.9		0.0		35.9	44.5		64.4		64.4	42.3		42.3		42.3	29.5		29.5		29.5					
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
AdjDel/Veh:	35.9		0.0		35.9	44.5		64.4		64.4	42.3		42.3		42.3	29.5		29.5		29.5					
LOS by Move:	D		A		D	D		E		E	D		D		D	C		C		C					
HCM2kAvgQ:	0		0		0	4		6		6	13		13		13	21		21		21					

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #4: Sycamore Ave / Applegate Rd



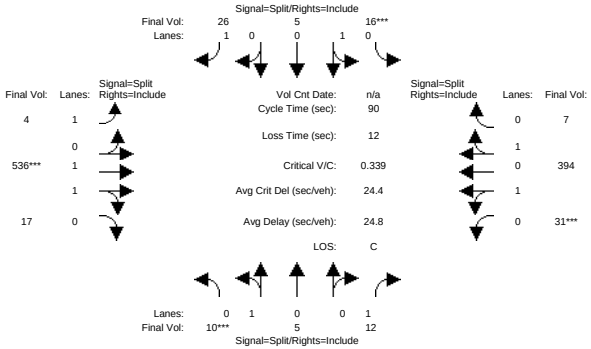
Street Name:	Sycamore Avenue												Applegate Road											
Approach:	North Bound				South Bound				East Bound				West Bound											
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																									
Base Vol:	3		10		9	137		4		293	322		1002		4	7		812		192					
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
Initial Bse:	3		10		9	137		4		293	322		1002		4	7		812		192					
Added Vol:	0		0		0	0		0		0	0		13		0	0		0		23					
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0					
Initial Fut:	3		10		9	137		4		293	322		1015		4	7		812		215					
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Volume:	3		10		9	137		4		293	322		1015		4	7		812		215					
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0					
Reduced Vol:	3		10		9	137		4		293	322		1015		4	7		812		215					
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
FinalVolume:	3		10		9	137		4		293	322		1015		4	7		812		215					
Saturation Flow Module:																									
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900					
Adjustment:	0.62		0.62		0.62	0.75		0.85		0.85	0.94		0.94		0.94	0.97		0.97		0.97					
Lanes:	0.14		0.45		0.41	1.00		0.01		0.99	0.48		1.51		0.01	0.01		0.78		0.21					
Final Sat.:	162		539		485	1433		22		1597	856		2700		11	13		1450		384					
Capacity Analysis Module:																									
Vol/Sat:	0.02		0.02		0.02	0.10		0.18		0.18	0.38		0.38		0.38	0.56		0.56		0.56					
Crit Moves:								****			****							****							
Green/Cycle:	0.15		0.15		0.15	0.15		0.15		0.15	0.31		0.31		0.31	0.46		0.46		0.46					
Volume/Cap:	0.12		0.12		0.12	0.63		1.21		1.21	1.21		1.21		1.21	1.21		1.21		1.21					
Delay/Veh:	44.3		44.3		44.3	53.6		177		177.1	144.5		144		144.5	137.7		138		137.7					
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
AdjDel/Veh:	44.3		44.3		44.3	53.6		177		177.1	144.5		144		144.5	137.7		138		137.7					
LOS by Move:	D		D		D	D		F		F	F		F		F	F		F		F					
HCM2kAvgQ:	1		1		1	6		20		20	41		41		41	57		57		57					

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #5: Bell Ln-Mall Access / SR-99 SB Ramps



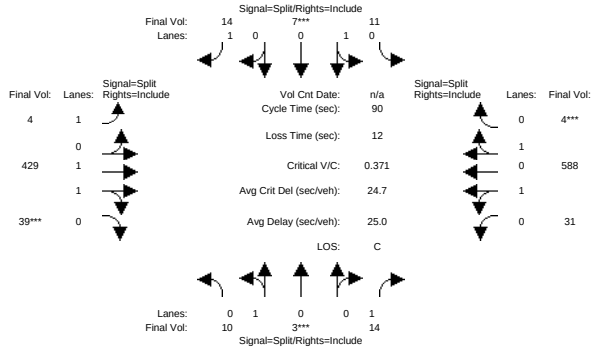
Street Name:	Bell Ln-Mall Access									SR-99 SB Ramps		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	5	12	16	5	26	4	536	17	31	371	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	5	12	16	5	26	4	536	17	31	371	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	23	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	5	12	16	5	26	4	536	17	31	394	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	5	12	16	5	26	4	536	17	31	394	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	5	12	16	5	26	4	536	17	31	394	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	5	12	16	5	26	4	536	17	31	394	7
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.96	0.96	0.85	0.95	0.95	0.95	0.94	0.94	0.94
Lanes:	0.67	0.33	1.00	0.76	0.24	1.00	1.00	1.94	0.06	0.14	1.83	0.03
Final Sat.:	1226	613	1615	1394	436	1615	1805	3482	110	257	3273	58
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.01	0.01	0.02	0.00	0.15	0.15	0.12	0.12	0.12
Crit Moves:	****			****				****		****		
Green/Cycle:	0.11	0.11	0.11	0.11	0.11	0.11	0.36	0.36	0.36	0.28	0.28	0.28
Volume/Cap:	0.07	0.07	0.07	0.10	0.10	0.14	0.01	0.43	0.43	0.43	0.43	0.43
Delay/Veh:	36.0	36.0	36.0	36.2	36.2	36.5	18.4	21.9	21.9	26.6	26.6	26.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.0	36.0	36.0	36.2	36.2	36.5	18.4	21.9	21.9	26.6	26.6	26.6
LOS by Move:	D	D	D	D	D	D	B	C	C	C	C	C
HCM2kAvgQ:	0	0	0	1	1	1	0	6	6	5	5	5

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #5: Bell Ln-Mall Access / SR-99 SB Ramps



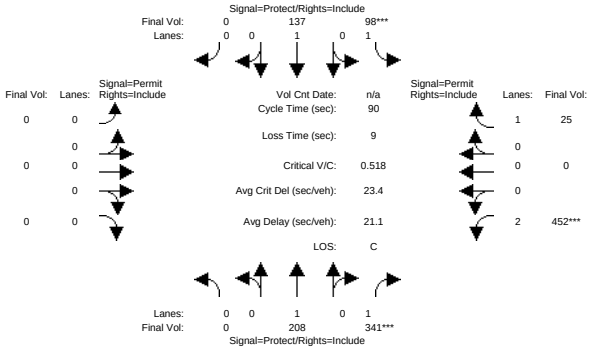
Street Name:	Bell Ln-Mall Access									SR-99 SB Ramps		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	3	14	11	7	14	4	429	39	31	575	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	3	14	11	7	14	4	429	39	31	575	4
Added Vol:	0	0	0	0	0	0	0	0	0	0	13	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	3	14	11	7	14	4	429	39	31	588	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	3	14	11	7	14	4	429	39	31	588	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	3	14	11	7	14	4	429	39	31	588	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	3	14	11	7	14	4	429	39	31	588	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.96	0.96	0.85	0.97	0.97	0.85	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.77	0.23	1.00	0.61	0.39	1.00	1.00	1.83	0.17	0.10	1.89	0.01
Final Sat.:	1407	422	1615	1126	717	1615	1805	3269	297	179	3397	23
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.13	0.13	0.17	0.17	0.17
Crit Moves:		****			****				****			****
Green/Cycle:	0.11	0.11	0.11	0.11	0.11	0.11	0.28	0.28	0.28	0.37	0.37	0.37
Volume/Cap:	0.06	0.06	0.08	0.09	0.09	0.08	0.01	0.47	0.47	0.47	0.47	0.47
Delay/Veh:	35.9	35.9	36.1	36.1	36.1	36.1	23.5	27.4	27.4	22.1	22.1	22.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.9	35.9	36.1	36.1	36.1	36.1	23.5	27.4	27.4	22.1	22.1	22.1
LOS by Move:	D	D	D	D	D	D	C	C	C	C	C	C
HCM2kAvgQ:	0	0	0	0	0	0	0	6	6	7	7	7

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #6: Bell Dr/Bell Ln



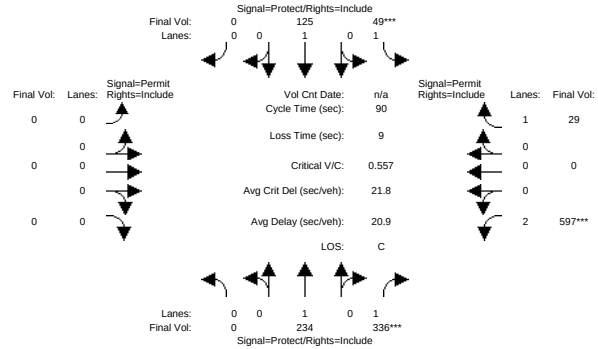
Street Name:	Bell Dr									Bell Ln-SR99 SB Ramp Rd								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0		10		10	7		10		0	0		0		0	10		0		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	0		208		341	98		137		0	0		0		0	429		0		25
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	0		208		341	98		137		0	0		0		0	429		0		25
Added Vol:	0		0		0	0		0		0	0		0		0	23		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	0		208		341	98		137		0	0		0		0	452		0		25
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	0		208		341	98		137		0	0		0		0	452		0		25
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	0		208		341	98		137		0	0		0		0	452		0		25
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	0		208		341	98		137		0	0		0		0	452		0		25
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	1.00		1.00		0.85	0.95		1.00		1.00	1.00		1.00		1.00	0.59		1.00		0.85
Lanes:	0.00		1.00		1.00	1.00		1.00		0.00	0.00		0.00		0.00	2.00		0.00		1.00
Final Sat.:	0		1900		1615	1805		1900		0	0		0		0	2252		0		1615
Capacity Analysis Module:																				
Vol/Sat:	0.00		0.11		0.21	0.05		0.07		0.00	0.00		0.00		0.00	0.20		0.00		0.02
Crit Moves:					****	****										****				
Green/Cycle:	0.00		0.41		0.41	0.10		0.51		0.00	0.00		0.00		0.00	0.39		0.00		0.39
Volume/Cap:	0.00		0.27		0.52	0.52		0.14		0.00	0.00		0.00		0.00	0.52		0.00		0.04
Delay/Veh:	0.0		17.9		20.7	40.6		11.6		0.0	0.0		0.0		0.0	21.7		0.0		17.2
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	0.0		17.9		20.7	40.6		11.6		0.0	0.0		0.0		0.0	21.7		0.0		17.2
LOS by Move:	A		B		C	D		B		A	A		A		A	C		A		B
HCM2kAvgQ:	0		4		7	3		2		0	0		0		0	5		0		0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #6: Bell Dr/Bell Ln



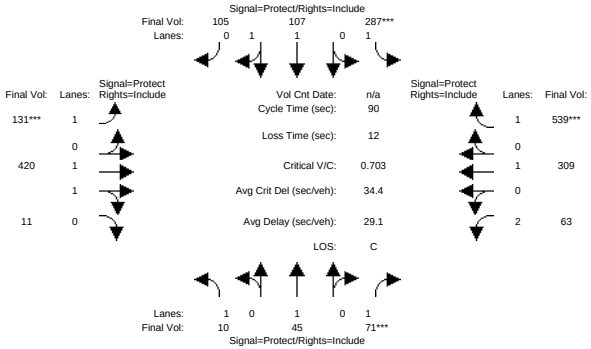
Street Name:	Bell Dr									Bell Ln-SR99 SB Ramp Rd								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0		10		10	7		10		0	0		0		0	10		0		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	0		234		336	49		125		0	0		0		0	584		0		29
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	0		234		336	49		125		0	0		0		0	584		0		29
Added Vol:	0		0		0	0		0		0	0		0		0	13		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	0		234		336	49		125		0	0		0		0	597		0		29
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	0		234		336	49		125		0	0		0		0	597		0		29
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	0		234		336	49		125		0	0		0		0	597		0		29
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	0		234		336	49		125		0	0		0		0	597		0		29
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	1.00		1.00		0.85	0.95		1.00		1.00	1.00		1.00		1.00	0.59		1.00		0.85
Lanes:	0.00		1.00		1.00	1.00		1.00		0.00	0.00		0.00		0.00	2.00		0.00		1.00
Final Sat.:	0		1900		1615	1805		1900		0	0		0		0	2241		0		1615
Capacity Analysis Module:																				
Vol/Sat:	0.00		0.12		0.21	0.03		0.07		0.00	0.00		0.00		0.00	0.27		0.00		0.02
Crit Moves:					****	****										****				
Green/Cycle:	0.00		0.36		0.36	0.08		0.44		0.00	0.00		0.00		0.00	0.46		0.00		0.46
Volume/Cap:	0.00		0.34		0.58	0.35		0.15		0.00	0.00		0.00		0.00	0.58		0.00		0.04
Delay/Veh:	0.0		21.3		24.7	40.8		15.3		0.0	0.0		0.0		0.0	18.6		0.0		13.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	0.0		21.3		24.7	40.8		15.3		0.0	0.0		0.0		0.0	18.6		0.0		13.3
LOS by Move:	A		C		C	D		B		A	A		A		A	B		A		B
HCM2kAvgQ:	0		5		7	2		2		0	0		0		0	6		0		0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #7: Bel Dr-Commerce / Applegate Rd



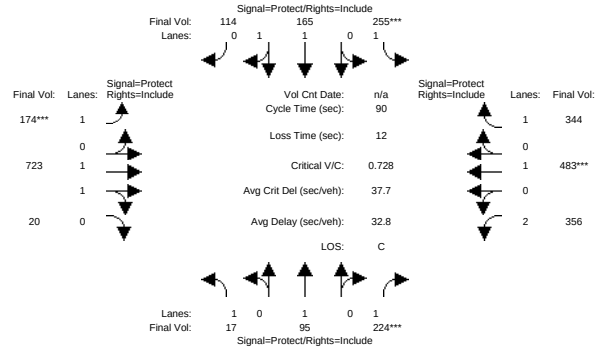
Street Name:	Bell Dr-Commerce						Applegate Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	45	71	264	107	105	131	420	11	63	309	539
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	45	71	264	107	105	131	420	11	63	309	539
Added Vol:	0	0	0	23	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	45	71	287	107	105	131	420	11	63	309	539
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	45	71	287	107	105	131	420	11	63	309	539
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	45	71	287	107	105	131	420	11	63	309	539
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	45	71	287	107	105	131	420	11	63	309	539
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.88	0.88	0.95	0.95	0.95	0.92	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.01	0.99	1.00	1.95	0.05	2.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	1687	1656	1805	3504	92	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.02	0.04	0.16	0.06	0.06	0.07	0.12	0.12	0.02	0.16	0.33
Crit Moves:			****	****			****					****
Green/Cycle:	0.13	0.11	0.11	0.21	0.19	0.19	0.10	0.33	0.33	0.21	0.45	0.45
Volume/Cap:	0.04	0.21	0.40	0.75	0.33	0.33	0.75	0.36	0.36	0.08	0.36	0.75
Delay/Veh:	34.1	36.9	38.6	41.1	31.8	31.8	55.8	23.2	23.2	28.4	16.8	25.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.1	36.9	38.6	41.1	31.8	31.8	55.8	23.2	23.2	28.4	16.8	25.1
LOS by Move:	C	D	D	D	C	C	E	C	C	C	B	C
HCM2kAvgQ:	0	1	2	8	3	3	5	5	5	1	5	12

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #7: Bel Dr-Commerce / Applegate Rd



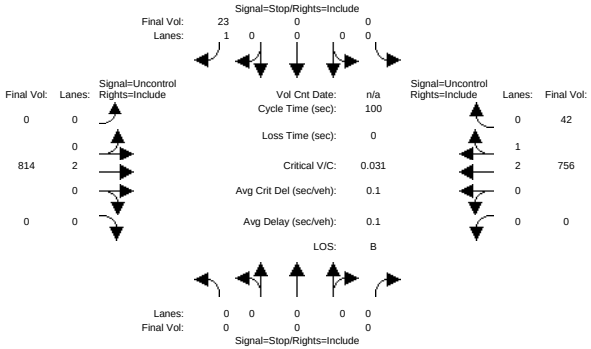
Street Name:	Bell Dr-Commerce						Applegate Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	17	95	224	242	165	114	174	723	20	356	483	344
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	17	95	224	242	165	114	174	723	20	356	483	344
Added Vol:	0	0	0	13	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	17	95	224	255	165	114	174	723	20	356	483	344
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	17	95	224	255	165	114	174	723	20	356	483	344
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	95	224	255	165	114	174	723	20	356	483	344
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	17	95	224	255	165	114	174	723	20	356	483	344
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.89	0.89	0.95	0.95	0.95	0.92	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.18	0.82	1.00	1.95	0.05	2.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	2005	1385	1805	3499	97	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.05	0.14	0.14	0.08	0.08	0.10	0.21	0.21	0.10	0.25	0.21
Crit Moves:			****	****			****				****	
Green/Cycle:	0.16	0.19	0.19	0.19	0.23	0.23	0.13	0.32	0.32	0.16	0.35	0.35
Volume/Cap:	0.06	0.26	0.73	0.73	0.36	0.36	0.73	0.64	0.64	0.64	0.73	0.61
Delay/Veh:	32.3	31.4	42.7	41.5	29.6	29.6	48.2	27.2	27.2	37.9	29.6	26.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	31.4	42.7	41.5	29.6	29.6	48.2	27.2	27.2	37.9	29.6	26.2
LOS by Move:	C	C	D	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	0	2	7	7	3	3	6	10	10	4	11	7

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #8: Mall Access / Applegate Rd




```
Street Name:            Mall Access                     Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0    23     0  791     0     0  756    42
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0    23     0  791     0     0  756    42
Added Vol:      0    0     0     0    0     0     0   23     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0    23     0  814     0     0  756    42
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0    23     0  814     0     0  756    42
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0    23     0  814     0     0  756    42
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   273  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   731  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   731  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.03  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  10.1 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             10.1           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    23     0  814     0     0  756    42
ApproachDel:    xxxxxx             10.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1635]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

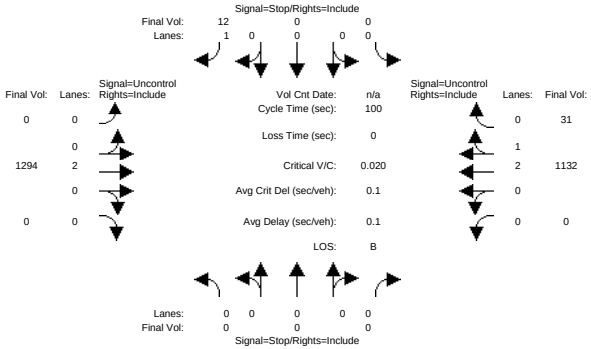
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    23     0  814     0     0  756    42
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1612
Minor Approach Volume:           23
Minor Approach Volume Threshold: 120
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #8: Mall Access / Applegate Rd




```
Street Name:            Mall Access                     Applegate Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0    12     0 1281     0     0 1132    31
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0    12     0 1281     0     0 1132    31
Added Vol:      0    0     0     0    0     0     0   13     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0    12     0 1294     0     0 1132    31
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0    12     0 1294     0     0 1132    31
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0    12     0 1294     0     0 1132    31
------------||---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------||---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   393  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   612  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   612  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------||---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  11.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             11.0           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    12     0 1294     0     0 1132    31
ApproachDel:    xxxxxx             11.0           xxxxxx           xxxxxx
------------||---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2469]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 Mall Access / Applegate Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  2  0  0    0  0  2  1  0
Initial Vol:    0    0     0     0    0    12     0 1294     0     0 1132    31
------------||---------------||---------------||---------------||---------------|
Major Street Volume:             2457
Minor Approach Volume:           12
Minor Approach Volume Threshold: -25 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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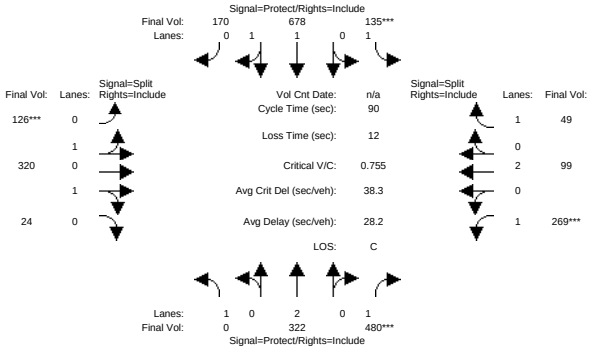
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #9: Santa Fe Dr / Buhach Rd-AirdromeEntry



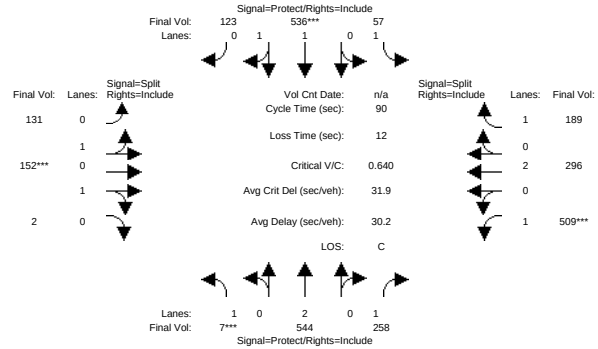
Street Name:	Santa Fe Drive						Buhach Road - Airdrome Entry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	322	74	112	678	170	126	283	24	40	78	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	322	74	112	678	170	126	283	24	40	78	36
Added Vol:	0	0	406	23	0	0	0	37	0	229	21	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	322	480	135	678	170	126	320	24	269	99	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	322	480	135	678	170	126	320	24	269	99	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	322	480	135	678	170	126	320	24	269	99	49
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	322	480	135	678	170	126	320	24	269	99	49
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	0.95	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	1.60	0.40	0.54	1.36	0.10	1.00	2.00	1.00
Final Sat.:	1900	3610	1615	1805	2800	702	948	2407	180	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.30	0.07	0.24	0.24	0.13	0.13	0.13	0.15	0.03	0.03
Crit Moves:			****	****			****			****		
Green/Cycle:	0.00	0.39	0.39	0.10	0.49	0.49	0.18	0.18	0.18	0.20	0.20	0.20
Volume/Cap:	0.00	0.23	0.75	0.75	0.49	0.49	0.75	0.75	0.75	0.75	0.14	0.15
Delay/Veh:	0.0	18.2	28.7	56.1	15.5	15.5	40.5	40.5	40.5	42.9	29.9	30.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	18.2	28.7	56.1	15.5	15.5	40.5	40.5	40.5	42.9	29.9	30.1
LOS by Move:	A	B	C	E	B	B	D	D	D	D	C	C
HCM2kAvgQ:	0	3	12	5	8	8	7	7	7	9	1	1

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #9: Santa Fe Dr / Buhach Rd-AirdromeEntry



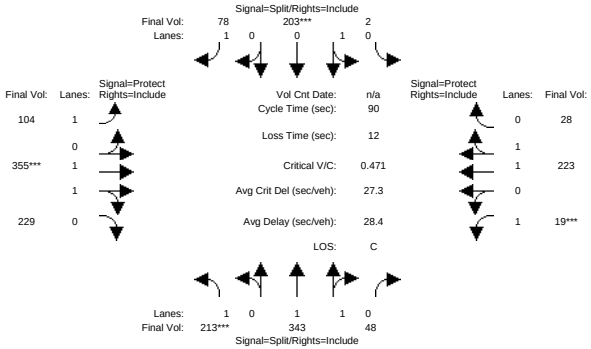
Street Name:	Santa Fe Drive						Buhach Road - Airdrome Entry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	7	544	29	44	536	123	131	131	2	103	259	166
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	544	29	44	536	123	131	131	2	103	259	166
Added Vol:	0	0	229	13	0	0	0	21	0	406	37	23
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	544	258	57	536	123	131	152	2	509	296	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	544	258	57	536	123	131	152	2	509	296	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	544	258	57	536	123	131	152	2	509	296	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	544	258	57	536	123	131	152	2	509	296	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	1.63	0.37	0.92	1.07	0.01	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	2854	655	1621	1881	25	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.15	0.16	0.03	0.19	0.19	0.08	0.08	0.08	0.28	0.08	0.12
Crit Moves:	****				****			****			****	
Green/Cycle:	0.08	0.23	0.23	0.11	0.27	0.27	0.12	0.12	0.12	0.40	0.40	0.40
Volume/Cap:	0.05	0.65	0.68	0.28	0.70	0.70	0.70	0.70	0.70	0.70	0.20	0.29
Delay/Veh:	38.6	32.9	36.6	37.3	31.9	31.9	43.5	43.5	43.5	25.3	17.5	18.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.6	32.9	36.6	37.3	31.9	31.9	43.5	43.5	43.5	25.3	17.5	18.3
LOS by Move:	D	C	D	D	C	C	D	D	D	C	B	B
HCM2kAvgQ:	0	7	7	2	10	10	4	4	4	13	3	4

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #10: Buhach Rd/Bellevue Rd



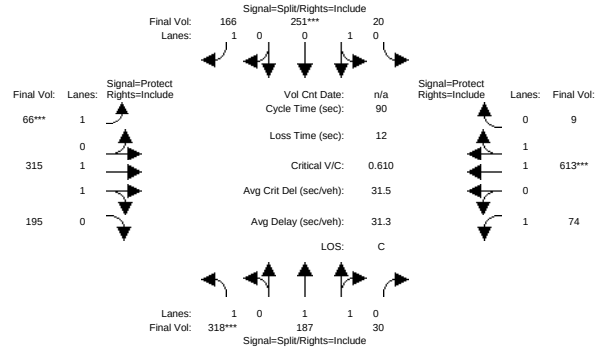
Street Name:	N. Buhach Road						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	213	329	48	2	195	65	81	355	229	19	223	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	213	329	48	2	195	65	81	355	229	19	223	28
Added Vol:	0	14	0	0	8	13	23	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	213	343	48	2	203	78	104	355	229	19	223	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	213	343	48	2	203	78	104	355	229	19	223	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	213	343	48	2	203	78	104	355	229	19	223	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	213	343	48	2	203	78	104	355	229	19	223	28
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	1.00	1.00	0.85	0.95	0.89	0.89	0.95	0.93	0.93
Lanes:	1.00	1.75	0.25	0.01	0.99	1.00	1.00	1.22	0.78	1.00	1.78	0.22
Final Sat.:	1805	3110	435	19	1881	1615	1805	2065	1332	1805	3153	396
Capacity Analysis Module:												
Vol/Sat:	0.12	0.11	0.11	0.11	0.11	0.05	0.06	0.17	0.17	0.01	0.07	0.07
Crit Moves:	****				****			****		****		
Green/Cycle:	0.23	0.23	0.23	0.21	0.21	0.21	0.17	0.34	0.34	0.08	0.25	0.25
Volume/Cap:	0.50	0.47	0.47	0.50	0.50	0.23	0.33	0.50	0.50	0.14	0.29	0.29
Delay/Veh:	30.9	30.1	30.1	32.2	32.2	29.5	33.3	24.0	24.0	39.1	27.7	27.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.9	30.1	30.1	32.2	32.2	29.5	33.3	24.0	24.0	39.1	27.7	27.7
LOS by Move:	C	C	C	C	C	C	C	C	C	D	C	C
HCM2kAvgQ:	6	5	5	5	5	2	3	7	7	0	3	3

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #10: Buhach Rd/Bellevue Rd



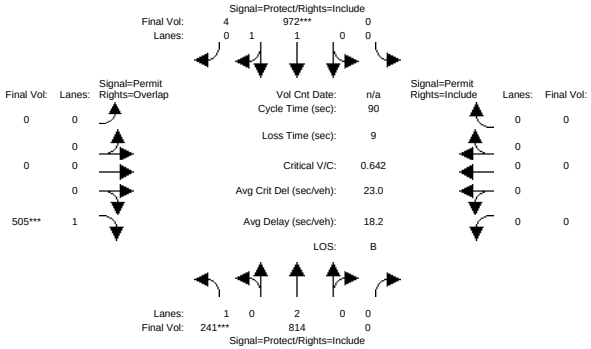
Street Name:	N. Buhach Road						Bellevue Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	318	179	30	20	237	143	53	315	195	74	613	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	318	179	30	20	237	143	53	315	195	74	613	9
Added Vol:	0	8	0	0	14	23	13	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	318	187	30	20	251	166	66	315	195	74	613	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	318	187	30	20	251	166	66	315	195	74	613	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	318	187	30	20	251	166	66	315	195	74	613	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	318	187	30	20	251	166	66	315	195	74	613	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	1.00	1.00	0.85	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.72	0.28	0.07	0.93	1.00	1.00	1.24	0.76	1.00	1.97	0.03
Final Sat.:	1805	3046	489	140	1753	1615	1805	2103	1302	1805	3551	52
Capacity Analysis Module:												
Vol/Sat:	0.18	0.06	0.06	0.14	0.14	0.10	0.04	0.15	0.15	0.04	0.17	0.17
Crit Moves:	****				****		****				****	
Green/Cycle:	0.28	0.28	0.28	0.23	0.23	0.23	0.08	0.23	0.23	0.12	0.28	0.28
Volume/Cap:	0.62	0.22	0.22	0.62	0.62	0.45	0.47	0.64	0.64	0.34	0.62	0.62
Delay/Veh:	30.5	24.8	24.8	34.0	34.0	30.6	42.2	32.9	32.9	37.2	29.7	29.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.5	24.8	24.8	34.0	34.0	30.6	42.2	32.9	32.9	37.2	29.7	29.7
LOS by Move:	C	C	C	C	C	C	D	C	C	D	C	C
HCM2kAvgQ:	8	2	2	7	7	4	2	8	8	2	8	8

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #14: Santa Fe Dr / Bellevue Rd



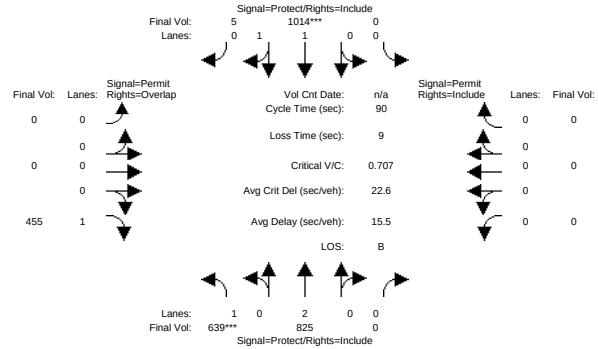
Street Name:	Santa Fe Drive								Bellevue Road							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	0	0		10	10	0		0	10	0		0	0
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	241		408	0	0		743	4	0		0	505	0		0	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	241		408	0	0		743	4	0		0	505	0		0	0
Added Vol:	0		406	0	0		229	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	241		814	0	0		972	4	0		0	505	0		0	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	241		814	0	0		972	4	0		0	505	0		0	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	241		814	0	0		972	4	0		0	505	0		0	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	241		814	0	0		972	4	0		0	505	0		0	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	1.00	1.00		0.95	0.95	1.00		1.00	0.87	1.00		1.00	1.00
Lanes:	1.00		2.00	0.00	0.00		1.99	0.01	0.00		0.00	1.00	0.00		0.00	0.00
Final Sat.:	1805		3610	0	0		3592	15	0		0	1644	0		0	0
Capacity Analysis Module:																
Vol/Sat:	0.13		0.23	0.00	0.00		0.27	0.27	0.00		0.00	0.31	0.00		0.00	0.00
Crit Moves:	****						****					****				
Green/Cycle:	0.21		0.63	0.00	0.00		0.42	0.42	0.00		0.00	0.48	0.00		0.00	0.00
Volume/Cap:	0.64		0.36	0.00	0.00		0.64	0.64	0.00		0.00	0.64	0.00		0.00	0.00
Delay/Veh:	36.3		8.1	0.0	0.0		21.6	21.6	0.0		0.0	19.5	0.0		0.0	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	36.3		8.1	0.0	0.0		21.6	21.6	0.0		0.0	19.5	0.0		0.0	0.0
LOS by Move:	D		A	A	A		C	C	A		A	B	A		A	A
HCM2kAvgQ:	6		5	0	0		11	11	0		0	10	0		0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #14: Santa Fe Dr / Bellevue Rd



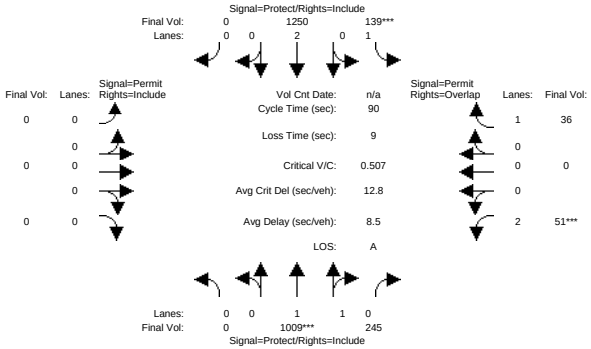
Street Name:	Santa Fe Drive								Bellevue Road							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	0	0		10	10	0		0	10	0		0	0
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	639		596	0	0		608	5	0		0	455	0		0	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	639		596	0	0		608	5	0		0	455	0		0	0
Added Vol:	0		229	0	0		406	0	0		0	0	0		0	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	639		825	0	0		1014	5	0		0	455	0		0	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	639		825	0	0		1014	5	0		0	455	0		0	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	639		825	0	0		1014	5	0		0	455	0		0	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	639		825	0	0		1014	5	0		0	455	0		0	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	1.00	1.00		0.95	0.95	1.00		1.00	0.87	1.00		1.00	1.00
Lanes:	1.00		2.00	0.00	0.00		1.99	0.01	0.00		0.00	1.00	0.00		0.00	0.00
Final Sat.:	1805		3610	0	0		3589	18	0		0	1644	0		0	0
Capacity Analysis Module:																
Vol/Sat:	0.35		0.23	0.00	0.00		0.28	0.28	0.00		0.00	0.28	0.00		0.00	0.00
Crit Moves:	****						****									
Green/Cycle:	0.50		0.90	0.00	0.00		0.40	0.40	0.00		0.00	0.50	0.00		0.00	0.00
Volume/Cap:	0.71		0.25	0.00	0.00		0.71	0.71	0.00		0.00	0.55	0.00		0.00	0.00
Delay/Veh:	20.0		0.6	0.0	0.0		24.3	24.3	0.0		0.0	16.3	0.0		0.0	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	20.0		0.6	0.0	0.0		24.3	24.3	0.0		0.0	16.3	0.0		0.0	0.0
LOS by Move:	B		A	A	A		C	C	A		A	B	A		A	A
HCM2kAvgQ:	14		2	0	0		12	12	0		0	8	0		0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #15: Santa Fe Dr / F St



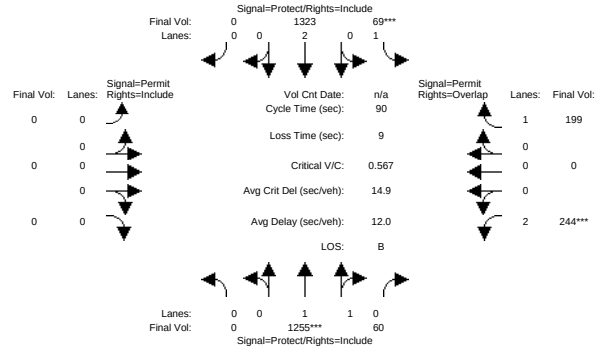
Street Name:	Santa Fe Drive						F Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	603	245	139	1021	0	0	0	0	51	0	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	603	245	139	1021	0	0	0	0	51	0	36
Added Vol:	0	406	0	0	229	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1009	245	139	1250	0	0	0	0	51	0	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1009	245	139	1250	0	0	0	0	51	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1009	245	139	1250	0	0	0	0	51	0	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1009	245	139	1250	0	0	0	0	51	0	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.92	0.92	0.95	0.95	1.00	1.00	1.00	1.00	0.63	1.00	0.85
Lanes:	0.00	1.61	0.39	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	2820	685	1805	3610	0	0	0	0	2396	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.36	0.36	0.08	0.35	0.00	0.00	0.00	0.00	0.02	0.00	0.02
Crit Moves:		****		****						****		
Green/Cycle:	0.00	0.65	0.65	0.14	0.79	0.00	0.00	0.00	0.00	0.11	0.00	0.25
Volume/Cap:	0.00	0.55	0.55	0.55	0.44	0.00	0.00	0.00	0.00	0.19	0.00	0.09
Delay/Veh:	0.0	8.9	8.9	38.7	3.2	0.0	0.0	0.0	0.0	36.7	0.0	25.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.9	8.9	38.7	3.2	0.0	0.0	0.0	0.0	36.7	0.0	25.9
LOS by Move:	A	A	A	D	A	A	A	A	A	D	A	C
HCM2kAvgQ:	0	9	9	4	6	0	0	0	0	1	0	1

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #15: Santa Fe Dr / F St



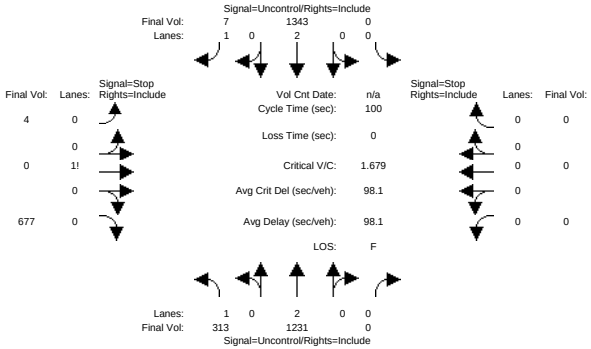
Street Name:	Santa Fe Drive						F Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	1026	60	69	917	0	0	0	0	244	0	199
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1026	60	69	917	0	0	0	0	244	0	199
Added Vol:	0	229	0	0	406	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1255	60	69	1323	0	0	0	0	244	0	199
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1255	60	69	1323	0	0	0	0	244	0	199
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1255	60	69	1323	0	0	0	0	244	0	199
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1255	60	69	1323	0	0	0	0	244	0	199
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.94	0.94	0.95	0.95	1.00	1.00	1.00	1.00	0.61	1.00	0.85
Lanes:	0.00	1.91	0.09	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3421	164	1805	3610	0	0	0	0	2318	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.37	0.04	0.37	0.00	0.00	0.00	0.00	0.11	0.00	0.12
Crit Moves:		****		****						****		
Green/Cycle:	0.00	0.64	0.64	0.08	0.72	0.00	0.00	0.00	0.00	0.18	0.00	0.26
Volume/Cap:	0.00	0.57	0.57	0.49	0.51	0.00	0.00	0.00	0.00	0.57	0.00	0.47
Delay/Veh:	0.0	9.6	9.6	42.5	5.9	0.0	0.0	0.0	0.0	35.5	0.0	28.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.6	9.6	42.5	5.9	0.0	0.0	0.0	0.0	35.5	0.0	28.9
LOS by Move:	A	A	A	D	A	A	A	A	A	D	A	C
HCM2kAvgQ:	0	10	10	2	8	0	0	0	0	4	0	5

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #16: Santa Fe Dr / W Ave 2




```
Street Name:           Santa Fe Drive                        W Ave 2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     313  825     0     0 1114     7     4    0   677     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  313  825     0     0 1114     7     4    0   677     0    0     0
Added Vol:      0  406     0     0  229     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  313 1231     0     0 1343     7     4    0   677     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   313 1231     0     0 1343     7     4    0   677     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  313 1231     0     0 1343     7     4    0   677     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1350 xxxx xxxxx  xxxx xxxx xxxxx  2585 3200   672  xxxx xxxx xxxxx
Potent Cap.:  516 xxxx xxxxx  xxxx xxxx xxxxx    21   10   403  xxxx xxxx xxxxx
Move Cap.:    516 xxxx xxxxx  xxxx xxxx xxxxx    11    4   403  xxxx xxxx xxxxx
Volume/Cap:  0.61 xxxx  xxxx  xxxx xxxx  xxxx  0.36 0.00  1.68  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    4.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 22.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    C    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  334 xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 48.7 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  505 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            504.8           xxxxxx
ApproachLOS:         *                *                F                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  313 1231     0     0 1343     7     4    0   677     0    0     0
ApproachDel:    xxxxxx           xxxxxx            504.8           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=95.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=681]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3575]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  313 1231     0     0 1343     7     4    0   677     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2894
Minor Approach Volume:           681
Minor Approach Volume Threshold: -81 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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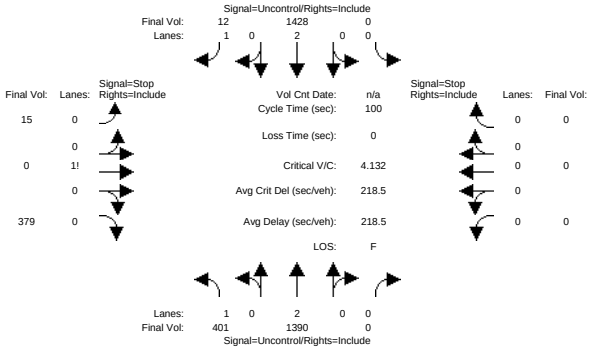
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #16: Santa Fe Dr / W Ave 2




```
Street Name:           Santa Fe Drive                        W Ave 2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     401 1161     0     0 1022    12    15    0   379     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  401 1161     0     0 1022    12    15    0   379     0    0     0
Added Vol:      0  229     0     0  406     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  401 1390     0     0 1428    12    15    0   379     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   401 1390     0     0 1428    12    15    0   379     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  401 1390     0     0 1428    12    15    0   379     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1440 xxxx xxxxx  xxxx xxxx xxxxx  2925 3620   714  xxxx xxxx xxxxx
Potent Cap.:  477 xxxx xxxxx  xxxx xxxx xxxxx    12    5   378  xxxx xxxx xxxxx
Move Cap.:    477 xxxx xxxxx  xxxx xxxx xxxxx     4    1   378  xxxx xxxx xxxxx
Volume/Cap:  0.84 xxxx  xxxx  xxxx xxxx  xxxx  4.13 0.00  1.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    8.4 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 41.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    E    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx   77 xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 43.1 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 1969 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           1968.8           xxxxxx
ApproachLOS:         *                *                F                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  401 1390     0     0 1428    12    15    0   379     0    0     0
ApproachDel:    xxxxxx           xxxxxx           1968.8           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=215.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=394]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3625]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

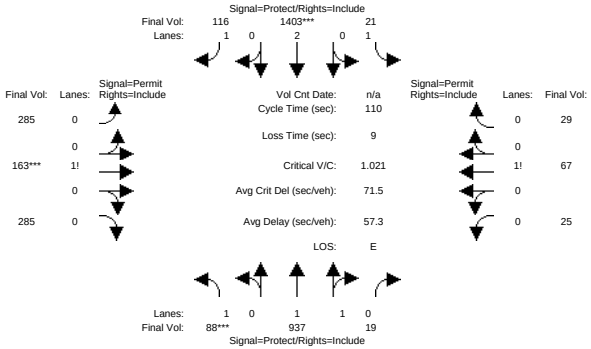
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #16 Santa Fe Dr / W Ave 2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  2  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  401 1390     0     0 1428    12    15    0   379     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3231
Minor Approach Volume:           394
Minor Approach Volume Threshold: -119 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #17: Santa Fe Dr / N Franklin Rd



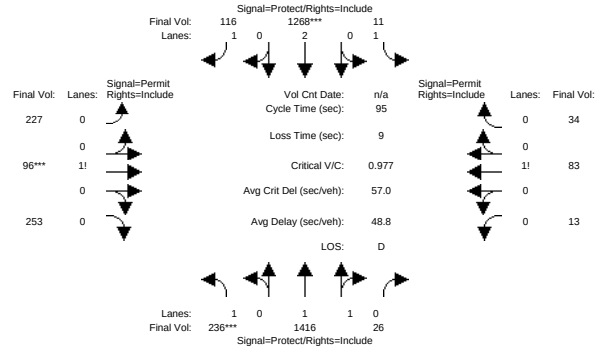
Street Name:	Santa Fe Drive						N Franklin Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	890	19	21	1377	116	285	163	285	25	67	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	890	19	21	1377	116	285	163	285	25	67	29
Added Vol:	0	47	0	0	26	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	937	19	21	1403	116	285	163	285	25	67	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	937	19	21	1403	116	285	163	285	25	67	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	937	19	21	1403	116	285	163	285	25	67	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	937	19	21	1403	116	285	163	285	25	67	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.95	0.85	0.77	0.77	0.77	0.82	0.82	0.82
Lanes:	1.00	1.96	0.04	1.00	2.00	1.00	0.39	0.22	0.39	0.21	0.55	0.24
Final Sat.:	1805	3528	72	1805	3610	1615	569	326	569	320	857	371
Capacity Analysis Module:												
Vol/Sat:	0.05	0.27	0.27	0.01	0.39	0.07	0.50	0.50	0.50	0.08	0.08	0.08
Crit Moves:	****				****			****				
Green/Cycle:	0.06	0.35	0.35	0.08	0.37	0.37	0.48	0.48	0.48	0.48	0.48	0.48
Volume/Cap:	0.77	0.75	0.75	0.14	1.04	0.19	1.04	1.04	1.04	0.16	0.16	0.16
Delay/Veh:	76.7	34.0	34.0	47.1	70.2	23.4	73.4	73.4	73.4	16.2	16.2	16.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	76.7	34.0	34.0	47.1	70.2	23.4	73.4	73.4	73.4	16.2	16.2	16.2
LOS by Move:	E	C	C	D	E	C	E	E	E	B	B	B
HCM2kAvgQ:	5	16	16	1	34	3	34	34	34	2	2	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #17: Santa Fe Dr / N Franklin Rd



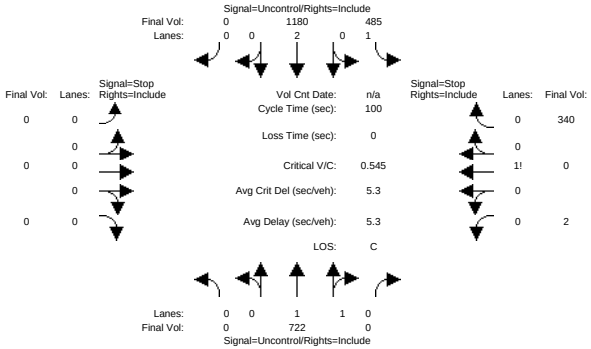
Street Name:	Santa Fe Drive						N Franklin Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	236	1390	26	11	1221	116	227	96	253	13	83	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	236	1390	26	11	1221	116	227	96	253	13	83	34
Added Vol:	0	26	0	0	47	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	236	1416	26	11	1268	116	227	96	253	13	83	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	236	1416	26	11	1268	116	227	96	253	13	83	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	236	1416	26	11	1268	116	227	96	253	13	83	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	236	1416	26	11	1268	116	227	96	253	13	83	34
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.95	0.85	0.75	0.75	0.75	0.91	0.91	0.91
Lanes:	1.00	1.96	0.04	1.00	2.00	1.00	0.39	0.17	0.44	0.10	0.64	0.26
Final Sat.:	1805	3534	65	1805	3610	1615	564	238	628	173	1104	452
Capacity Analysis Module:												
Vol/Sat:	0.13	0.40	0.40	0.01	0.35	0.07	0.40	0.40	0.40	0.08	0.08	0.08
Crit Moves:	****				****			****				
Green/Cycle:	0.13	0.42	0.42	0.08	0.36	0.36	0.41	0.41	0.41	0.41	0.41	0.41
Volume/Cap:	0.98	0.96	0.96	0.08	0.98	0.20	0.98	0.98	0.98	0.18	0.18	0.18
Delay/Veh:	92.3	42.1	42.1	41.0	49.7	21.2	58.7	58.7	58.7	17.9	17.9	17.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	92.3	42.1	42.1	41.0	49.7	21.2	58.7	58.7	58.7	17.9	17.9	17.9
LOS by Move:	F	D	D	D	D	C	E	E	E	B	B	B
HCM2kAvgQ:	11	28	28	0	26	2	23	23	23	2	2	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #19: Santa Fe Dr / Belcher Ave




```
Street Name:           Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  675     0   485 1154     0     0    0     0     2    0   340
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  675     0   485 1154     0     0    0     0     2    0   340
Added Vol:      0   47     0     0   26     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  722     0   485 1180     0     0    0     0     2    0   340
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  722     0   485 1180     0     0    0     0     2    0   340
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  722     0   485 1180     0     0    0     0     2    0   340
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   722 xxxx xxxxx  xxxx xxxx xxxxx  2282 2872   361
Potent Cap.: xxxx xxxx xxxxx   889 xxxx xxxxx  xxxx xxxx xxxxx    34   17   641
Move Cap.:   xxxx xxxx xxxxx   889 xxxx xxxxx  xxxx xxxx xxxxx    20    8   641
Volume/Cap:  xxxx xxxx  xxxx  0.55 xxxx  xxxx  xxxx xxxx  xxxx  0.10 0.00  0.53
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   3.4 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  13.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     B    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  541 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  4.4 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 22.4 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             22.4
ApproachLOS:         *                *                *                C
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  722     0   485 1180     0     0    0     0     2    0   340
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             22.4
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=342]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2729]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

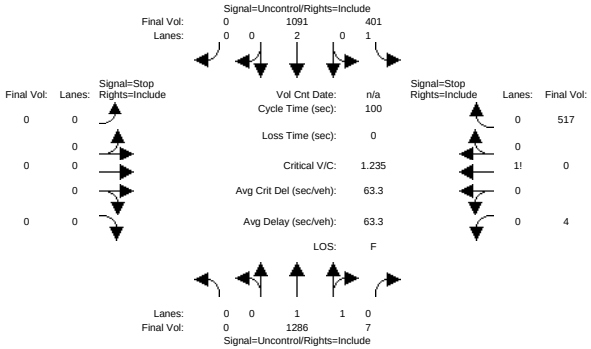
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  722     0   485 1180     0     0    0     0     2    0   340
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2387
Minor Approach Volume:           342
Minor Approach Volume Threshold: -15 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #19: Santa Fe Dr / Belcher Ave




```
Street Name:           Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1260     7   401 1044     0     0    0     0     4    0   517
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1260     7   401 1044     0     0    0     0     4    0   517
Added Vol:      0   26     0     0   47     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0 1286     7   401 1091     0     0    0     0     4    0   517
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1286     7   401 1091     0     0    0     0     4    0   517
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0 1286     7   401 1091     0     0    0     0     4    0   517
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.8  6.5   6.9
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1293 xxxx xxxxx  xxxx xxxx xxxxx  2637 3183   647
Potent Cap.: xxxx xxxx xxxxx   543 xxxx xxxxx  xxxx xxxx xxxxx    20   10   419
Move Cap.:   xxxx xxxx xxxxx   543 xxxx xxxxx  xxxx xxxx xxxxx     8    3   419
Volume/Cap:  xxxx xxxx  xxxx  0.74 xxxx  xxxx  xxxx xxxx  xxxx  0.51 0.00  1.23
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   6.3 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  28.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     D    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  298 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 33.7 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  380 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    F     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           380.2
ApproachLOS:         *                *                *                F
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0 1286     7   401 1091     0     0    0     0     4    0   517
ApproachDel:    xxxxxx           xxxxxx           xxxxxx            380.2
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=55.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=521]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3306]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

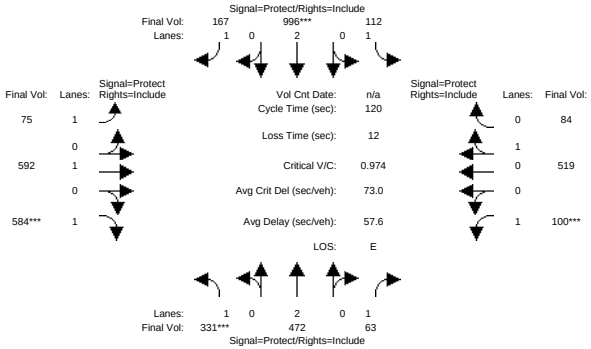
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #19 Santa Fe Dr / Belcher Ave
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0 1286     7   401 1091     0     0    0     0     4    0   517
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2785
Minor Approach Volume:           521
Minor Approach Volume Threshold: -68 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

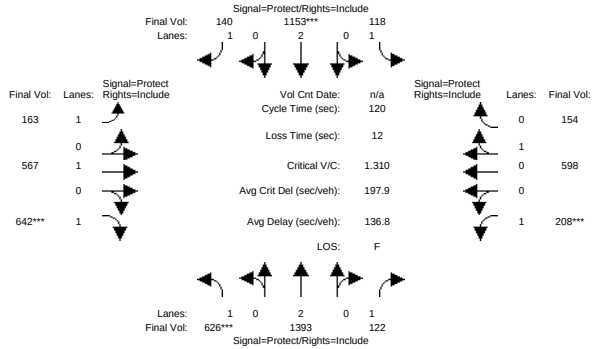



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     331 425  63   112 970 167    75 584 584   100 502  84
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  331 425  63   112 970 167    75 584 584   100 502  84
Added Vol:      0   0   0     0   0   0     0   8   0     0  17   0
Added Vol:      0  47   0     0  26   0     0   0   0     0   0   0
Initial Fut:  331 472  63   112 996 167    75 592 584   100 519  84
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   331 472  63   112 996 167    75 592 584   100 519  84
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  331 472  63   112 996 167    75 592 584   100 519  84
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  331 472  63   112 996 167    75 592 584   100 519  84
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 1.00 0.85 0.95 0.98 0.98
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 1.00 1.00 1.00 0.86 0.14
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 1900 1615 1805 1601  259
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.13 0.04 0.06 0.28 0.10 0.04 0.31 0.36 0.06 0.32 0.32
Crit Moves:  ****                ****                ****  ****
Green/Cycle: 0.19 0.32 0.32 0.15 0.28 0.28 0.07 0.37 0.37 0.06 0.36 0.36
Volume/Cap:  0.98 0.41 0.12 0.41 0.98 0.37 0.63 0.84 0.98 0.95 0.89 0.89
Delay/Veh:   90.5 32.2 29.0 47.0 64.9 34.9 65.5 43.4 67.7 127.8 50.0 50.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  90.5 32.2 29.0 47.0 64.9 34.9 65.5 43.4 67.7 127.8 50.0 50.0
LOS by Move:    F    C    C    D    E    C    E    D    E    F    D    D
HCM2kAvgQ:    363 172  39  101 615 125   96 553 671  164 604 604
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

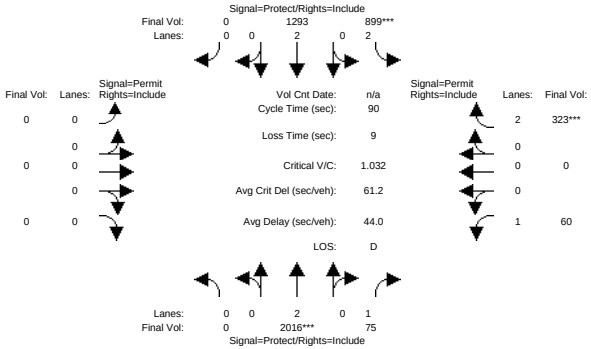



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     626 1367 122   118 1106 140   163 550 642   208 590 154
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  626 1367 122   118 1106 140   163 550 642   208 590 154
Added Vol:      0    0   0     0    0   0     0  17   0     0   8   0
Added Vol:      0   26   0     0   47   0     0   0   0     0   0   0
Initial Fut:  626 1393 122   118 1153 140   163 567 642   208 598 154
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   626 1393 122   118 1153 140   163 567 642   208 598 154
Reduct Vol:     0    0   0     0    0   0     0   0   0     0   0   0
Reduced Vol:  626 1393 122   118 1153 140   163 567 642   208 598 154
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  626 1393 122   118 1153 140   163 567 642   208 598 154
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 1.00 0.85 0.95 0.97 0.97
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 1.00 1.00 1.00 0.80 0.20
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 1900 1615 1805 1464  377
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35 0.39 0.08 0.07 0.32 0.09 0.09 0.30 0.40 0.12 0.41 0.41
Crit Moves:  ****                ****                ****  ****
Green/Cycle: 0.26 0.43 0.43 0.07 0.24 0.24 0.07 0.30 0.30 0.09 0.32 0.32
Volume/Cap:  1.31 0.89 0.17 0.89 1.31 0.36 1.27 0.98 1.31 1.31 1.27 1.27
Delay/Veh:  198.0 37.8 20.8 100.9 193 38.1 226.4 74.6 195.4 231.9 177 177.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 198.0 37.8 20.8 100.9 193 38.1 226.4 74.6 195.4 231.9 177 177.0
LOS by Move:    F    D    C    F    F    D    F    E    F    F    F    F
HCM2kAvgQ:    990 575  62  173 1043 110  316 665 1099  399 1230 1230
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #21: Santa Fe Dr/ AM Express WB Ramps

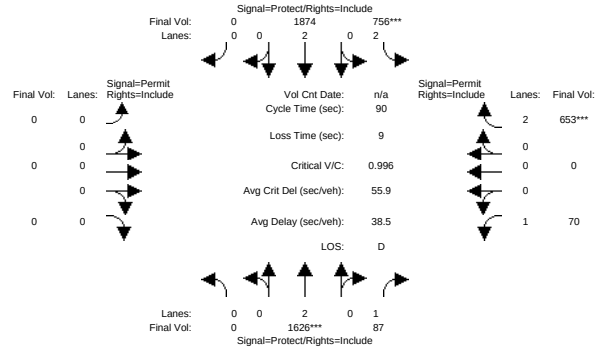



```
Street Name:            Santa Fe Dr                     AM Express WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1634    75   710 1254     0     0    0     0    60    0   300
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1634    75   710 1254     0     0    0     0    60    0   300
Added Vol:      0  382     0   189   39     0     0    0     0     0    0    23
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0 2016    75   899 1293     0     0    0     0    60    0   323
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 2016    75   899 1293     0     0    0     0    60    0   323
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 2016    75   899 1293     0     0    0     0    60    0   323
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0 2016    75   899 1293     0     0    0     0    60    0   323
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.95  0.85  0.92 0.95  1.00  1.00 1.00  1.00  0.77 1.00  0.75
Lanes:       0.00 2.00  1.00  2.00 2.00  0.00  0.00 0.00  0.00  1.00 0.00  2.00
Final Sat.:     0 3610  1615  3502 3610     0     0    0     0  1461    0  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.56  0.05  0.26 0.36  0.00  0.00 0.00  0.00  0.04 0.00  0.11
Crit Moves:        ****        ****                                      ****
Green/Cycle: 0.00 0.54  0.54  0.25 0.79  0.00  0.00 0.00  0.00  0.11 0.00  0.11
Volume/Cap:  0.00 1.03  0.09  1.03 0.45  0.00  0.00 0.00  0.00  0.37 0.00  1.02
Delay/Veh:    0.0 50.2  10.0  73.2  3.2   0.0   0.0  0.0   0.0  38.5  0.0  96.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 50.2  10.0  73.2  3.2   0.0   0.0  0.0   0.0  38.5  0.0  96.6
LOS by Move:    A    D     B     E    A     A     A    A     A     D    A     F
HCM2kAvgQ:      0   33     1    17    6     0     0    0     0     2    0    10
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #21: Santa Fe Dr/ AM Express WB Ramps

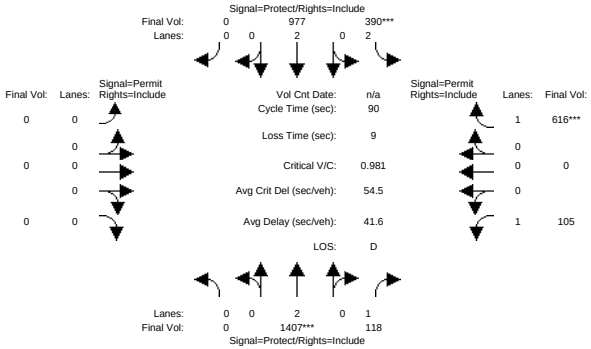



```
Street Name:            Santa Fe Dr                     AM Express WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1410    87   420 1804     0     0    0     0    70    0   640
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1410    87   420 1804     0     0    0     0    70    0   640
Added Vol:      0  216     0   336   70     0     0    0     0     0    0    13
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0 1626    87   756 1874     0     0    0     0    70    0   653
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1626    87   756 1874     0     0    0     0    70    0   653
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1626    87   756 1874     0     0    0     0    70    0   653
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0 1626    87   756 1874     0     0    0     0    70    0   653
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.95  0.85  0.92 0.95  1.00  1.00 1.00  1.00  0.80 1.00  0.75
Lanes:       0.00 2.00  1.00  2.00 2.00  0.00  0.00 0.00  0.00  1.00 0.00  2.00
Final Sat.:     0 3610  1615  3502 3610     0     0    0     0  1511    0  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.45  0.05  0.22 0.52  0.00  0.00 0.00  0.00  0.05 0.00  0.23
Crit Moves:        ****        ****                                      ****
Green/Cycle: 0.00 0.45  0.45  0.22 0.67  0.00  0.00 0.00  0.00  0.23 0.00  0.23
Volume/Cap:  0.00 1.00  0.12  1.00 0.78  0.00  0.00 0.00  0.00  0.20 0.00  1.00
Delay/Veh:    0.0 45.7  14.3  66.7 11.9   0.0   0.0  0.0   0.0  28.2  0.0  68.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 45.7  14.3  66.7 11.9   0.0   0.0  0.0   0.0  28.2  0.0  68.5
LOS by Move:    A    D     B     E    B     A     A    A     A     C    A     E
HCM2kAvgQ:      0   27     1    14   19     0     0    0     0     2    0    16
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #22: Santa Fe Dr/ AM Express EB Ramps

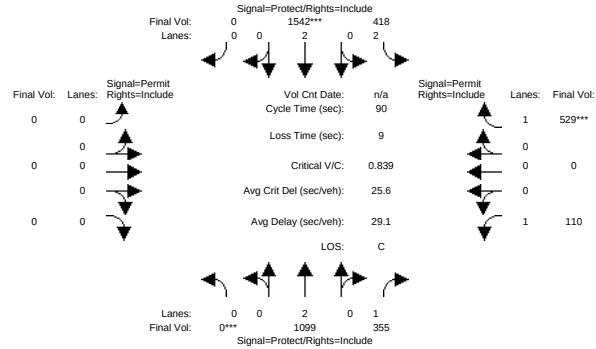



```
Street Name:            Santa Fe Dr                    AM Express EB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10    10   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0   4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1360   118   377  951    0     0    0    0   105    0  280
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0 1360   118   377  951    0     0    0    0   105    0  280
Added Vol:      0   47     0    13   26    0     0    0    0     0    0  336
PasserByVol:    0    0     0     0    0    0     0    0    0     0    0    0
Initial Fut:    0 1407   118   390  977    0     0    0    0   105    0  616
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0 1407   118   390  977    0     0    0    0   105    0  616
Reduct Vol:     0    0     0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0 1407   118   390  977    0     0    0    0   105    0  616
PCE Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0 1407   118   390  977    0     0    0    0   105    0  616
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.95  0.85  0.92 0.95 1.00  1.00 1.00 1.00  0.79 1.00 0.85
Lanes:       0.00 2.00  1.00  2.00 2.00 0.00  0.00 0.00 0.00  1.00 0.00 1.00
Final Sat.:     0 3610  1615  3502 3610    0     0    0    0  1497    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.39  0.07  0.11 0.27 0.00  0.00 0.00 0.00  0.07 0.00 0.38
Crit Moves:        ****        ****                                      ****
Green/Cycle: 0.00 0.40  0.40  0.11 0.51 0.00  0.00 0.00 0.00  0.39 0.00 0.39
Volume/Cap:  0.00 0.98  0.18  0.98 0.53 0.00  0.00 0.00 0.00  0.18 0.00 0.98
Delay/Veh:    0.0 46.0  17.8  79.6 15.0  0.0   0.0  0.0  0.0  18.2  0.0 58.1
User DelAdj: 1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 46.0  17.8  79.6 15.0  0.0   0.0  0.0  0.0  18.2  0.0 58.1
LOS by Move:    A    D     B     E    B    A     A    A    A     B    A    E
HCM2kAvgQ:      0   27     2     7    9    0     0    0    0     2    0   23
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #22: Santa Fe Dr/ AM Express EB Ramps

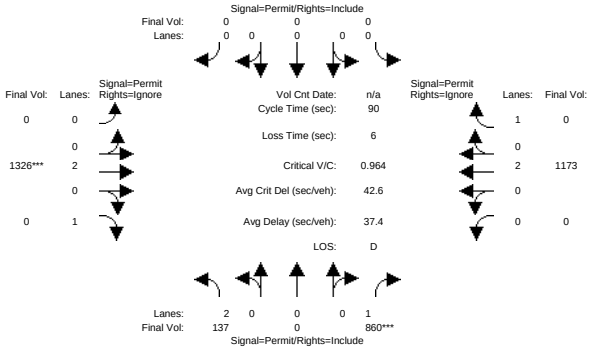



```
Street Name:            Santa Fe Dr                    AM Express EB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10    10   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0   4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1073   355   395 1495    0     0    0    0   110    0  340
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0 1073   355   395 1495    0     0    0    0   110    0  340
Added Vol:      0   26     0    23   47    0     0    0    0     0    0  189
PasserByVol:    0    0     0     0    0    0     0    0    0     0    0    0
Initial Fut:    0 1099   355   418 1542    0     0    0    0   110    0  529
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0 1099   355   418 1542    0     0    0    0   110    0  529
Reduct Vol:     0    0     0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0 1099   355   418 1542    0     0    0    0   110    0  529
PCE Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0 1099   355   418 1542    0     0    0    0   110    0  529
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.95  0.85  0.92 0.95 1.00  1.00 1.00 1.00  0.79 1.00 0.85
Lanes:       0.00 2.00  1.00  2.00 2.00 0.00  0.00 0.00 0.00  1.00 0.00 1.00
Final Sat.:     0 3610  1615  3502 3610    0     0    0    0  1493    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.30  0.22  0.12 0.43 0.00  0.00 0.00 0.00  0.07 0.00 0.33
Crit Moves:  ****                 ****                                      ****
Green/Cycle: 0.00 0.37  0.37  0.14 0.51 0.00  0.00 0.00 0.00  0.39 0.00 0.39
Volume/Cap:  0.00 0.83  0.60  0.83 0.84 0.00  0.00 0.00 0.00  0.19 0.00 0.84
Delay/Veh:    0.0 30.7  24.9  48.8 22.5  0.0   0.0  0.0  0.0  18.2  0.0 34.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 30.7  24.9  48.8 22.5  0.0   0.0  0.0  0.0  18.2  0.0 34.5
LOS by Move:    A    C     C     D    C    A     A    A    A     B    A    C
HCM2kAvgQ:      0   17     9     6   19    0     0    0    0     2    0   16
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #23: SR-99 NB Ramps/AM Express

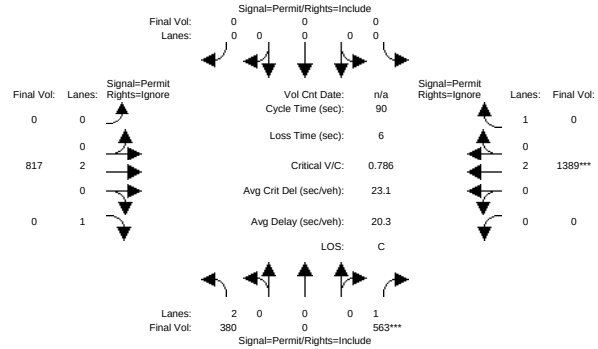



```
Street Name:          SR-99 NB Ramps                    AM Express
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     0   10    10     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     137    0   580     0    0     0     0 1270   340     0 1010   415
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  137    0   580     0    0     0     0 1270   340     0 1010   415
Added Vol:      0    0   280     0    0     0     0   56     0     0  163    26
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  137    0   860     0    0     0     0 1326   340     0 1173   441
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Volume:   137    0   860     0    0     0     0 1326     0     0 1173     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  137    0   860     0    0     0     0 1326     0     0 1173     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
FinalVolume:  137    0   860     0    0     0     0 1326     0     0 1173     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.61 1.00  0.85  1.00 1.00  1.00  1.00 0.95  1.00  1.00 0.95  1.00
Lanes:       2.00 0.00  1.00  0.00 0.00  0.00  0.00 2.00  1.00  0.00 2.00  1.00
Final Sat.:  2322    0  1615     0    0     0     0 3610  1900     0 3610  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.00  0.53  0.00 0.00  0.00  0.00 0.37  0.00  0.00 0.32  0.00
Crit Moves:              ****                     ****
Green/Cycle: 0.55 0.00  0.55  0.00 0.00  0.00  0.00 0.38  0.00  0.00 0.38  0.00
Volume/Cap:  0.11 0.00  0.96  0.00 0.00  0.00  0.00 0.96  0.00  0.00 0.85  0.00
Delay/Veh:    9.6  0.0  41.1   0.0  0.0   0.0   0.0 43.7   0.0   0.0 30.9   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.6  0.0  41.1   0.0  0.0   0.0   0.0 43.7   0.0   0.0 30.9   0.0
LOS by Move:    A    A     D     A    A     A     A    D     A     A    C     A
HCM2kAvgQ:      1    0    29     0    0     0     0   21     0     0   19     0
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #23: SR-99 NB Ramps/AM Express

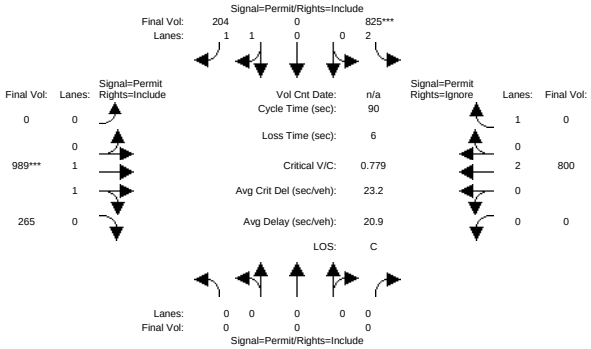



```
Street Name:          SR-99 NB Ramps                    AM Express
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     0   10    10     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     380    0   405     0    0     0     0  785   400     0 1100   415
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  380    0   405     0    0     0     0  785   400     0 1100   415
Added Vol:      0    0   158     0    0     0     0   32     0     0  289    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  380    0   563     0    0     0     0  817   400     0 1389   462
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Volume:   380    0   563     0    0     0     0  817     0     0 1389     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  380    0   563     0    0     0     0  817     0     0 1389     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
FinalVolume:  380    0   563     0    0     0     0  817     0     0 1389     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.59 1.00  0.85  1.00 1.00  1.00  1.00 0.95  1.00  1.00 0.95  1.00
Lanes:       2.00 0.00  1.00  0.00 0.00  0.00  0.00 2.00  1.00  0.00 2.00  1.00
Final Sat.:  2245    0  1615     0    0     0     0 3610  1900     0 3610  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.00  0.35  0.00 0.00  0.00  0.00 0.23  0.00  0.00 0.38  0.00
Crit Moves:              ****                     ****
Green/Cycle: 0.44 0.00  0.44  0.00 0.00  0.00  0.00 0.49  0.00  0.00 0.49  0.00
Volume/Cap:  0.38 0.00  0.79  0.00 0.00  0.00  0.00 0.46  0.00  0.00 0.79  0.00
Delay/Veh:   17.0  0.0  27.1   0.0  0.0   0.0   0.0 15.3   0.0   0.0 21.5   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  17.0  0.0  27.1   0.0  0.0   0.0   0.0 15.3   0.0   0.0 21.5   0.0
LOS by Move:    B    A     C     A    A     A     A    B     A     A    C     A
HCM2kAvgQ:      4    0    15     0    0     0     0    8     0     0   18     0
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #24: SR-99 SB Ramps/AM Express



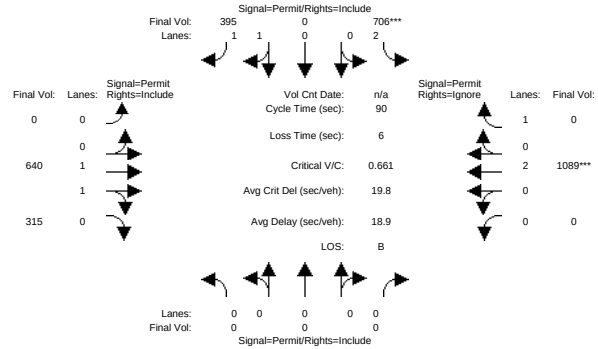
Street Name:	SR-99 SB Ramps												AM Express					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	0	0	0	10	10	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	778	0	204	0	980	265	0	795	325
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	778	0	204	0	980	265	0	795	325
Added Vol:	0	0	0	47	0	0	0	9	0	0	5	158
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	825	0	204	0	989	265	0	800	483
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	825	0	204	0	989	265	0	800	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	825	0	204	0	989	265	0	800	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	825	0	204	0	989	265	0	800	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.59	1.00	0.85	1.00	0.92	0.92	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	2.00	0.00	1.58	0.42	0.00	2.00	1.00
Final Sat.:	0	0	0	2241	0	3230	0	2756	738	0	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.37	0.00	0.06	0.00	0.36	0.36	0.00	0.22	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.47	0.00	0.47	0.00	0.46	0.46	0.00	0.46	0.00
Volume/Cap:	0.00	0.00	0.00	0.78	0.00	0.13	0.00	0.78	0.78	0.00	0.48	0.00
Delay/Veh:	0.0	0.0	0.0	23.6	0.0	13.4	0.0	22.9	22.9	0.0	17.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	23.6	0.0	13.4	0.0	22.9	22.9	0.0	17.0	0.0
LOS by Move:	A	A	A	C	A	B	A	C	C	A	B	A
HCM2kAvgQ:	0	0	0	12	0	2	0	17	17	0	8	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #24: SR-99 SB Ramps/AM Express



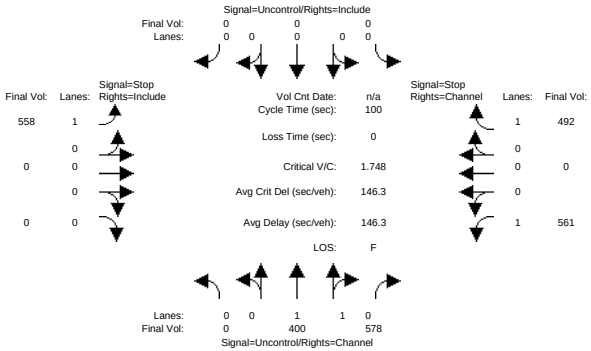
Street Name:	SR-99 SB Ramps												AM Express					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	0	0	0	10	10	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	680	0	395	0	635	315	0	1080	325
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	680	0	395	0	635	315	0	1080	325
Added Vol:	0	0	0	26	0	0	0	5	0	0	9	280
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	706	0	395	0	640	315	0	1089	605
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	706	0	395	0	640	315	0	1089	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	706	0	395	0	640	315	0	1089	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	706	0	395	0	640	315	0	1089	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.59	1.00	0.85	1.00	0.90	0.90	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	2.00	0.00	1.34	0.66	0.00	2.00	1.00
Final Sat.:	0	0	0	2241	0	3230	0	2301	1132	0	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.32	0.00	0.12	0.00	0.28	0.28	0.00	0.30	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.48	0.00	0.48	0.00	0.46	0.46	0.00	0.46	0.00
Volume/Cap:	0.00	0.00	0.00	0.66	0.00	0.26	0.00	0.61	0.61	0.00	0.66	0.00
Delay/Veh:	0.0	0.0	0.0	19.5	0.0	14.1	0.0	19.1	19.1	0.0	20.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	19.5	0.0	14.1	0.0	19.1	19.1	0.0	20.0	0.0
LOS by Move:	A	A	A	B	A	B	A	B	B	A	C	A
HCM2kAvgQ:	0	0	0	9	0	3	0	11	11	0	12	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #25: 16th St / SR-59




```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  371   570     0    0     0   558    0     0   544    0   492
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  371   570     0    0     0   558    0     0   544    0   492
Added Vol:      0   29     8     0    0     0     0    0     0    17    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  400   578     0    0     0   558    0     0   561    0   492
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  400   578     0    0     0   558    0     0   561    0   492
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  400   578     0    0     0   558    0     0   561    0   492
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   200 xxxx xxxxx   689 xxxx   200
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   763 xxxx xxxxx   363 xxxx   846
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   319 xxxx xxxxx   363 xxxx   846
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  1.75 xxxx  xxxx  1.55 xxxx  0.58
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   893 xxxx xxxxx   787 xxxx  95.9
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 377.3 xxxx xxxxx 286.5 xxxx  15.0
LOS by Move:    *    *     *     *    *     *     F    *     *     F    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx            377.3           159.7
ApproachLOS:         *                *                F               F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  400   578     0    0     0   558    0     0   561    0   492
ApproachDel:    xxxxxx           xxxxxx            377.3           159.7
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=58.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=558]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2589]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=46.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1053]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2589]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

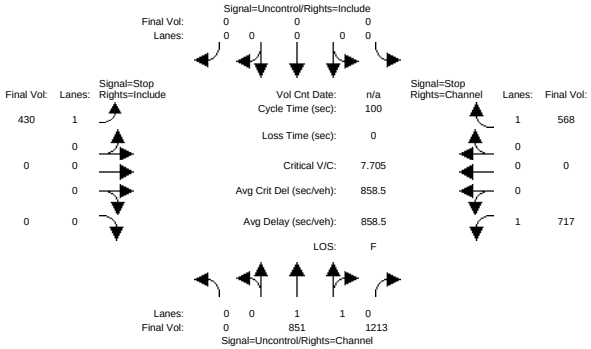
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  400   578     0    0     0   558    0     0   561    0   492
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             978
Minor Approach Volume:           1053
Minor Approach Volume Threshold: 384
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #25: 16th St / SR-59




```
Street Name:            16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  817  1196     0    0     0   430    0     0   709    0   568
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  817  1196     0    0     0   430    0     0   709    0   568
Added Vol:      0   34    17     0    0     0     0    0     0     8    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  851  1213     0    0     0   430    0     0   717    0   568
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  851  1213     0    0     0   430    0     0   717    0   568
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  851  1213     0    0     0   430    0     0   717    0   568
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx   7.1 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   426 xxxx xxxxx  1458 xxxx   426
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   543 xxxx xxxxx   109 xxxx   633
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx    56 xxxx xxxxx   109 xxxx   633
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  7.70 xxxx  xxxx  6.60 xxxx  0.90
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  1250 xxxx xxxxx  1986 xxxx 277.0
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  3159 xxxx xxxxx  2598 xxxx  40.8
LOS by Move:    *    *     *     *    *     *     F    *     *     F    *     E
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           3159.0           1467.5
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  851  1213     0    0     0   430    0     0   717    0   568
ApproachDel:    xxxxxx           xxxxxx           3159.0           1467.5
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=377.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=430]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3779]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=523.8]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1285]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3779]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

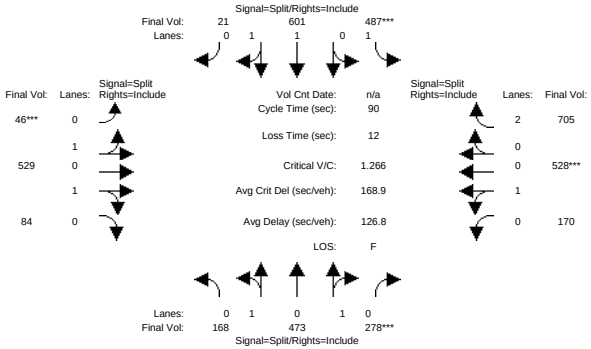
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #25 16th St / SR-59
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  1  0    0  0  0  0  0    1  0  0  0  0    1  0  0  0  1
Initial Vol:    0  851  1213     0    0     0   430    0     0   717    0   568
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2064
Minor Approach Volume:           1285
Minor Approach Volume Threshold: 62 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

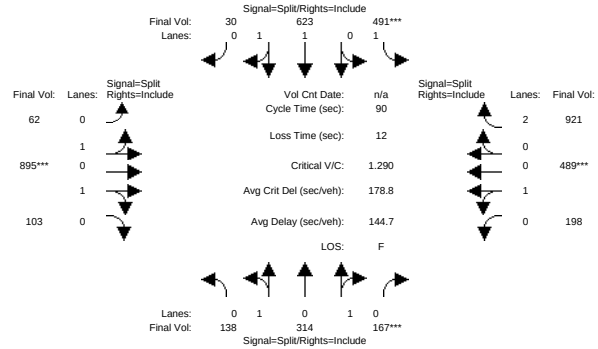



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     113  229   233  484  585    19   45  513    84  170  520   695
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  113  229   233  484  585    19   45  513    84  170  520   695
Added Vol:     55  244    45    3   16     2    1   16     0    0    8    10
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  168  473   278  487  601    21   46  529    84  170  528   705
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   168  473   278  487  601    21   46  529    84  170  528   705
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  168  473   278  487  601    21   46  529    84  170  528   705
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  168  473   278  487  601    21   46  529    84  170  528   705
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.90 0.90  0.90 0.95 0.95  0.95 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.37 1.03  0.60 1.00 1.93  0.07 0.14 1.61  0.25 0.24 0.76  2.00
Final Sat.:   625 1758  1034 1805 3471   121  246 2834   450  457 1420  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.27 0.27  0.27 0.27 0.17  0.17 0.19 0.19  0.19 0.37 0.37  0.25
Crit Moves:              ****  ****              ****                  ****
Green/Cycle: 0.21 0.21  0.21 0.21 0.21  0.21 0.15 0.15  0.15 0.29 0.29  0.29
Volume/Cap:  1.27 1.27  1.27 1.27 0.81  0.81 1.27 1.27  1.27 1.27 1.27  0.84
Delay/Veh:  166.0  166 166.0 174.3 40.3  40.3 172.8  173 172.8 165.4  165  37.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 166.0  166 166.0 174.3 40.3  40.3 172.8  173 172.8 165.4  165  37.8
LOS by Move:    F    F     F     F    D     D    F    F     F     F    F     D
HCM2kAvgQ:    712  712   712  717  275   275  531  531   531  993  993   331
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

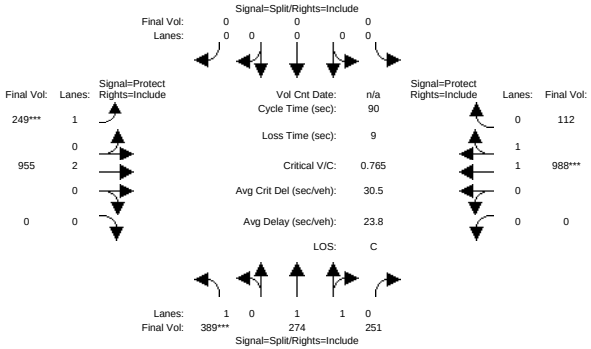



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     104  172   156  489  615    29   60  842   103  198  484   901
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  104  172   156  489  615    29   60  842   103  198  484   901
Added Vol:     34  142    11    2    8     1    2   53     0    0    5    20
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  138  314   167  491  623    30   62  895   103  198  489   921
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   138  314   167  491  623    30   62  895   103  198  489   921
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  138  314   167  491  623    30   62  895   103  198  489   921
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  138  314   167  491  623    30   62  895   103  198  489   921
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.90 0.90  0.90 0.95 0.94  0.94 0.93 0.93  0.93 0.99 0.99  0.75
Lanes:       0.45 1.01  0.54 1.00 1.91  0.09 0.12 1.69  0.19 0.29 0.71  2.00
Final Sat.:   764 1739   925 1805 3420   165  207 2993   344  540 1333  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18  0.18 0.27 0.18  0.18 0.30 0.30  0.30 0.37 0.37  0.32
Crit Moves:              ****  ****              ****                  ****
Green/Cycle: 0.14 0.14  0.14 0.21 0.21  0.21 0.23 0.23  0.23 0.28 0.28  0.28
Volume/Cap:  1.29 1.29  1.29 1.29 0.86  0.86 1.29 1.29  1.29 1.29 1.29  1.14
Delay/Veh:  184.3  184 184.3 184.6 44.4  44.4 174.3  174 174.3 176.5  176 110.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 184.3  184 184.3 184.6 44.4  44.4 174.3  174 174.3 176.5  176 110.0
LOS by Move:    F    F     F     F    D     D    F    F     F     F    F     F
HCM2kAvgQ:    515  515   515  741  307   307  831  831   831 1006 1006   653
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #27: 14th St - SR-99 NB Onramp / V St

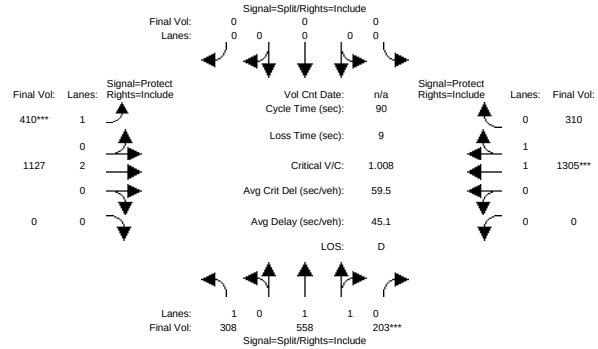



```
Street Name:    14th St - SR-99 NB Onramp                 V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     387  147   251     0    0     0   238  891     0     0  971    92
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  387  147   251     0    0     0   238  891     0     0  971    92
Added Vol:      2  127     0     0    0     0    11   64     0     0   17    20
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  389  274   251     0    0     0   249  955     0     0  988   112
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   389  274   251     0    0     0   249  955     0     0  988   112
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  389  274   251     0    0     0   249  955     0     0  988   112
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  389  274   251     0    0     0   249  955     0     0  988   112
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.88  0.88  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       1.00 1.04  0.96  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.80  0.20
Final Sat.:  1615 1748  1602     0    0     0  1805 3610     0     0 3194   362
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24 0.16  0.16  0.00 0.00  0.00  0.14 0.26  0.00  0.00 0.31  0.31
Crit Moves:  ****                             ****                    ****
Green/Cycle: 0.32 0.32  0.32  0.00 0.00  0.00  0.18 0.58  0.00  0.00 0.40  0.40
Volume/Cap:  0.76 0.50  0.50  0.00 0.00  0.00  0.76 0.45  0.00  0.00 0.76  0.76
Delay/Veh:   34.6 25.4  25.4   0.0  0.0   0.0  45.4 10.7   0.0   0.0 25.6  25.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  34.6 25.4  25.4   0.0  0.0   0.0  45.4 10.7   0.0   0.0 25.6  25.6
LOS by Move:    C    C     C     A    A     A     D    B     A     A    C     C
HCM2kAvgQ:    288  164   164     0    0     0   212  198     0     0  350   350
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #27: 14th St - SR-99 NB Onramp / V St

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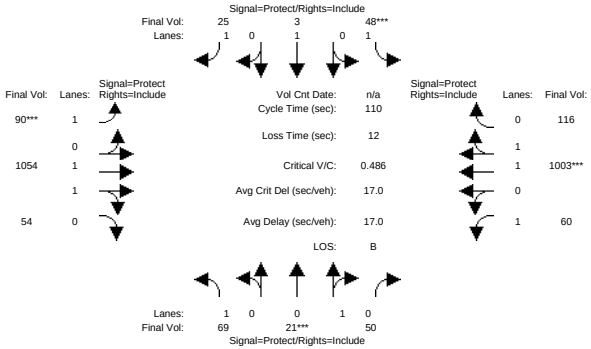
Street Name:    14th St - SR-99 NB Onramp                 V Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10     0    0     0     7   10     0     0   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     299  331   203     0    0     0   365 1083     0     0 1289   272
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  299  331   203     0    0     0   365 1083     0     0 1289   272
Added Vol:      9  227     0     0    0     0    45   44     0     0   16    38
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  308  558   203     0    0     0   410 1127     0     0 1305   310
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   308  558   203     0    0     0   410 1127     0     0 1305   310
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  308  558   203     0    0     0   410 1127     0     0 1305   310
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  308  558   203     0    0     0   410 1127     0     0 1305   310
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.85 0.91  0.91  1.00 1.00  1.00  0.95 0.95  1.00  1.00 0.92  0.92
Lanes:       1.00 1.47  0.53  0.00 0.00  0.00  1.00 2.00  0.00  0.00 1.62  0.38
Final Sat.:  1615 2541   924     0    0     0  1805 3610     0     0 2832   673
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.22  0.22  0.00 0.00  0.00  0.23 0.31  0.00  0.00 0.46  0.46
Crit Moves:             ****                    ****                    ****
Green/Cycle: 0.22 0.22  0.22  0.00 0.00  0.00  0.23 0.68  0.00  0.00 0.46  0.46
Volume/Cap:  0.88 1.01  1.01  0.00 0.00  0.00  1.01 0.46  0.00  0.00 1.01  1.01
Delay/Veh:   55.0 70.0  70.0   0.0  0.0   0.0  81.6  6.7   0.0   0.0 49.0  49.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  55.0 70.0  70.0   0.0  0.0   0.0  81.6  6.7   0.0   0.0 49.0  49.0
LOS by Move:    E    E     E     A    A     A     F    A     A     A    D     D
HCM2kAvgQ:    287  432   432     0    0     0   441  192     0     0  707   707
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #28: 15th St / V St



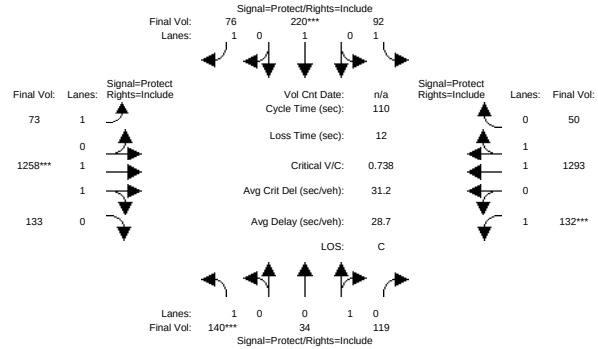
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	69	21	50	48	3	25	90	990	54	60	967	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	21	50	48	3	25	90	990	54	60	967	116
Added Vol:	0	0	0	0	0	0	0	64	0	0	36	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	21	50	48	3	25	90	1054	54	60	1003	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	69	21	50	48	3	25	90	1054	54	60	1003	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	21	50	48	3	25	90	1054	54	60	1003	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	21	50	48	3	25	90	1054	54	60	1003	116
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	1.00	0.30	0.70	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.79	0.21
Final Sat.:	1805	502	1196	1805	1900	1615	1805	3410	175	1805	3184	368
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.03	0.00	0.02	0.05	0.31	0.31	0.03	0.32	0.32
Crit Moves:		****		****			****				****	
Green/Cycle:	0.06	0.09	0.09	0.06	0.09	0.09	0.10	0.61	0.61	0.13	0.64	0.64
Volume/Cap:	0.60	0.46	0.46	0.42	0.02	0.17	0.50	0.51	0.51	0.26	0.50	0.50
Delay/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.9	12.3	12.3	44.1	10.8	10.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.7	49.6	49.6	52.0	45.6	46.7	48.9	12.3	12.3	44.1	10.8	10.8
LOS by Move:	E	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	82	71	71	52	3	23	71	270	270	42	241	241

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #28: 15th St / V St



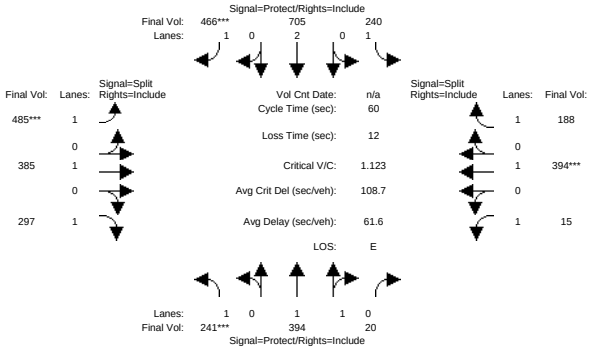
Street Name:	15th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	140	34	119	92	220	76	73	1214	133	132	1239	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	34	119	92	220	76	73	1214	133	132	1239	50
Added Vol:	0	0	0	0	0	0	0	44	0	0	54	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	34	119	92	220	76	73	1258	133	132	1293	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	34	119	92	220	76	73	1258	133	132	1293	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	34	119	92	220	76	73	1258	133	132	1293	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	34	119	92	220	76	73	1258	133	132	1293	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.22	0.78	1.00	1.00	1.00	1.00	1.81	0.19	1.00	1.93	0.07
Final Sat.:	1805	373	1305	1805	1900	1615	1805	3219	340	1805	3455	134
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.05	0.12	0.05	0.04	0.39	0.39	0.07	0.37	0.37
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.15	0.15	0.11	0.16	0.16	0.09	0.53	0.53	0.10	0.54	0.54
Volume/Cap:	0.74	0.59	0.59	0.47	0.74	0.30	0.44	0.74	0.74	0.74	0.70	0.70
Delay/Veh:	61.9	46.9	46.9	48.0	53.5	41.7	49.2	21.5	21.5	63.1	19.9	19.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.9	46.9	46.9	48.0	53.5	41.7	49.2	21.5	21.5	63.1	19.9	19.9
LOS by Move:	E	D	D	D	D	D	D	C	C	E	B	B
HCM2kAvgQ:	156	142	142	87	217	62	57	478	478	100	403	403

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #29: 16th St / V St



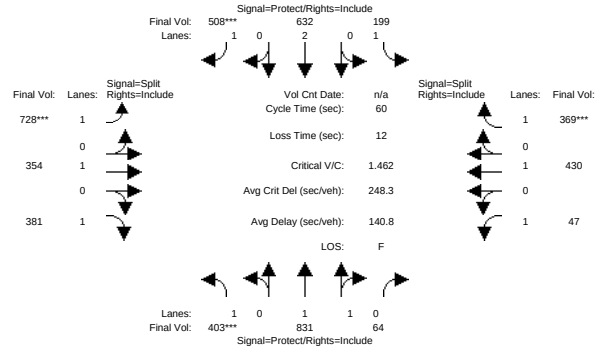
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	212	358	17	239	691	464	485	363	256	14	388	188
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	212	358	17	239	691	464	485	363	256	14	388	188
Added Vol:	29	36	3	1	14	2	0	22	41	1	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	241	394	20	240	705	466	485	385	297	15	394	188
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	241	394	20	240	705	466	485	385	297	15	394	188
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	241	394	20	240	705	466	485	385	297	15	394	188
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	241	394	20	240	705	466	485	385	297	15	394	188
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.90	0.10	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3412	173	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.12	0.12	0.13	0.20	0.29	0.27	0.20	0.18	0.01	0.21	0.12
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.21	0.21	0.17	0.26	0.26	0.24	0.24	0.24	0.18	0.18	0.18
Volume/Cap:	1.12	0.55	0.55	0.80	0.76	1.12	1.12	0.85	0.77	0.04	1.12	0.63
Delay/Veh:	124.7	22.1	22.1	37.8	24.3	104.2	104.0	35.5	30.3	20.2	110	26.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	124.7	22.1	22.1	37.8	24.3	104.2	104.0	35.5	30.3	20.2	110	26.9
LOS by Move:	F	C	C	D	C	F	F	D	C	C	F	C
HCM2kAvgQ:	214	89	89	168	210	480	417	187	136	6	419	111

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #29: 16th St / V St



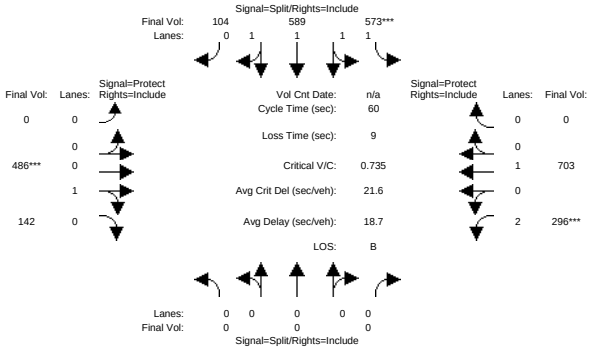
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	371	783	63	199	624	508	726	348	344	44	408	368
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	371	783	63	199	624	508	726	348	344	44	408	368
Added Vol:	32	48	1	0	8	0	2	6	37	3	22	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	403	831	64	199	632	508	728	354	381	47	430	369
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	403	831	64	199	632	508	728	354	381	47	430	369
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	403	831	64	199	632	508	728	354	381	47	430	369
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	403	831	64	199	632	508	728	354	381	47	430	369
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.86	0.14	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3315	255	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.22	0.25	0.25	0.11	0.18	0.31	0.40	0.19	0.24	0.03	0.23	0.23
Crit Moves:	****					****	****					****
Green/Cycle:	0.15	0.25	0.25	0.12	0.21	0.21	0.27	0.27	0.27	0.17	0.17	0.17
Volume/Cap:	1.49	1.02	1.02	0.94	0.83	1.49	1.49	0.69	0.87	0.16	1.36	1.37
Delay/Veh:	262.9	58.8	58.8	72.8	30.0	257.4	251.3	23.4	37.6	21.6	205	213.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	262.9	58.8	58.8	72.8	30.0	257.4	251.3	23.4	37.6	21.6	205	213.8
LOS by Move:	F	E	E	E	C	F	F	C	D	C	F	F
HCM2kAvgQ:	589	293	293	190	218	799	1063	144	180	21	611	540

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #30: 13th St / R St



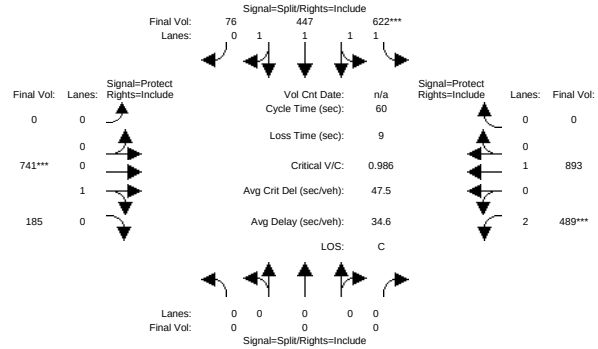
Street Name:	13th Street									R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	537	365	104	0	486	142	294	703	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	537	365	104	0	486	142	294	703	0
Added Vol:	0	0	0	36	224	0	0	0	0	2	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	573	589	104	0	486	142	296	703	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	573	589	104	0	486	142	296	703	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	573	589	104	0	486	142	296	703	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	573	589	104	0	486	142	296	703	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.84	0.84	0.84	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	1.81	1.86	0.33	0.00	0.77	0.23	2.00	1.00	0.00
Final Sat.:	0	0	0	2882	2963	523	0	1425	416	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.20	0.20	0.20	0.00	0.34	0.34	0.08	0.37	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.27	0.27	0.27	0.00	0.46	0.46	0.12	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.74	0.74	0.74	0.00	0.74	0.74	0.72	0.64	0.00
Delay/Veh:	0.0	0.0	0.0	21.7	21.7	21.7	0.0	16.5	16.5	31.9	9.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.7	21.7	21.7	0.0	16.5	16.5	31.9	9.7	0.0
LOS by Move:	A	A	A	C	C	C	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	192	192	192	0	277	277	73	217	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #30: 13th St / R St



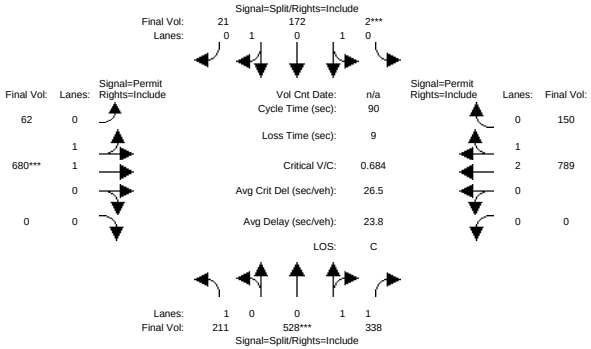
Street Name:	13th Street									R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	591	328	76	0	741	185	488	893	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	591	328	76	0	741	185	488	893	0
Added Vol:	0	0	0	31	119	0	0	0	0	1	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	622	447	76	0	741	185	489	893	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	622	447	76	0	741	185	489	893	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	622	447	76	0	741	185	489	893	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	622	447	76	0	741	185	489	893	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.83	0.83	0.83	1.00	0.97	0.97	0.92	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	1.71	0.29	0.00	0.80	0.20	2.00	1.00	0.00
Final Sat.:	0	0	0	3146	2689	457	0	1479	369	3502	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.20	0.17	0.17	0.00	0.50	0.50	0.14	0.47	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.20	0.20	0.20	0.00	0.51	0.51	0.14	0.65	0.00
Volume/Cap:	0.00	0.00	0.00	0.99	0.83	0.83	0.00	0.99	0.99	0.99	0.72	0.00
Delay/Veh:	0.0	0.0	0.0	46.9	27.4	27.4	0.0	40.5	40.5	62.4	9.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	46.9	27.4	27.4	0.0	40.5	40.5	62.4	9.1	0.0
LOS by Move:	A	A	A	D	C	C	A	D	D	E	A	A
HCM2kAvgQ:	0	0	0	298	198	198	0	630	630	161	278	0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #31: SR-99 NB Off-Ramp - 14th St / R Street

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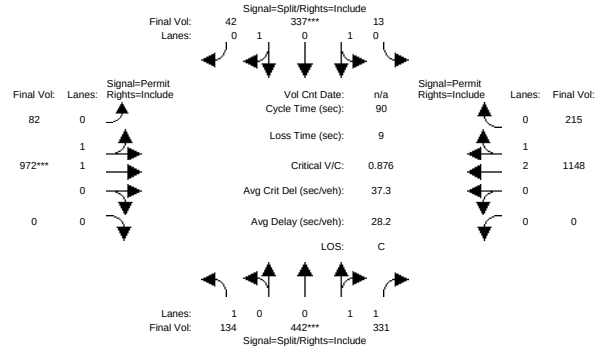
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     211  528   337    2   69    21   62  644     0    0  787   136
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  211  528   337    2   69    21   62  644     0    0  787   136
Added Vol:      0    0     1    0  103     0    0   36     0    0    2    14
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  211  528   338    2  172    21   62  680     0    0  789   150
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   211  528   338    2  172    21   62  680     0    0  789   150
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  211  528   338    2  172    21   62  680     0    0  789   150
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  211  528   338    2  172    21   62  680     0    0  789   150
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.93 0.93  0.93 0.73 0.73  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.02 1.76  0.22 0.17 1.83  0.00 0.00 2.52  0.48
Final Sat.:  1805 1790  1790   36 3133   383  233 2557     0    0 4254   809
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.30  0.19 0.05 0.05  0.05 0.27 0.27  0.00 0.00 0.19  0.19
Crit Moves:        ****        ****            ****
Green/Cycle: 0.41 0.41  0.41 0.11 0.11  0.11 0.37 0.37  0.00 0.00 0.37  0.37
Volume/Cap:  0.28 0.71  0.46 0.49 0.49  0.49 0.71 0.71  0.00 0.00 0.50  0.50
Delay/Veh:   17.7 23.8  19.2 38.6 38.6  38.6 26.3 26.3   0.0  0.0 21.9  21.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  17.7 23.8  19.2 38.6 38.6  38.6 26.3 26.3   0.0  0.0 21.9  21.9
LOS by Move:    B    C     B    D    D     D    C    C     A    A    C     C
HCM2kAvgQ:     97  331   173   83   83    83  225  225     0    0  177   177
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #31: SR-99 NB Off-Ramp - 14th St / R Street




```
Street Name:SR-99 NB Off-Ramp(NB)-14th St(SB)              R Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     134  442   331   13  165    42   82  941     0    0 1147   198
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  134  442   331   13  165    42   82  941     0    0 1147   198
Added Vol:      0    0     0    0  172     0    0   31     0    0    1    17
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  134  442   331   13  337    42   82  972     0    0 1148   215
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   134  442   331   13  337    42   82  972     0    0 1148   215
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  134  442   331   13  337    42   82  972     0    0 1148   215
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  134  442   331   13  337    42   82  972     0    0 1148   215
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.94  0.94 0.93 0.93  0.93 0.65 0.65  1.00 1.00 0.89  0.89
Lanes:       1.00 1.00  1.00 0.07 1.72  0.21 0.16 1.84  0.00 0.00 2.53  0.47
Final Sat.:  1805 1778  1778  118 3048   380  191 2264     0    0 4264   799
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.25  0.19 0.11 0.11  0.11 0.43 0.43  0.00 0.00 0.27  0.27
Crit Moves:        ****            ****            ****
Green/Cycle: 0.28 0.28  0.28 0.13 0.13  0.13 0.49 0.49  0.00 0.00 0.49  0.49
Volume/Cap:  0.26 0.88  0.66 0.88 0.88  0.88 0.88 0.88  0.00 0.00 0.55  0.55
Delay/Veh:   25.2 40.6  29.7 56.0 56.0  56.0 28.0 28.0   0.0  0.0 16.3  16.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  25.2 40.6  29.7 56.0 56.0  56.0 28.0 28.0   0.0  0.0 16.3  16.3
LOS by Move:    C    D     C    E    E     E    C    C     A    A    B     B
HCM2kAvgQ:     74  376   226  216  216   216  321  321     0    0  231   231
Note: Queue reported is the distance per lane in feet.
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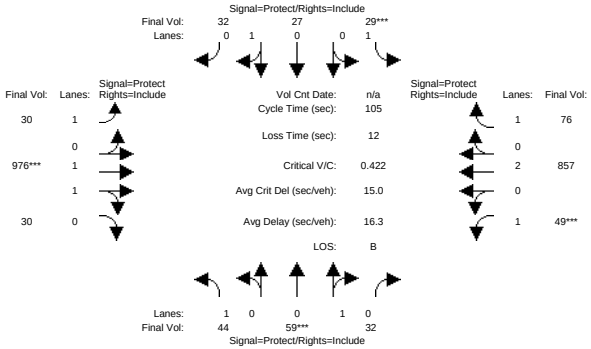
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #32: 15th St / R St



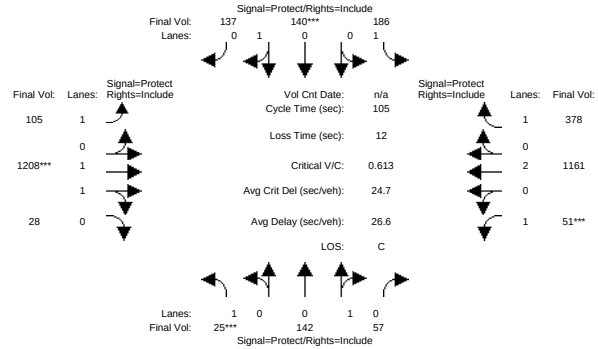
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	44	59	31	29	27	32	30	939	30	46	841	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	59	31	29	27	32	30	939	30	46	841	76
Added Vol:	0	0	1	0	0	0	0	37	0	3	16	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	59	32	29	27	32	30	976	30	49	857	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	59	32	29	27	32	30	976	30	49	857	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	59	32	29	27	32	30	976	30	49	857	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	59	32	29	27	32	30	976	30	49	857	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.65	0.35	1.00	0.46	0.54	1.00	1.94	0.06	1.00	2.00	1.00
Final Sat.:	1805	1167	633	1805	799	947	1805	3488	107	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.05	0.05	0.02	0.03	0.03	0.02	0.28	0.28	0.03	0.24	0.05
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.12	0.12	0.07	0.11	0.11	0.15	0.64	0.64	0.07	0.55	0.55
Volume/Cap:	0.33	0.44	0.44	0.24	0.32	0.32	0.11	0.44	0.44	0.41	0.43	0.09
Delay/Veh:	47.5	44.8	44.8	47.5	44.3	44.3	38.4	9.7	9.7	49.3	14.1	11.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.5	44.8	44.8	47.5	44.3	44.3	38.4	9.7	9.7	49.3	14.1	11.2
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	B
HCM2kAvgQ:	42	80	80	28	51	51	19	205	205	37	206	28

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #32: 15th St / R St



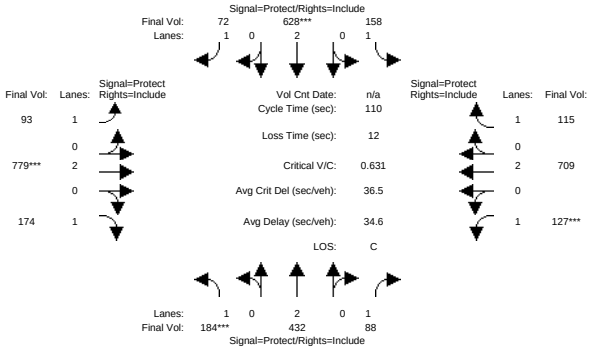
Street Name:	15th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	25	142	54	186	140	137	105	1177	28	50	1143	378
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	142	54	186	140	137	105	1177	28	50	1143	378
Added Vol:	0	0	3	0	0	0	0	31	0	1	18	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	142	57	186	140	137	105	1208	28	51	1161	378
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	25	142	57	186	140	137	105	1208	28	51	1161	378
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	25	142	57	186	140	137	105	1208	28	51	1161	378
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	25	142	57	186	140	137	105	1208	28	51	1161	378
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.85
Lanes:	1.00	0.71	0.29	1.00	0.51	0.49	1.00	1.95	0.05	1.00	2.00	1.00
Final Sat.:	1805	1297	521	1805	889	870	1805	3518	82	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.11	0.11	0.10	0.16	0.16	0.06	0.34	0.34	0.03	0.32	0.23
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.16	0.16	0.15	0.24	0.24	0.10	0.52	0.52	0.07	0.48	0.48
Volume/Cap:	0.21	0.70	0.70	0.70	0.67	0.67	0.58	0.67	0.67	0.42	0.67	0.49
Delay/Veh:	47.2	49.6	49.6	50.7	40.4	40.4	49.9	19.7	19.7	49.5	21.7	18.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.2	49.6	49.6	50.7	40.4	40.4	49.9	19.7	19.7	49.5	21.7	18.8
LOS by Move:	D	D	D	D	D	D	D	B	B	D	C	B
HCM2kAvgQ:	24	187	187	178	228	228	77	363	363	37	356	193

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #33: 16th St / R St



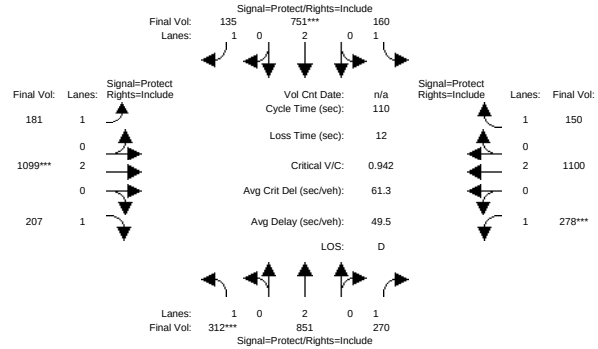
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	170	366	84	158	573	72	92	778	138	122	705	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	170	366	84	158	573	72	92	778	138	122	705	114
Added Vol:	14	66	4	0	55	0	1	1	36	5	4	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	184	432	88	158	628	72	93	779	174	127	709	115
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	184	432	88	158	628	72	93	779	174	127	709	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	432	88	158	628	72	93	779	174	127	709	115
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	184	432	88	158	628	72	93	779	174	127	709	115
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.12	0.05	0.09	0.17	0.04	0.05	0.22	0.11	0.07	0.20	0.07
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.25	0.25	0.18	0.28	0.28	0.11	0.34	0.34	0.11	0.34	0.34
Volume/Cap:	0.63	0.47	0.22	0.47	0.63	0.16	0.46	0.63	0.31	0.63	0.57	0.21
Delay/Veh:	47.5	35.3	32.8	41.1	36.2	30.4	47.5	31.4	27.0	53.0	30.2	25.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.5	35.3	32.8	41.1	36.2	30.4	47.5	31.4	27.0	53.0	30.2	25.8
LOS by Move:	D	D	C	D	D	C	D	C	C	D	C	C
HCM2kAvgQ:	170	169	60	113	234	43	72	285	104	105	253	66

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #33: 16th St / R St



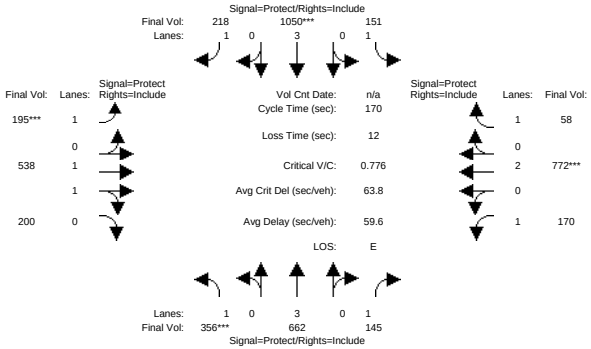
Street Name:	16th Street						R Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	295	771	264	159	706	134	181	1096	176	274	1099	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	295	771	264	159	706	134	181	1096	176	274	1099	150
Added Vol:	17	80	6	1	45	1	0	3	31	4	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	312	851	270	160	751	135	181	1099	207	278	1100	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	312	851	270	160	751	135	181	1099	207	278	1100	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	312	851	270	160	751	135	181	1099	207	278	1100	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	312	851	270	160	751	135	181	1099	207	278	1100	150
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.17	0.24	0.17	0.09	0.21	0.08	0.10	0.30	0.13	0.15	0.30	0.09
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.29	0.29	0.11	0.22	0.22	0.12	0.32	0.32	0.16	0.37	0.37
Volume/Cap:	0.94	0.80	0.57	0.80	0.94	0.38	0.83	0.94	0.40	0.94	0.83	0.25
Delay/Veh:	78.9	40.4	34.6	68.1	61.4	37.1	70.3	50.8	29.4	82.6	36.4	24.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.9	40.4	34.6	68.1	61.4	37.1	70.3	50.8	29.4	82.6	36.4	24.6
LOS by Move:	E	D	C	E	E	D	E	D	C	F	D	C
HCM2kAvgQ:	364	398	206	132	348	91	158	520	129	277	469	85

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #34: Olive Ave / R St



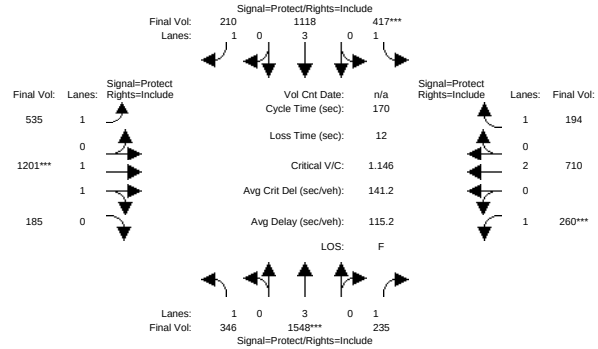
Street Name:	Olive Avenue									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	356	662	145		151	1050	218		195	533	200		170	761	58	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	356	662	145		151	1050	218		195	533	200		170	761	58	
Added Vol:	0	0	0		0	0	0		0	5	0		0	11	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	356	662	145		151	1050	218		195	538	200		170	772	58	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	356	662	145		151	1050	218		195	538	200		170	772	58	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	356	662	145		151	1050	218		195	538	200		170	772	58	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	356	662	145		151	1050	218		195	538	200		170	772	58	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.91	0.85		0.95	0.91	0.85		0.95	0.91	0.91		0.95	0.95	0.85	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	1.46	0.54		1.00	2.00	1.00	
Final Sat.:	1805	5187	1615		1805	5187	1615		1805	2524	938		1805	3610	1615	
Capacity Analysis Module:																
Vol/Sat:	0.20	0.13	0.09		0.08	0.20	0.13		0.11	0.21	0.21		0.09	0.21	0.04	
Crit Moves:	****					****			****					****		
Green/Cycle:	0.25	0.31	0.31		0.20	0.26	0.26		0.14	0.29	0.29		0.13	0.28	0.28	
Volume/Cap:	0.78	0.41	0.29		0.41	0.78	0.52		0.78	0.74	0.74		0.74	0.78	0.13	
Delay/Veh:	67.1	46.4	44.7		59.5	61.1	54.8		84.7	57.9	57.9		83.7	60.7	46.4	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	67.1	46.4	44.7		59.5	61.1	54.8		84.7	57.9	57.9		83.7	60.7	46.4	
LOS by Move:	E	D	D		E	E	D		F	E	E		F	E	D	
HCM2kAvgQ:	413	232	133		156	429	222		286	478	478		249	515	55	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #34: Olive Ave / R St



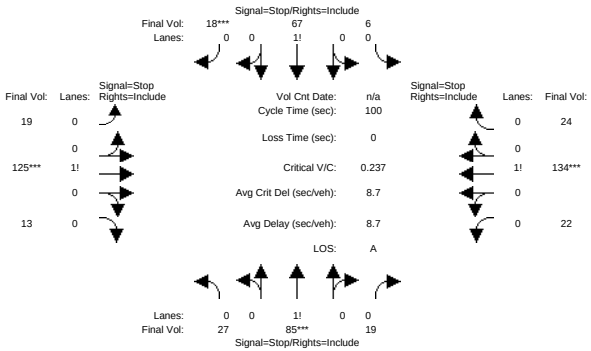
Street Name:	Olive Avenue									R Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	346	1548	235		417	1118	210		535	1190	185		260	705	194	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	346	1548	235		417	1118	210		535	1190	185		260	705	194	
Added Vol:	0	0	0		0	0	0		0	11	0		0	5	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	346	1548	235		417	1118	210		535	1201	185		260	710	194	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	346	1548	235		417	1118	210		535	1201	185		260	710	194	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	346	1548	235		417	1118	210		535	1201	185		260	710	194	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	346	1548	235		417	1118	210		535	1201	185		260	710	194	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.91	0.85		0.95	0.91	0.85		0.95	0.93	0.93		0.95	0.95	0.85	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	1.73	0.27		1.00	2.00	1.00	
Final Sat.:	1805	5187	1615		1805	5187	1615		1805	3066	472		1805	3610	1615	
Capacity Analysis Module:																
Vol/Sat:	0.19	0.30	0.15		0.23	0.22	0.13		0.30	0.39	0.39		0.14	0.20	0.12	
Crit Moves:		****			****					****				****		
Green/Cycle:	0.22	0.26	0.26		0.20	0.24	0.24		0.28	0.34	0.34		0.13	0.19	0.19	
Volume/Cap:	0.88	1.15	0.56		1.15	0.88	0.53		1.05	1.15	1.15		1.15	1.05	0.64	
Delay/Veh:	84.5	138	56.1		161.0	69.4	57.2		116.3	132	131.8		179.1	119	68.7	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	84.5	138	56.1		161.0	69.4	57.2		116.3	132	131.8		179.1	119	68.7	
LOS by Move:	F	F	E		F	E	E		F	F	F		F	F	E	
HCM2kAvgQ:	405	907	242		668	476	217		884	1286	1286		510	645	252	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #35: 15th St / O St

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Street Name:            15th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15    84    19     6    64    18    19   125    13    22   134    24
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   15    84    19     6    64    18    19   125    13    22   134    24
Added Vol:     12     1     0     0     3     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   27    85    19     6    67    18    19   125    13    22   134    24
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    27    85    19     6    67    18    19   125    13    22   134    24
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   27    85    19     6    67    18    19   125    13    22   134    24
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   27    85    19     6    67    18    19   125    13    22   134    24
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.21  0.65  0.14  0.06  0.74  0.20  0.12  0.80  0.08  0.12  0.75  0.13
Final Sat.:   148   465   104    47   524   141    90   595    62    93   564   101
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18  0.18  0.18  0.13  0.13  0.13  0.21  0.21  0.21  0.24  0.24  0.24
Crit Moves:        ****                    ****        ****              ****
Delay/Veh:    8.7   8.7   8.7   8.4   8.4   8.4   8.8   8.8   8.8   8.9   8.9   8.9
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.7   8.7   8.7   8.4   8.4   8.4   8.8   8.8   8.8   8.9   8.9   8.9
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:       8.7              8.4              8.8              8.9
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.7              8.4              8.8              8.9
LOS by Appr:         A                A                A                A
AllWayAvgQ:   4.9   4.9   4.9   3.2   3.2   3.2   6.0   6.0   6.0   7.0   7.0   7.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #35 15th St / O St
*******************************************************************************
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Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   27   85   19     6   67   18    19  125   13    22  134   24
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             337
Minor Approach Volume:           131
Minor Approach Volume Threshold: 509
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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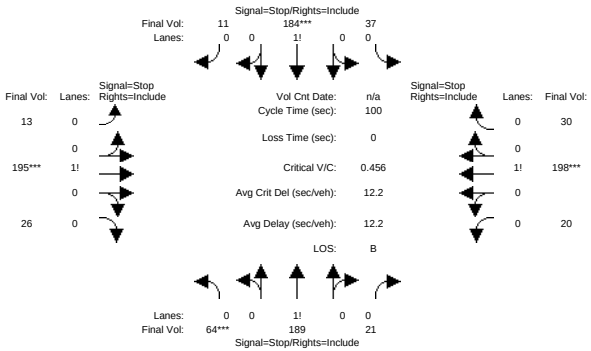
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #35: 15th St / O St



Street Name:	15th Street									O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	17	186	21	37	183	11	13	195	26	20	198	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	17	186	21	37	183	11	13	195	26	20	198	30
Added Vol:	47	3	0	0	1	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	64	189	21	37	184	11	13	195	26	20	198	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	64	189	21	37	184	11	13	195	26	20	198	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	189	21	37	184	11	13	195	26	20	198	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	64	189	21	37	184	11	13	195	26	20	198	30
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.23	0.69	0.08	0.16	0.79	0.05	0.06	0.83	0.11	0.08	0.80	0.12
Final Sat.:	140	414	46	94	465	28	33	491	65	48	474	72
Capacity Analysis Module:												
Vol/Sat:	0.46	0.46	0.46	0.40	0.40	0.40	0.40	0.40	0.40	0.42	0.42	0.42
Crit Moves:	****				****			****			****	
Delay/Veh:	12.7	12.7	12.7	11.9	11.9	11.9	11.9	11.9	11.9	12.1	12.1	12.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.7	12.7	12.7	11.9	11.9	11.9	11.9	11.9	11.9	12.1	12.1	12.1
LOS by Move:	B	B	B	B	B	B	B	B	B	B	B	B
ApproachDel:	12.7			11.9			11.9			12.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	12.7			11.9			11.9			12.1		
LOS by Appr:	B			B			B			B		
AllWayAvgQ:	17.1	17.1	17.1	13.2	13.2	13.2	13.2	13.2	13.2	14.5	14.5	14.5

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #35 15th St / O St

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0
Initial Vol:	64	189		21	37	184		11	13	195		26	20	198		30

Major Street Volume: 506
Minor Approach Volume: 248
Minor Approach Volume Threshold: 401

SIGNAL WARRANT DISCLAIMER

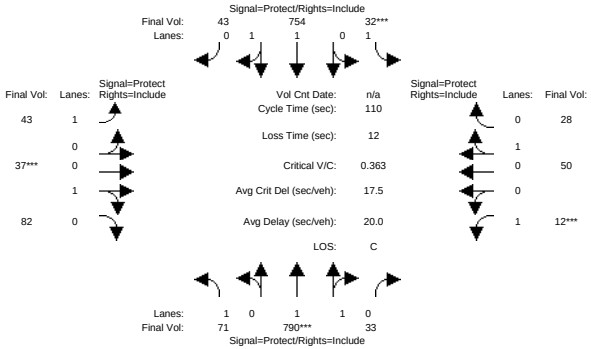
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #36: 16th St / O St



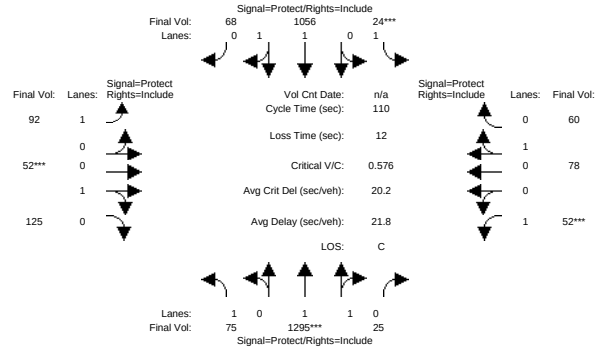
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	71	706	33	32	658	43	43	37	82	12	50	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	706	33	32	658	43	43	37	82	12	50	28
Added Vol:	0	84	0	0	96	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	790	33	32	754	43	43	37	82	12	50	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	790	33	32	754	43	43	37	82	12	50	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	790	33	32	754	43	43	37	82	12	50	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	71	790	33	32	754	43	43	37	82	12	50	28
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	0.90	0.90	0.95	0.95	0.95
Lanes:	1.00	1.92	0.08	1.00	1.89	0.11	1.00	0.31	0.69	1.00	0.64	0.36
Final Sat.:	1805	3444	144	1805	3388	193	1805	530	1174	1805	1152	645
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.23	0.02	0.22	0.22	0.02	0.07	0.07	0.01	0.04	0.04
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.59	0.59	0.06	0.50	0.50	0.10	0.18	0.18	0.06	0.14	0.14
Volume/Cap:	0.27	0.39	0.39	0.28	0.44	0.44	0.24	0.39	0.39	0.10	0.31	0.31
Delay/Veh:	42.5	12.4	12.4	50.4	17.5	17.5	46.4	40.8	40.8	48.9	43.0	43.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	12.4	12.4	50.4	17.5	17.5	46.4	40.8	40.8	48.9	43.0	43.0
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	58	194	194	33	224	224	38	96	96	12	64	64

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #36: 16th St / O St



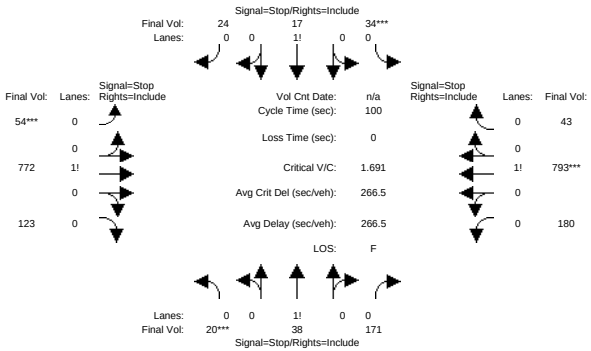
Street Name:	16th Street						O Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	75	1192	25	24	976	68	92	52	125	52	78	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	1192	25	24	976	68	92	52	125	52	78	60
Added Vol:	0	103	0	0	80	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	1295	25	24	1056	68	92	52	125	52	78	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	1295	25	24	1056	68	92	52	125	52	78	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	1295	25	24	1056	68	92	52	125	52	78	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	1295	25	24	1056	68	92	52	125	52	78	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.89	0.89	0.95	0.94	0.94
Lanes:	1.00	1.96	0.04	1.00	1.88	0.12	1.00	0.29	0.71	1.00	0.57	0.43
Final Sat.:	1805	3531	68	1805	3361	216	1805	499	1200	1805	1004	772
Capacity Analysis Module:												
Vol/Sat:	0.04	0.37	0.37	0.01	0.31	0.31	0.05	0.10	0.10	0.03	0.08	0.08
Crit Moves:		****		****				****		****		
Green/Cycle:	0.11	0.59	0.59	0.06	0.55	0.55	0.10	0.17	0.17	0.06	0.14	0.14
Volume/Cap:	0.37	0.62	0.62	0.21	0.57	0.57	0.53	0.62	0.62	0.45	0.57	0.57
Delay/Veh:	46.5	14.8	14.8	49.8	16.8	16.8	50.6	46.4	46.4	52.5	47.6	47.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.5	14.8	14.8	49.8	16.8	16.8	50.6	46.4	46.4	52.5	47.6	47.6
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2kAvgQ:	68	379	379	24	331	331	93	162	162	57	129	129

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #37: 15th St / M St



Street Name:	15th Street									M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	4	26	167	34	14	24	54	631	11	165	685	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	26	167	34	14	24	54	631	11	165	685	43
Added Vol:	16	12	4	0	3	0	0	141	112	15	108	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	38	171	34	17	24	54	772	123	180	793	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	38	171	34	17	24	54	772	123	180	793	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	38	171	34	17	24	54	772	123	180	793	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	38	171	34	17	24	54	772	123	180	793	43
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.09	0.16	0.75	0.45	0.23	0.32	0.06	0.81	0.13	0.18	0.78	0.04
Final Sat.:	46	87	393	204	102	144	35	495	79	106	469	25
Capacity Analysis Module:												
Vol/Sat:	0.44	0.44	0.44	0.17	0.17	0.17	1.56	1.56	1.56	1.69	1.69	1.69
Crit Moves:	****			****			****				****	
Delay/Veh:	14.8	14.8	14.8	12.2	12.2	12.2	275.7	276	275.7	333.5	333	333.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	14.8	14.8	14.8	12.2	12.2	12.2	275.7	276	275.7	333.5	333	333.5
LOS by Move:	B	B	B	B	B	B	F	F	F	F	F	F
ApproachDel:	14.8			12.2			275.7			333.5		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	14.8			12.2			275.7			333.5		
LOS by Appr:	B			B			F			F		
AllWayAvgQ:	18.4	18.4	18.4	4.6	4.6	4.6	1127	1127	1127	1353	1353	1353

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #37 15th St / M St

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	20	38	171	34	17	24	54	772	123	180	793	43

Major Street Volume: 1965
Minor Approach Volume: 229
Minor Approach Volume Threshold: 39 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER

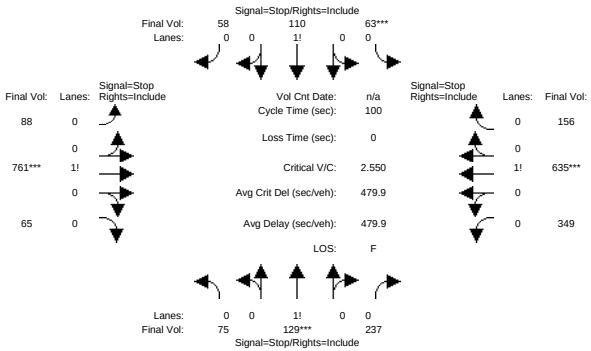
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #37: 15th St / M St




```
Street Name:            15th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10    79   223    63   109    58    88   647    37   345   500   156
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   10    79   223    63   109    58    88   647    37   345   500   156
Added Vol:     65    50    14     0     1     0     0   114    28     4   135     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   75   129   237    63   110    58    88   761    65   349   635   156
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    75   129   237    63   110    58    88   761    65   349   635   156
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   75   129   237    63   110    58    88   761    65   349   635   156
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   75   129   237    63   110    58    88   761    65   349   635   156
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.17  0.29  0.54  0.27  0.48  0.25  0.10  0.83  0.07  0.30  0.56  0.14
Final Sat.:    78   134   245   109   190   100    43   372    32   137   249    61
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.97  0.97  0.97  0.58  0.58  0.58  2.04  2.04  2.04  2.55  2.55  2.55
Crit Moves:        ****        ****                ****              ****
Delay/Veh:   61.6  61.6  61.6  23.3  23.3  23.3 495.9   496 495.9 721.4   721 721.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  61.6  61.6  61.6  23.3  23.3  23.3 495.9   496 495.9 721.4   721 721.4
LOS by Move:    F     F     F     C     C     C     F     F     F     F     F     F
ApproachDel:       61.6             23.3            495.9            721.4
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:        61.6             23.3            495.9            721.4
LOS by Appr:          F                C                F                F
AllWayAvgQ:   161   161 161.0  31.5 31.5  31.5  1506 1506  1506  2206 2206  2206
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #37 15th St / M St
*******************************************************************************
```



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Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   75  129   237    63  110    58    88  761    65   349  635   156
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2054
Minor Approach Volume:           441
Minor Approach Volume Threshold: 27 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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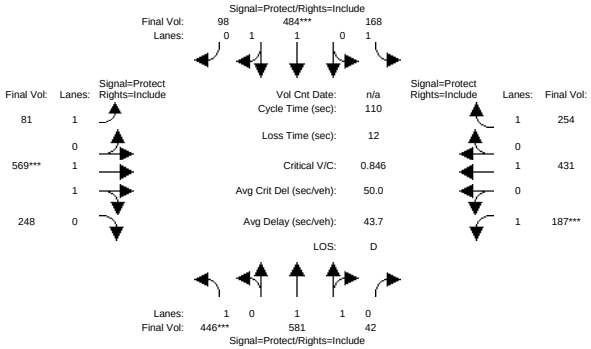
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #38: 16th St / M St



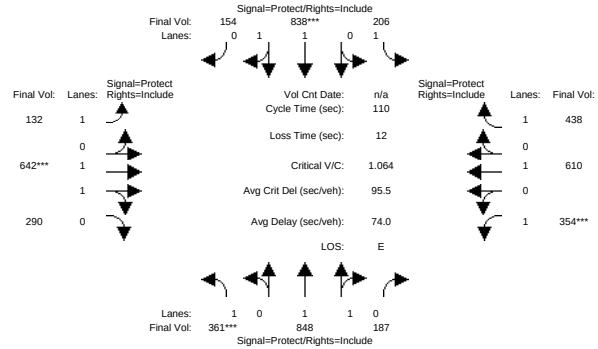
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	339	502	38	167	396	91	77	553	124	182	422	252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	339	502	38	167	396	91	77	553	124	182	422	252
Added Vol:	107	79	4	1	88	7	4	16	124	5	9	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	446	581	42	168	484	98	81	569	248	187	431	254
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	446	581	42	168	484	98	81	569	248	187	431	254
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	446	581	42	168	484	98	81	569	248	187	431	254
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	446	581	42	168	484	98	81	569	248	187	431	254
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.93	0.93	0.95	0.91	0.91	0.95	1.00	0.85
Lanes:	1.00	1.87	0.13	1.00	1.66	0.34	1.00	1.39	0.61	1.00	1.00	1.00
Final Sat.:	1805	3333	241	1805	2927	593	1805	2399	1045	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.25	0.17	0.17	0.09	0.17	0.17	0.04	0.24	0.24	0.10	0.23	0.16
Crit Moves:	****				****			****		****		
Green/Cycle:	0.29	0.32	0.32	0.17	0.20	0.20	0.09	0.28	0.28	0.12	0.31	0.31
Volume/Cap:	0.85	0.55	0.55	0.55	0.85	0.85	0.51	0.85	0.85	0.85	0.72	0.50
Delay/Veh:	48.6	31.6	31.6	43.9	52.1	52.1	50.5	44.3	44.3	72.0	37.7	31.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.6	31.6	31.6	43.9	52.1	52.1	50.5	44.3	44.3	72.0	37.7	31.4
LOS by Move:	D	C	C	D	D	D	D	D	D	E	D	C
HCM2kAvgQ:	342	212	212	146	316	316	83	408	408	166	318	167

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #38: 16th St / M St



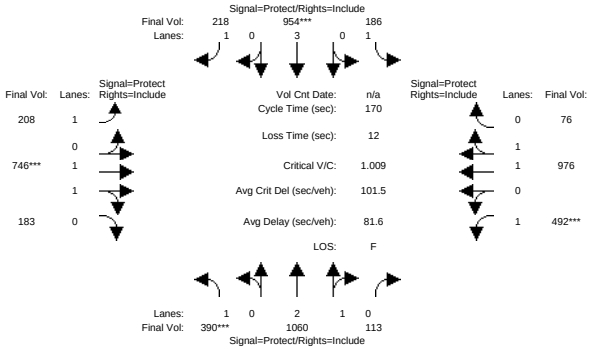
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	241	755	182	205	763	150	123	633	180	350	594	436
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	241	755	182	205	763	150	123	633	180	350	594	436
Added Vol:	120	93	5	1	75	4	9	9	110	4	16	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	361	848	187	206	838	154	132	642	290	354	610	438
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	361	848	187	206	838	154	132	642	290	354	610	438
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	361	848	187	206	838	154	132	642	290	354	610	438
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	361	848	187	206	838	154	132	642	290	354	610	438
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.91	0.91	0.95	1.00	0.85
Lanes:	1.00	1.64	0.36	1.00	1.69	0.31	1.00	1.38	0.62	1.00	1.00	1.00
Final Sat.:	1805	2878	635	1805	2979	548	1805	2370	1070	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.20	0.29	0.29	0.11	0.28	0.28	0.07	0.27	0.27	0.20	0.32	0.27
Crit Moves:	****				****			****		****		
Green/Cycle:	0.19	0.33	0.33	0.13	0.26	0.26	0.08	0.25	0.25	0.18	0.36	0.36
Volume/Cap:	1.06	0.90	0.90	0.90	1.06	1.06	0.90	1.06	1.06	1.06	0.90	0.76
Delay/Veh:	111.6	45.6	45.6	82.3	88.6	88.6	95.5	90.1	90.1	112.3	48.3	37.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	111.6	45.6	45.6	82.3	88.6	88.6	95.5	90.1	90.1	112.3	48.3	37.0
LOS by Move:	F	D	D	F	F	F	F	F	F	F	D	D
HCM2kAvgQ:	357	409	409	252	656	656	181	622	622	379	487	312

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #39: Olive Ave / M St



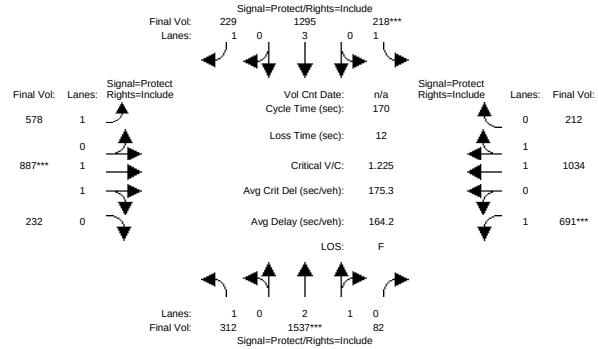
Street Name:	Olive Avenue												M Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	390	1060		113		186	954		218		208	741		183		492	965		76	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Initial Bse:	390	1060		113		186	954		218		208	741		183		492	965		76	
Added Vol:	0	0		0		0	0		0		0	5		0		0	11		0	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	390	1060		113		186	954		218		208	746		183		492	976		76	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Volume:	390	1060		113		186	954		218		208	746		183		492	976		76	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	390	1060		113		186	954		218		208	746		183		492	976		76	
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
FinalVolume:	390	1060		113		186	954		218		208	746		183		492	976		76	
Saturation Flow Module:																				
Sat/Lane:	1900	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900	
Adjustment:	0.95	0.90		0.90		0.95	0.91		0.85		0.95	0.92		0.92		0.95	0.94		0.94	
Lanes:	1.00	2.71		0.29		1.00	3.00		1.00		1.00	1.61		0.39		1.00	1.86		0.14	
Final Sat.:	1805	4622		493		1805	5187		1615		1805	2812		690		1805	3312		258	
Capacity Analysis Module:																				
Vol/Sat:	0.22	0.23		0.23		0.10	0.18		0.13		0.12	0.27		0.27		0.27	0.29		0.29	
Crit Moves:	****						****					****				****				
Green/Cycle:	0.21	0.27		0.27		0.12	0.18		0.18		0.15	0.26		0.26		0.27	0.38		0.38	
Volume/Cap:	1.01	0.84		0.84		0.84	1.01		0.74		0.77	1.01		1.01		1.01	0.77		0.77	
Delay/Veh:	114.9	62.9		62.9		96.5	101		75.3		82.0	94.6		94.6		105.1	48.6		48.6	
User DelAdj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
AdjDel/Veh:	114.9	62.9		62.9		96.5	101		75.3		82.0	94.6		94.6		105.1	48.6		48.6	
LOS by Move:	F	E		E		F	F		E		F	F		F		F	D		D	
HCM2kAvgQ:	506	486		486		238	506		261		299	780		780		784	645		645	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #39: Olive Ave / M St



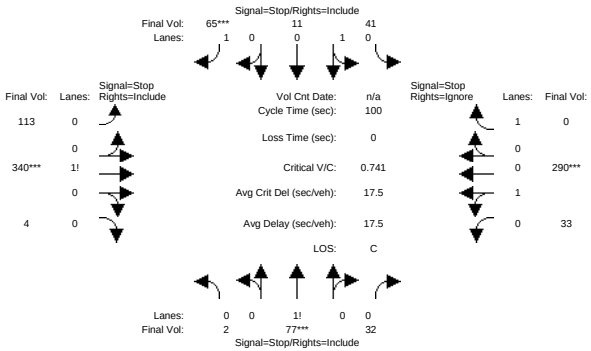
Street Name:	Olive Avenue												M Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	312	1537		82		218	1295		229		578	876		232		691	1029		212	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Initial Bse:	312	1537		82		218	1295		229		578	876		232		691	1029		212	
Added Vol:	0	0		0		0	0		0		0	11		0		0	5		0	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	312	1537		82		218	1295		229		578	887		232		691	1034		212	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Volume:	312	1537		82		218	1295		229		578	887		232		691	1034		212	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	312	1537		82		218	1295		229		578	887		232		691	1034		212	
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
FinalVolume:	312	1537		82		218	1295		229		578	887		232		691	1034		212	
Saturation Flow Module:																				
Sat/Lane:	1900	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900	
Adjustment:	0.95	0.90		0.90		0.95	0.91		0.85		0.95	0.92		0.92		0.95	0.93		0.93	
Lanes:	1.00	2.85		0.15		1.00	3.00		1.00		1.00	1.59		0.41		1.00	1.66		0.34	
Final Sat.:	1805	4885		261		1805	5187		1615		1805	2773		725		1805	2921		599	
Capacity Analysis Module:																				
Vol/Sat:	0.17	0.31		0.31		0.12	0.25		0.14		0.32	0.32		0.32		0.38	0.35		0.35	
Crit Moves:		****				****						****				****				
Green/Cycle:	0.15	0.26		0.26		0.10	0.21		0.21		0.27	0.26		0.26		0.31	0.30		0.30	
Volume/Cap:	1.19	1.22		1.22		1.22	1.19		0.67		1.17	1.22		1.22		1.22	1.17		1.17	
Delay/Veh:	188.9	171		171.2		217.3	161		67.1		160.2	174		173.6		174.6	148		148.2	
User DelAdj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
AdjDel/Veh:	188.9	171		171.2		217.3	161		67.1		160.2	174		173.6		174.6	148		148.2	
LOS by Move:	F	F		F		F	F		E		F	F		F		F	F		F	
HCM2kAvgQ:	529	1048		1048		398	824		258		1068	1137		1137		1319	1200		1200	

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #40: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    77    32    24    11    63   103   340     4    33   290   102
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2    77    32    24    11    63   103   340     4    33   290   102
Added Vol:      0     0     0    17     0     2    10     0     0     0     0    56
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    2    77    32    41    11    65   113   340     4    33   290   158
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
PHF Volume:     2    77    32    41    11    65   113   340     4    33   290     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    2    77    32    41    11    65   113   340     4    33   290     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
FinalVolume:    2    77    32    41    11    65   113   340     4    33   290     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.02  0.69  0.29  0.79  0.21  1.00  0.25  0.74  0.01  0.10  0.90  1.00
Final Sat.:     9   337   140   358    96   526   152   459     5    61   540   686
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23  0.23  0.23  0.11  0.11  0.12  0.74  0.74  0.74  0.54  0.54  0.00
Crit Moves:        ****                      ****        ****              ****
Delay/Veh:   11.4  11.4  11.4  10.7  10.7   9.5  22.9  22.9  22.9  14.7  14.7   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  11.4  11.4  11.4  10.7  10.7   9.5  22.9  22.9  22.9  14.7  14.7   0.0
LOS by Move:    B     B     B     B     B     A     C     C     C     B     B     *
ApproachDel:       11.4              10.1              22.9              14.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        11.4              10.1              22.9              14.7
LOS by Appr:          B                 B                 C                 B
AllWayAvgQ:   5.8   5.8   5.8   2.6   2.6   2.7  60.3  60.3  60.3  25.8  25.8   0.0
Note: Queue reported is the distance per lane in feet.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #40 2nd St / Grogan Ave / Northwest Ave

****

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```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   77    32    41   11    65   113  340     4    33  290   158
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             938
Minor Approach Volume:           117
Minor Approach Volume Threshold: 402
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```


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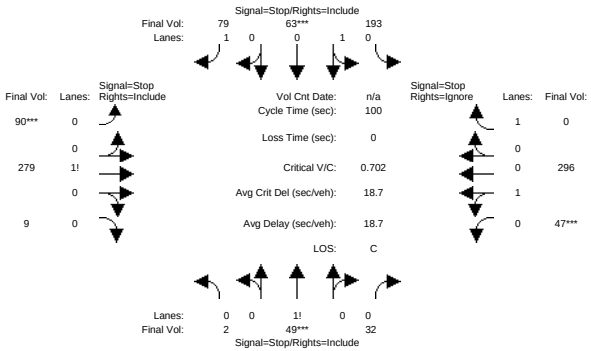
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #40: 2nd St / Grogan Ave / Northwest Ave




```
Street Name:    2nd Street - Grogan Avenue            Northwest Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    49    32   137    63    69    88   279     9    47   296    88
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    2    49    32   137    63    69    88   279     9    47   296    88
Added Vol:      0     0     0    56     0    10     2     0     0     0     0    17
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    2    49    32   193    63    79    90   279     9    47   296   105
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
PHF Volume:     2    49    32   193    63    79    90   279     9    47   296     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    2    49    32   193    63    79    90   279     9    47   296     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
FinalVolume:    2    49    32   193    63    79    90   279     9    47   296     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.02  0.59  0.39  0.75  0.25  1.00  0.24  0.74  0.02  0.14  0.86  1.00
Final Sat.:    10   255   166   360   117   556   128   398    13    73   461   598
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19  0.19  0.19  0.54  0.54  0.14  0.70  0.70  0.70  0.64  0.64  0.00
Crit Moves:        ****              ****        ****              ****
Delay/Veh:   11.7  11.7  11.7  17.2  17.2   9.8  22.5  22.5  22.5  19.5  19.5   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  11.7  11.7  11.7  17.2  17.2   9.8  22.5  22.5  22.5  19.5  19.5   0.0
LOS by Move:    B     B     B     C     C     A     C     C     C     C     C     *
ApproachDel:       11.7              15.4              22.5              19.5
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        11.7              15.4              22.5              19.5
LOS by Appr:          B                 C                 C                 C
AllWayAvgQ:   4.4   4.4   4.4  24.2  24.2   3.7  48.7  48.7  48.7  37.9  37.9   0.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #40 2nd St / Grogan Ave / Northwest Ave
*******************************************************************************
```



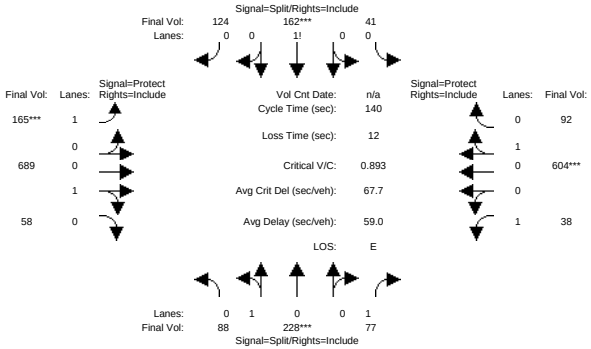
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  0  1! 0  0    0  1  0  0  1
Initial Vol:    2   49    32   193   63    79    90  279     9    47  296   105
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             826
Minor Approach Volume:           335
Minor Approach Volume Threshold: 456
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #41: Childs Ave / Martin Luther King Wy

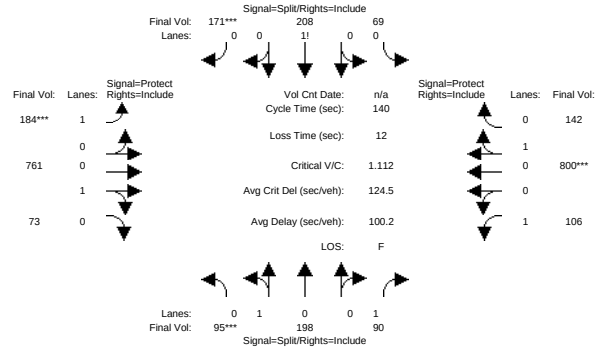



```
Street Name:            Childs Ave                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      86  224    77   41  161   123  161  662    51   38  588    90
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   86  224    77   41  161   123  161  662    51   38  588    90
Added Vol:      2    4     0    0    1     1    4   27     7    0   16     2
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   88  228    77   41  162   124  165  689    58   38  604    92
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    88  228    77   41  162   124  165  689    58   38  604    92
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   88  228    77   41  162   124  165  689    58   38  604    92
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   88  228    77   41  162   124  165  689    58   38  604    92
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.99 0.99  0.85 0.94 0.94  0.94 0.95 0.99  0.99 0.95 0.98  0.98
Lanes:       0.28 0.72  1.00 0.12 0.50  0.38 1.00 0.92  0.08 1.00 0.87  0.13
Final Sat.:   522 1352  1615  225  888   680 1805 1731   146 1805 1616   246
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.17  0.05 0.18 0.18  0.18 0.09 0.40  0.40 0.02 0.37  0.37
Crit Moves:        ****            ****        ****                ****
Green/Cycle: 0.19 0.19  0.19 0.20 0.20  0.20 0.10 0.46  0.46 0.06 0.42  0.42
Volume/Cap:  0.89 0.89  0.25 0.89 0.89  0.89 0.89 0.86  0.86 0.36 0.89  0.89
Delay/Veh:   79.0 79.0  48.8 77.2 77.2  77.2 99.8 42.2  42.2 65.6 50.4  50.4
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  79.0 79.0  48.8 77.2 77.2  77.2 99.8 42.2  42.2 65.6 50.4  50.4
LOS by Move:    E    E     D    E    E     E    F    D     D    E    D     D
HCM2kAvgQ:    408  408    72  419  419   419  245  765   765   38  709   709
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #41: Childs Ave / Martin Luther King Wy

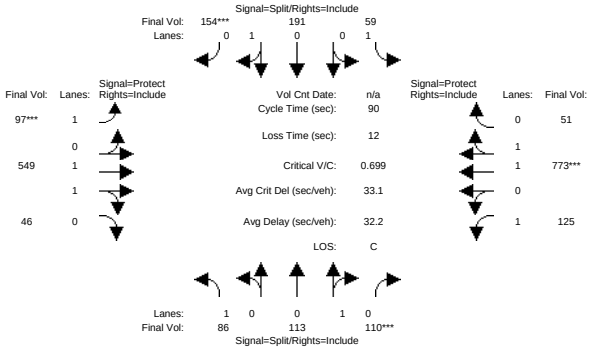



```
Street Name:            Childs Ave                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      88  197    90   67  204   167  183  745    71  106  773   142
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   88  197    90   67  204   167  183  745    71  106  773   142
Added Vol:      7    1     0    2    4     4    1   16     2    0   27     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   95  198    90   69  208   171  184  761    73  106  800   142
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    95  198    90   69  208   171  184  761    73  106  800   142
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   95  198    90   69  208   171  184  761    73  106  800   142
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   95  198    90   69  208   171  184  761    73  106  800   142
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.98 0.98  0.85 0.94 0.94  0.94 0.95 0.99  0.99 0.95 0.98  0.98
Lanes:       0.32 0.68  1.00 0.15 0.47  0.38 1.00 0.91  0.09 1.00 0.85  0.15
Final Sat.:   606 1263  1615  275  830   682 1805 1711   164 1805 1576   280
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.16  0.06 0.25 0.25  0.25 0.10 0.44  0.44 0.06 0.51  0.51
Crit Moves:  ****                       ****  ****                ****
Green/Cycle: 0.14 0.14  0.14 0.23 0.23  0.23 0.09 0.48  0.48 0.06 0.46  0.46
Volume/Cap:  1.11 1.11  0.40 1.11 1.11  1.11 1.11 0.92  0.92 0.92 1.11  1.11
Delay/Veh:  149.1  149  55.8 133.1  133 133.1 166.8 47.7  47.7 124.0  105 104.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 149.1  149  55.8 133.1  133 133.1 166.8 47.7  47.7 124.0  105 104.5
LOS by Move:    F    F     E    F    F     F    F    D     D    F    F     F
HCM2kAvgQ:    489  489    95  706  706   706  331  918   918  120 1278  1278
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #42: 13th St / Martin Luther King Wy

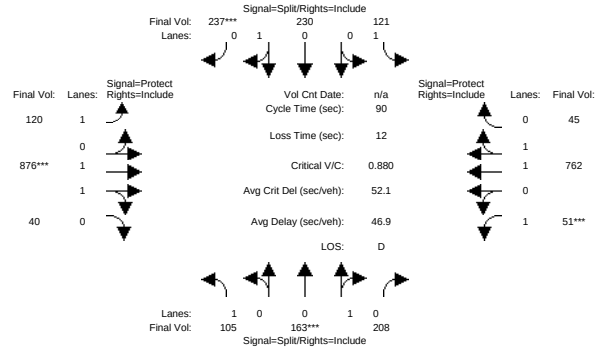



```
Street Name:           13th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      86  113   110   58  187   144   88  533    46  125  710    51
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   86  113   110   58  187   144   88  533    46  125  710    51
Added Vol:      0    0     0    1    4    10    9   16     0    0   63     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   86  113   110   59  191   154   97  549    46  125  773    51
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    86  113   110   59  191   154   97  549    46  125  773    51
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   86  113   110   59  191   154   97  549    46  125  773    51
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   86  113   110   59  191   154   97  549    46  125  773    51
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.93  0.93 0.95 0.93  0.93 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.51  0.49 1.00 0.55  0.45 1.00 1.85  0.15 1.00 1.88  0.12
Final Sat.:  1805  892   868 1805  981   791 1805 3291   276 1805 3356   221
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.13  0.13 0.03 0.19  0.19 0.05 0.17  0.17 0.07 0.23  0.23
Crit Moves:              ****              ****  ****              ****
Green/Cycle: 0.18 0.18  0.18 0.28 0.28  0.28 0.08 0.28  0.28 0.13 0.33  0.33
Volume/Cap:  0.26 0.70  0.70 0.12 0.70  0.70 0.69 0.60  0.60 0.53 0.70  0.70
Delay/Veh:   32.1 41.3  41.3 24.3 33.5  33.5 54.2 29.2  29.2 39.1 28.2  28.2
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  32.1 41.3  41.3 24.3 33.5  33.5 54.2 29.2  29.2 39.1 28.2  28.2
LOS by Move:    C    D     D    C    C     C    D    C     C    D    C     C
HCM2kAvgQ:     55  181   181   31  245   245   64  177   177   81  264   264
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #42: 13th St / Martin Luther King Wy

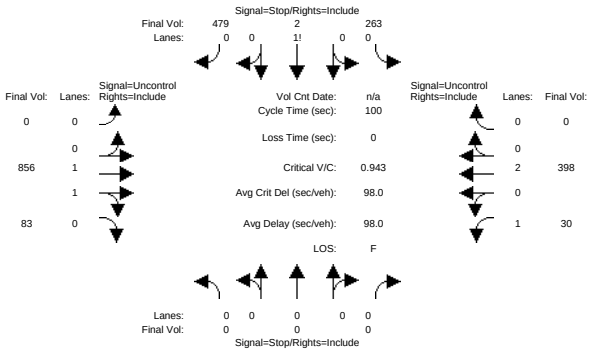



```
Street Name:           13th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10    7   10    10    7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     105  163   208  118  228   228  110  813    40   51  746    45
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  105  163   208  118  228   228  110  813    40   51  746    45
Added Vol:      0    0     0    3    2     9   10   63     0    0   16     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  105  163   208  121  230   237  120  876    40   51  762    45
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  105  163   208  121  230   237  120  876    40   51  762    45
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  105  163   208  121  230   237  120  876    40   51  762    45
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  105  163   208  121  230   237  120  876    40   51  762    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.92  0.92 0.95 0.92  0.92 0.95 0.94  0.94 0.95 0.94  0.94
Lanes:       1.00 0.44  0.56 1.00 0.49  0.51 1.00 1.91  0.09 1.00 1.89  0.11
Final Sat.:  1805  765   976 1805  865   891 1805 3428   157 1805 3381   200
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.21  0.21 0.07 0.27  0.27 0.07 0.26  0.26 0.03 0.23  0.23
Crit Moves:           ****              ****       ****        ****
Green/Cycle: 0.23 0.23  0.23 0.29 0.29  0.29 0.09 0.27  0.27 0.08 0.26  0.26
Volume/Cap:  0.25 0.93  0.93 0.23 0.93  0.93 0.74 0.93  0.93 0.36 0.86  0.86
Delay/Veh:   28.7 62.4  62.4 24.9 55.6  55.6 55.9 46.7  46.7 41.0 39.8  39.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  28.7 62.4  62.4 24.9 55.6  55.6 55.9 46.7  46.7 41.0 39.8  39.8
LOS by Move:    C    E     E    C    E     E    E    D     D    D    D     D
HCM2kAvgQ:     62  360   360   66  429   429   77  327   327   33  305   305
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   263    2   418     0  841    82    30  396     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   263    2   418     0  841    82    30  396     0
Added Vol:      0    0     0     0    0    61     0   15     1     0    2     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   263    2   479     0  856    83    30  398     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   263    2   479     0  856    83    30  398     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   263    2   479     0  856    83    30  398     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   886 1397   199  xxxx xxxx xxxxx   939 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   288  142   815  xxxx xxxx xxxxx   738 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   279  136   815  xxxx xxxx xxxxx   738 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.94 0.01  0.59  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  481 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 39.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  278 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            277.5           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   263    2   479     0  856    83    30  398     0
ApproachDel:    xxxxxx            277.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=57.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=744]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2111]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

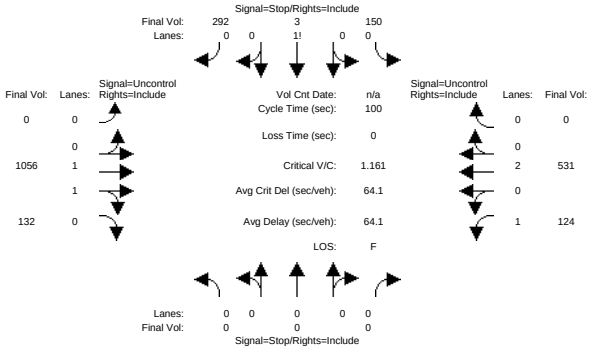
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   263    2   479     0  856    83    30  398     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1367
Minor Approach Volume:           744
Minor Approach Volume Threshold: 177
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 SB Ramp                  Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   150    3   277     0  995   127   124  531     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   150    3   277     0  995   127   124  531     0
Added Vol:      0    0     0     0    0    15     0   61     5     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   150    3   292     0 1056   132   124  531     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   150    3   292     0 1056   132   124  531     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   150    3   292     0 1056   132   124  531     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1307 1967   266  xxxx xxxx xxxxx  1188 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   154   64   739  xxxx xxxx xxxxx   595 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   129   50   739  xxxx xxxx xxxxx   595 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.16 0.06  0.40  xxxx xxxx  xxxx  0.21 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  19.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  12.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  275 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 27.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  326 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            326.1           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   150    3   292     0 1056   132   124  531     0
ApproachDel:    xxxxxx            326.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=40.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=445]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2288]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

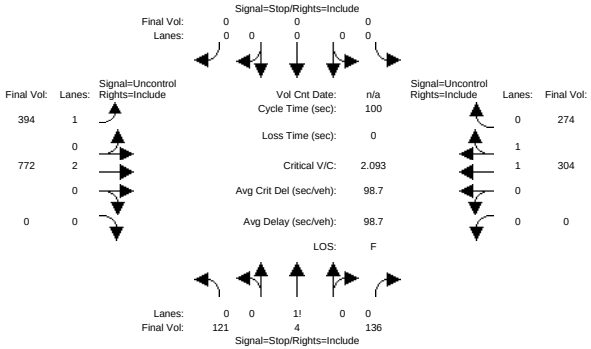
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #43 SR-99 SB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:    0    0     0   150    3   292     0 1056   132   124  531     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1843
Minor Approach Volume:           445
Minor Approach Volume Threshold: 74 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119    4   136     0    0     0   379  772     0     0  304   274
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  119    4   136     0    0     0   379  772     0     0  304   274
Added Vol:      2    0     0     0    0     0    15    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  121    4   136     0    0     0   394  772     0     0  304   274
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   121    4   136     0    0     0   394  772     0     0  304   274
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  121    4   136     0    0     0   394  772     0     0  304   274
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1712 2138   386  xxxx xxxx xxxxx   578 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   83   50   618  xxxx xxxx xxxxx  1006 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     58   30   618  xxxx xxxx xxxxx  1006 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  2.09 0.13  0.22  xxxx xxxx  xxxx  0.39 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  47.2 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.9 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  107 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 23.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  742 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     742.0           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:  121    4   136     0    0     0   394  772     0     0  304   274
ApproachDel:     742.0           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=53.8]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=261]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2005]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

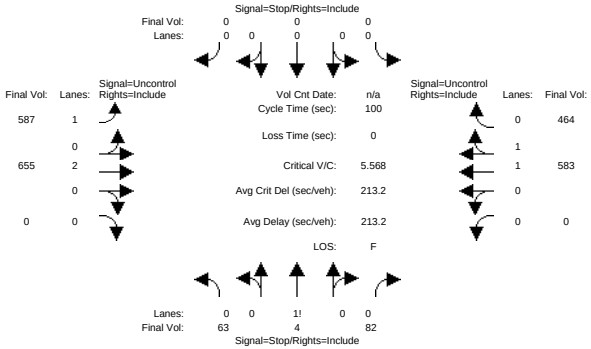
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:  121    4   136     0    0     0   394  772     0     0  304   274
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1744
Minor Approach Volume:           261
Minor Approach Volume Threshold: 93 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy




```
Street Name:           SR-99 NB Ramps                Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63    4    82     0    0     0   526  655     0     0  583   464
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   63    4    82     0    0     0   526  655     0     0  583   464
Added Vol:      0    0     0     0    0     0    61    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   63    4    82     0    0     0   587  655     0     0  583   464
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    63    4    82     0    0     0   587  655     0     0  583   464
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   63    4    82     0    0     0   587  655     0     0  583   464
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2121 2876   328  xxxx xxxx xxxxx  1047 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   44   17   674  xxxx xxxx xxxxx   672 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     11    2   674  xxxx xxxx xxxxx   672 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  5.57 1.89  0.12  xxxx xxxx  xxxx  0.87 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   261 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  35.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     E    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   20 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 19.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 3347 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:    3347.4           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   63    4    82     0    0     0   587  655     0     0  583   464
ApproachDel:    3347.4           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=138.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=149]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2438]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

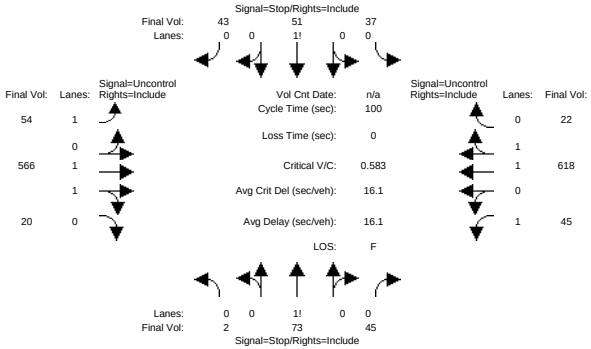
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #44 SR-99 NB Ramps / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   63    4    82     0    0     0   587  655     0     0  583   464
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2289
Minor Approach Volume:           149
Minor Approach Volume Threshold: -0 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2   69    45    37   51    43    54  566    20    45  618    22
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2   69    45    37   51    43    54  566    20    45  618    22
Added Vol:      0    4     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2   73    45    37   51    43    54  566    20    45  618    22
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2   73    45    37   51    43    54  566    20    45  618    22
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2   73    45    37   51    43    54  566    20    45  618    22
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1109 1414   293  1147 1413   320   640 xxxx xxxxx   586 xxxx xxxxx
Potent Cap.:  167  139   709   157  139   682   954 xxxx xxxxx   999 xxxx xxxxx
Move Cap.:     99  125   709    73  125   682   954 xxxx xxxxx   999 xxxx xxxxx
Volume/Cap:  0.02 0.58  0.06  0.50 0.41  0.06  0.06 xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   4.5 xxxx xxxxx   3.5 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.0 xxxx xxxxx   8.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  180 xxxxx  xxxx  134 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.9 xxxxx xxxxx  6.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 57.8 xxxxx xxxxx  134 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     *    *     *     *    *     *
ApproachDel:      57.8            134.4           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2   73    45    37   51    43    54  566    20    45  618    22
ApproachDel:      57.8            134.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=120]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1576]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.9]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=131]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1576]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

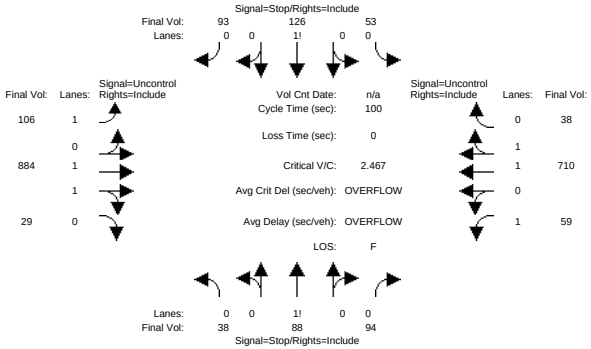
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2   73    45    37   51    43    54  566    20    45  618    22
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1325
Minor Approach Volume:           131
Minor Approach Volume Threshold: 188
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #45: 14th St / Martin Luther King Wy




```
Street Name:            14th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      38   87    94    53  126    93   106  884    29    59  710    38
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   38   87    94    53  126    93   106  884    29    59  710    38
Added Vol:      0    1     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   38   88    94    53  126    93   106  884    29    59  710    38
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    38   88    94    53  126    93   106  884    29    59  710    38
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   38   88    94    53  126    93   106  884    29    59  710    38
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1647 1977   457  1545 1972   374   748 xxxx xxxxx   913 xxxx xxxxx
Potent Cap.:   67   63   557    80   63   629   870 xxxx xxxxx   755 xxxx xxxxx
Move Cap.:      0   51   557     0   51   629   870 xxxx xxxxx   755 xxxx xxxxx
Volume/Cap:  xxxx 1.73  0.17  xxxx 2.47  0.15  0.12 xxxx  xxxx  0.08 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  10.4 xxxx xxxxx   6.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.7 xxxx xxxxx  10.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx    0 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 F                 *                 *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   38   88    94    53  126    93   106  884    29    59  710    38
ApproachDel:    xxxxxx            xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=220]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2318]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=272]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2318]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

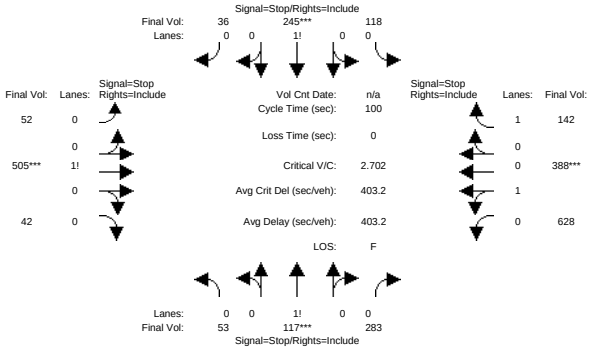
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #45 14th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:   38   88    94    53  126    93   106  884    29    59  710    38
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1826
Minor Approach Volume:           272
Minor Approach Volume Threshold: 77 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #48: 13th St / G St




```
Street Name:            13th Street                         G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      53   117   283   118   245    32    52   497    42   628   372   142
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   53   117   283   118   245    32    52   497    42   628   372   142
Added Vol:      0     0     0     0     0     4     0     8     0     0    16     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   53   117   283   118   245    36    52   505    42   628   388   142
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    53   117   283   118   245    36    52   505    42   628   388   142
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   53   117   283   118   245    36    52   505    42   628   388   142
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   53   117   283   118   245    36    52   505    42   628   388   142
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.12  0.26  0.62  0.30  0.61  0.09  0.09  0.84  0.07  0.62  0.38  1.00
Final Sat.:    48   106   256   117   242    36    34   330    27   232   144   420
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.10  1.10  1.10  1.01  1.01  1.01  1.53  1.53  1.53  2.70  2.70  0.34
Crit Moves:        ****              ****              ****              ****
Delay/Veh:  105.1   105 105.1  79.3  79.3  79.3 275.0   275 275.0 793.0   793  15.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh: 105.1   105 105.1  79.3  79.3  79.3 275.0   275 275.0 793.0   793  15.6
LOS by Move:    F     F     F     F     F     F     F     F     F     F     F     C
ApproachDel:     105.1             79.3             275.0             697.6
Delay Adj:        1.00             1.00              1.00              1.00
ApprAdjDel:      105.1             79.3             275.0             697.6
LOS by Appr:         F                F                 F                 F
AllWayAvgQ:    266   266 266.1   184   184 183.7   714   714 714.3  2039  2039  12.6
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #48 13th St / G St
*******************************************************************************
```



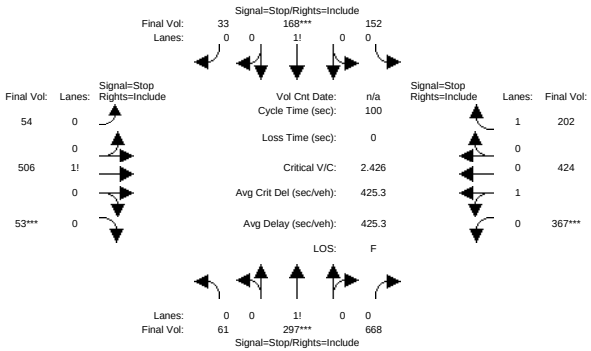
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1
Initial Vol:   53  117   283   118  245    36    52  505    42   628  388   142
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1757
Minor Approach Volume:           453
Minor Approach Volume Threshold: 91 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #48: 13th St / G St



Street Name:	13th Street									G Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Volume Module:																
Base Vol:	61	297	668		151	168	32		54	490	53		367	416	202	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	61	297	668		151	168	32		54	490	53		367	416	202	
Added Vol:	0	0	0		1	0	1		0	16	0		0	8	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	61	297	668		152	168	33		54	506	53		367	424	202	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	61	297	668		152	168	33		54	506	53		367	424	202	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	61	297	668		152	168	33		54	506	53		367	424	202	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	61	297	668		152	168	33		54	506	53		367	424	202	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.06	0.29	0.65		0.43	0.48	0.09		0.09	0.82	0.09		0.46	0.54	1.00	
Final Sat.:	25	122	275		170	187	37		35	332	35		179	207	430	
Capacity Analysis Module:																
Vol/Sat:	2.43	2.43	2.43		0.90	0.90	0.90		1.52	1.52	1.52		2.05	2.05	0.47	
Crit Moves:		****				****					****		****			
Delay/Veh:	667.2	667	667.2		54.1	54.1	54.1		271.8	272	271.8		500.0	500	18.3	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	667.2	667	667.2		54.1	54.1	54.1		271.8	272	271.8		500.0	500	18.3	
LOS by Move:	F	F	F		F	F	F		F	F	F		F	F	C	
ApproachDel:	667.2				54.1				271.8				402.0			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	667.2				54.1				271.8				402.0			
LOS by Appr:	F				F				F				F			
AllWayAvgQ:	1926	1926	1926		115	115	114.7		725	725	725.5		1311	1311	21.5	

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #48 13th St / G St

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1!	0 0	0	0	1!	0 0	0	0	1!	0 0	0	1	0	0 1
Initial Vol:	61	297		668	152	168		33	54	506		53	367	424		202

Major Street Volume: 1606
Minor Approach Volume: 1026
Minor Approach Volume Threshold: 122

SIGNAL WARRANT DISCLAIMER

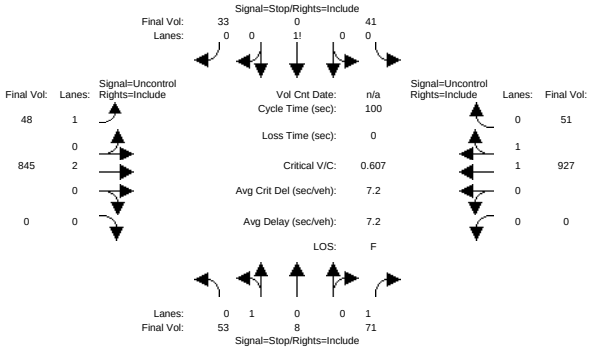
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #49: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      50    4    71    41    0    33    48  837     0     0  908    51
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   50    4    71    41    0    33    48  837     0     0  908    51
Added Vol:      3    4     0     0    0     0     0    8     0     0   19     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   53    8    71    41    0    33    48  845     0     0  927    51
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    53    8    71    41    0    33    48  845     0     0  927    51
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   53    8    71    41    0    33    48  845     0     0  927    51
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1405 1919   423  1475 1894   489   978 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  101   68   585    90   71   530   714 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     90   64   585    68   66   530   714 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.59 0.13  0.12  0.61 0.00  0.06  0.07 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  10.3  xxxx xxxx xxxxx   5.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  12.0 xxxxx xxxx xxxxx  10.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:   85 xxxx xxxxx  xxxx  111 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  3.5 xxxx xxxxx xxxxx  3.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:116.2 xxxx xxxxx xxxxx 86.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     F    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      60.1             86.9           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   53    8    71    41    0    33    48  845     0     0  927    51
ApproachDel:      60.1             86.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=132]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2077]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=74]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2077]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

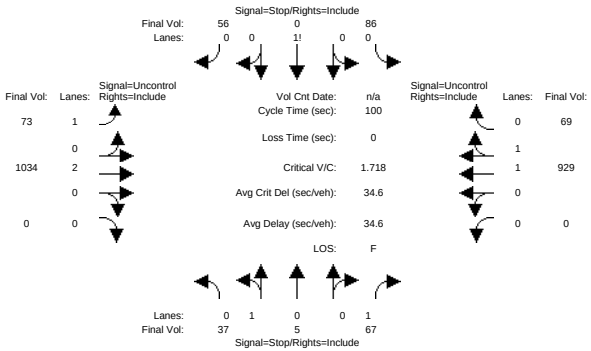
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   53    8    71    41    0    33    48  845     0     0  927    51
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1871
Minor Approach Volume:           132
Minor Approach Volume Threshold: 105 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #49: SR-99 - 14th St / G St




```
Street Name: SR-99 NB Off-Ramp - 14th Street                G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36    4    67    86    0    56    73 1021     0     0  914    69
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36    4    67    86    0    56    73 1021     0     0  914    69
Added Vol:      1    1     0     0    0     0     0   13     0     0   15     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   37    5    67    86    0    56    73 1034     0     0  929    69
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    37    5    67    86    0    56    73 1034     0     0  929    69
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   37    5    67    86    0    56    73 1034     0     0  929    69
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1645 2178   517  1629 2144   499   998 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   67   47   509    69   49   522   701 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     55   42   509    50   44   522   701 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.67 0.12  0.13  1.72 0.00  0.11  0.10 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  11.3  xxxx xxxx xxxxx   8.7 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  13.2 xxxxx xxxx xxxxx  10.7 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:   53 xxxx xxxxx  xxxx   78 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  3.3 xxxx xxxxx xxxxx 12.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:188.1 xxxx xxxxx xxxxx  506 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     F    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      80.6            506.1           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   37    5    67    86    0    56    73 1034     0     0  929    69
ApproachDel:      80.6            506.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=109]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2356]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=20.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=142]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2356]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

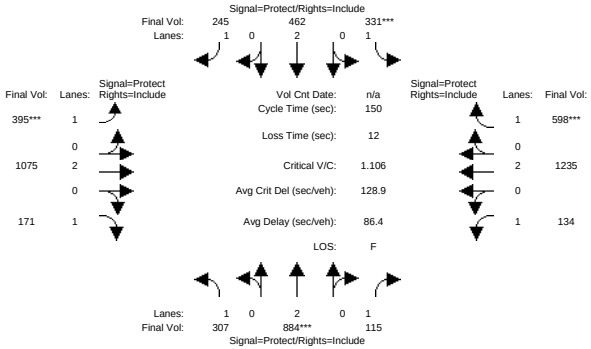
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #49 SR-99 - 14th St / G St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
Initial Vol:   37    5    67    86    0    56    73 1034     0     0  929    69
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2105
Minor Approach Volume:           142
Minor Approach Volume Threshold: 28 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #51: Olive Ave / G St



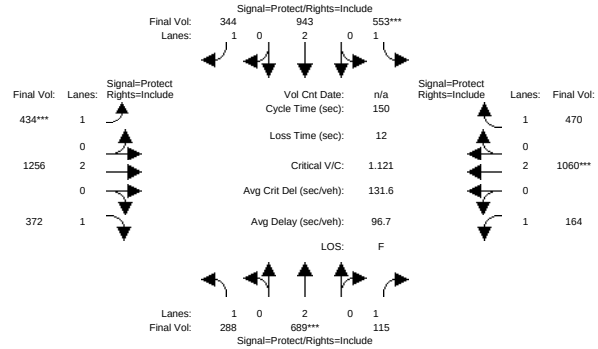
Street Name:	Olive Avenue									G Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	302		884	115	331		462	245	395		1072	168	134		1229	598
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	302		884	115	331		462	245	395		1072	168	134		1229	598
Added Vol:	5		0	0	0		0	0	0		3	3	0		6	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	307		884	115	331		462	245	395		1075	171	134		1235	598
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	307		884	115	331		462	245	395		1075	171	134		1235	598
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	307		884	115	331		462	245	395		1075	171	134		1235	598
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	307		884	115	331		462	245	395		1075	171	134		1235	598
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	0.85	0.95		0.95	0.85	0.95		0.95	0.85	0.95		0.95	0.85
Lanes:	1.00		2.00	1.00	1.00		2.00	1.00	1.00		2.00	1.00	1.00		2.00	1.00
Final Sat.:	1805		3610	1615	1805		3610	1615	1805		3610	1615	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.17		0.24	0.07	0.18		0.13	0.15	0.22		0.30	0.11	0.07		0.34	0.37
Crit Moves:			****		****				****							****
Green/Cycle:	0.20		0.22	0.22	0.17		0.18	0.18	0.20		0.43	0.43	0.11		0.33	0.33
Volume/Cap:	0.83		1.11	0.32	1.11		0.70	0.83	1.11		0.70	0.25	0.70		1.02	1.11
Delay/Veh:	71.8		123	49.5	146.0		60.8	76.8	139.4		36.6	27.8	75.5		81.4	120.9
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	71.8		123	49.5	146.0		60.8	76.8	139.4		36.6	27.8	75.5		81.4	120.9
LOS by Move:	E		F	D	F		E	E	F		D	C	E		F	F
HCM2kAvgQ:	392		757	112	454		240	251	656		535	122	181		925	946

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #51: Olive Ave / G St



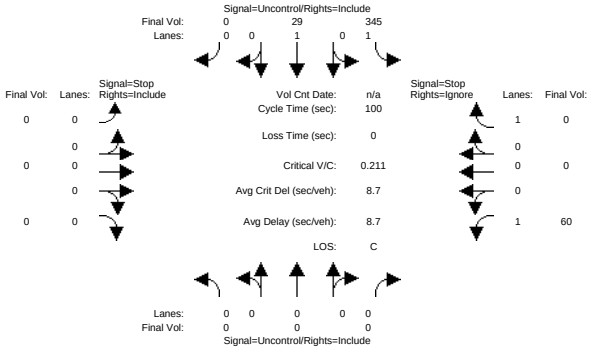
Street Name:	Olive Avenue									G Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	10	7		10	10	7		10	10	7		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	285		689	115	553		943	344	434		1250	367	164		1057	470
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	285		689	115	553		943	344	434		1250	367	164		1057	470
Added Vol:	3		0	0	0		0	0	0		6	5	0		3	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	288		689	115	553		943	344	434		1256	372	164		1060	470
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	288		689	115	553		943	344	434		1256	372	164		1060	470
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	288		689	115	553		943	344	434		1256	372	164		1060	470
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	288		689	115	553		943	344	434		1256	372	164		1060	470
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.95		0.95	0.85	0.95		0.95	0.85	0.95		0.95	0.85	0.95		0.95	0.85
Lanes:	1.00		2.00	1.00	1.00		2.00	1.00	1.00		2.00	1.00	1.00		2.00	1.00
Final Sat.:	1805		3610	1615	1805		3610	1615	1805		3610	1615	1805		3610	1615
Capacity Analysis Module:																
Vol/Sat:	0.16		0.19	0.07	0.31		0.26	0.21	0.24		0.35	0.23	0.09		0.29	0.29
Crit Moves:			****		****				****							****
Green/Cycle:	0.17		0.17	0.17	0.27		0.28	0.28	0.21		0.38	0.38	0.10		0.26	0.26
Volume/Cap:	0.95		1.12	0.42	1.12		0.95	0.77	1.12		0.92	0.61	0.92		1.12	1.11
Delay/Veh:	99.7		137	56.6	132.5		70.8	58.3	141.7		54.9	39.5	112.3		124	132.8
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	99.7		137	56.6	132.5		70.8	58.3	141.7		54.9	39.5	112.3		124	132.8
LOS by Move:	F		F	E	F		E	E	F		D	D	F		F	F
HCM2kAvgQ:	425		618	124	775		528	334	723		812	350	263		904	768

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #52: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   336   29     0     0    0     0    60    0   364
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   336   29     0     0    0     0    60    0   364
Added Vol:      0    0     0     9    0     0     0    0     0     0    0    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   345   29     0     0    0     0    60    0   378
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   345   29     0     0    0     0    60    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   345   29     0     0    0     0    60    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   719 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   398 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   334 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.21 xxxx  xxxx  xxxx xxxx  xxxx  0.18 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  19.9 xxxx xxxxx  xxxx xxxx xxxxx  16.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx  18.1 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             18.1
ApproachLOS:         *                *                *                C
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   345   29     0     0    0     0    60    0   378
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             18.1
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=438]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=812]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

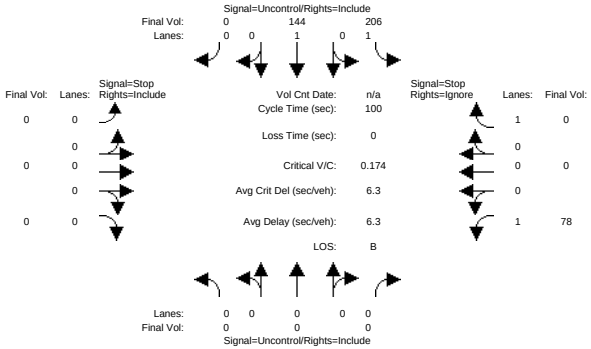
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   345   29     0     0    0     0    60    0   378
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             374
Minor Approach Volume:           438
Minor Approach Volume Threshold: 797
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #52: SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:          SR-99 SB On-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   192  144     0     0    0     0    78    0   215
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   192  144     0     0    0     0    78    0   215
Added Vol:      0    0     0    14    0     0     0    0     0     0    0     9
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   206  144     0     0    0     0    78    0   224
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     0    0     0   206  144     0     0    0     0    78    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   206  144     0     0    0     0    78    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx   556 xxxx     0
Potent Cap.: xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   496 xxxx  1091
Move Cap.:   xxxx xxxx xxxxx  1636 xxxx xxxxx  xxxx xxxx xxxxx   448 xxxx  1091
Volume/Cap:  xxxx xxxx  xxxx  0.13 xxxx  xxxx  xxxx xxxx  xxxx  0.17 xxxx  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  10.8 xxxx xxxxx  xxxx xxxx xxxxx  15.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx  14.7 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             14.7
ApproachLOS:         *                *                *                B
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   206  144     0     0    0     0    78    0   224
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             14.7
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=302]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=652]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

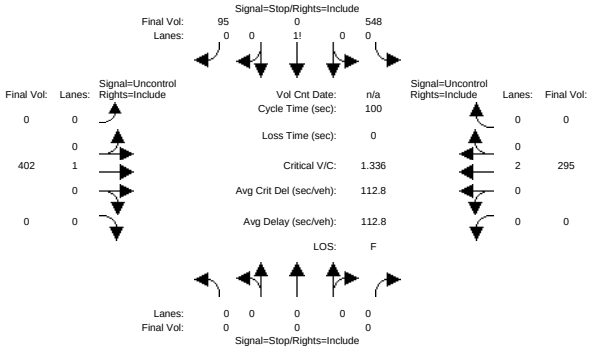
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #52 SR-99 SB On-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0    0     0   206  144     0     0    0     0    78    0   224
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             350
Minor Approach Volume:           302
Minor Approach Volume Threshold: 826
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #53: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   548    0    95     0  393     0     0  281     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   548    0    95     0  393     0     0  281     0
Added Vol:      0    0     0     0    0     0     0    9     0     0   14     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   548    0    95     0  402     0     0  295     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   548    0    95     0  402     0     0  295     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   548    0    95     0  402     0     0  295     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   697  697   148  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   410  367   905  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   410  367   905  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.34 0.00  0.11  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  446 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 32.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  235 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            235.1           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0    95     0  402     0     0  295     0
ApproachDel:    xxxxxx            235.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=42.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=643]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1340]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

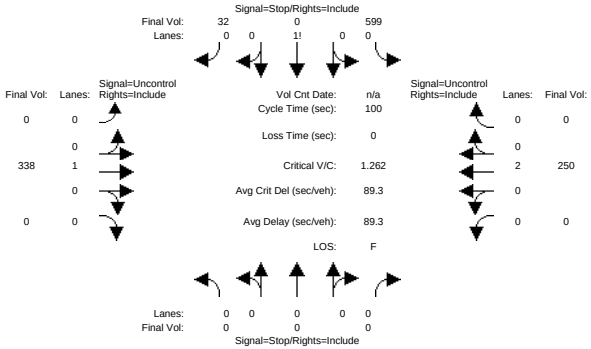
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   548    0    95     0  402     0     0  295     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             697
Minor Approach Volume:           643
Minor Approach Volume Threshold: 409
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #53: SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name:         SR-99 SB Off-Ramp            Yosemite Parkway (SR-140)
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   599    0    32     0  324     0     0  241     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   599    0    32     0  324     0     0  241     0
Added Vol:      0    0     0     0    0     0     0   14     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   599    0    32     0  338     0     0  250     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   599    0    32     0  338     0     0  250     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   599    0    32     0  338     0     0  250     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   588  588   125  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   475  424   931  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   475  424   931  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.26 0.00  0.03  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  487 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 26.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  173 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            172.5           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    32     0  338     0     0  250     0
ApproachDel:    xxxxxx            172.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=30.2]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=631]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1219]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

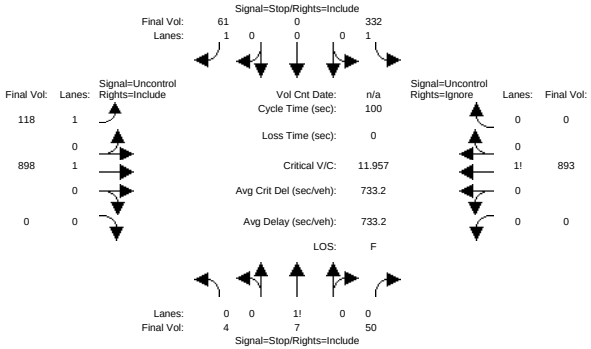
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #53 SR-99 SB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  2  0  0
Initial Vol:    0    0     0   599    0    32     0  338     0     0  250     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             588
Minor Approach Volume:           631
Minor Approach Volume Threshold: 468
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    6    50   330    0    61   118  889     0     0  879   844
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4    6    50   330    0    61   118  889     0     0  879   844
Added Vol:      0    1     0     2    0     0     0    9     0     0   14     8
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4    7    50   332    0    61   118  898     0     0  893   852
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     4    7    50   332    0    61   118  898     0     0  893     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4    7    50   332    0    61   118  898     0     0  893     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2058 2027   898  2056 xxxx   893   893 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   41   58   341    41 xxxx   343   768 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     30   49   341    28 xxxx   343   768 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.13 0.14  0.15 11.96 xxxx  0.18  0.15 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  1027 xxxx  15.9  13.5 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  5203 xxxx  17.7  10.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     C     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  144 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 47.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *     *    *     *     *    *     *     *    *     *
ApproachDel:      47.1           4398.1           xxxxxx           xxxxxx
ApproachLOS:         E                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    4    7    50   332    0    61   118  898     0     0  893   852
ApproachDel:      47.1           4398.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=61]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3215]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=480.1]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=393]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3215]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

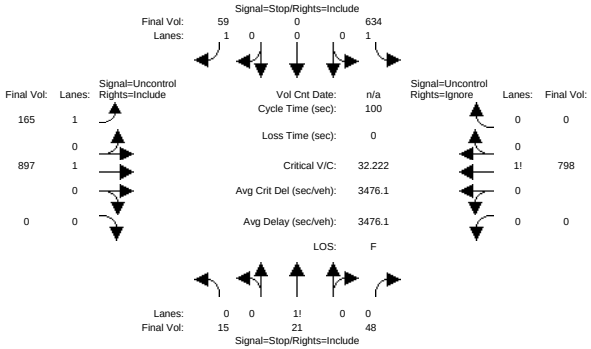
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:    4    7    50   332    0    61   118  898     0     0  893   852
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2761
Minor Approach Volume:           393
Minor Approach Volume Threshold: -63 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)




```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   21    48   626    0    59   165  883     0     0  789   606
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15   21    48   626    0    59   165  883     0     0  789   606
Added Vol:      0    0     0     8    0     0     0   14     0     0    9     2
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   15   21    48   634    0    59   165  897     0     0  798   608
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:    15   21    48   634    0    59   165  897     0     0  798     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   15   21    48   634    0    59   165  897     0     0  798     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2055 2025   897  2060 xxxx   798   798 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   41   58   341    41 xxxx   389   833 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     30   47   341    20 xxxx   389   833 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.50 0.45  0.14 32.22 xxxx  0.15  0.20 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  1994 xxxx  13.2  18.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 14424 xxxx  15.9  10.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     F    *     C     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   77 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  6.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  226 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     226.0           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         F                 F                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:   15   21    48   634    0    59   165  897     0     0  798   608
ApproachDel:     226.0           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=84]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3245]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2540.5]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=693]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3245]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

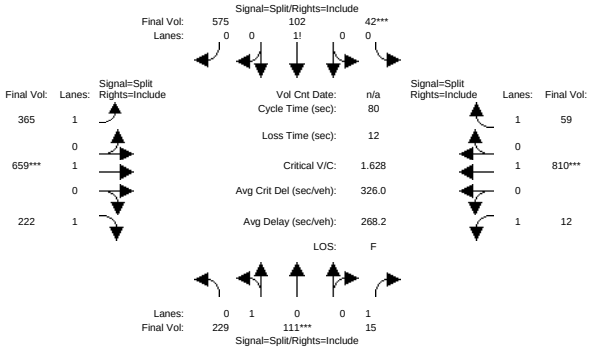
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #54 SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    1  0  0  0  1    1  0  1  0  0    0  0  0  1  0
Initial Vol:   15   21    48   634    0    59   165  897     0     0  798   608
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2468
Minor Approach Volume:           693
Minor Approach Volume Threshold: -14 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

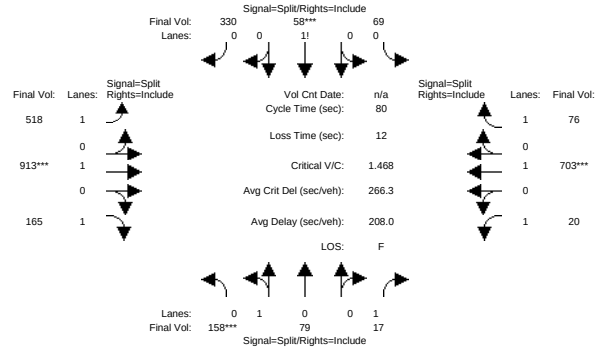



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     229  111    15   42  102   575  365  648   222   12  788    59
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  229  111    15   42  102   575  365  648   222   12  788    59
Added Vol:      0    0     0    0    0     0    0   11     0    0   22     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  229  111    15   42  102   575  365  659   222   12  810    59
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   229  111    15   42  102   575  365  659   222   12  810    59
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  229  111    15   42  102   575  365  659   222   12  810    59
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  229  111    15   42  102   575  365  659   222   12  810    59
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.89 0.89  0.89 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.06 0.14  0.80 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1237  600  1615   99  240  1351 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.19  0.01 0.43 0.43  0.43 0.20 0.35  0.14 0.01 0.43  0.04
Crit Moves:        ****          ****               ****               ****
Green/Cycle: 0.13 0.13  0.13 0.26 0.26  0.26 0.21 0.21  0.21 0.26 0.26  0.26
Volume/Cap:  1.48 1.48  0.07 1.65 1.65  1.65 0.96 1.65  0.66 0.03 1.65  0.14
Delay/Veh:  273.1  273  31.1 333.8  334 333.8  68.0  337  33.6 22.2  333  23.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 273.1  273  31.1 333.8  334 333.8  68.0  337  33.6 22.2  333  23.0
LOS by Move:    F    F     C     F    F     F    E    F     C    C    F     C
HCM2kAvgQ:    599  599     9  1347 1347  1347  350 1239   156    6 1510    29
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)

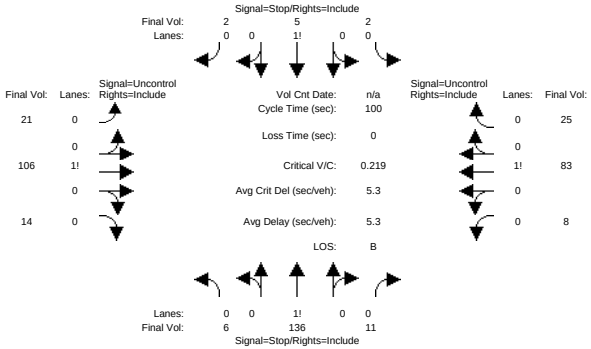



```
Street Name:    Motel Drive - Glen Avenue         Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10   10   10    10   10   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     158   79    17   69   58   330  518  891   165   20  692    76
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  158   79    17   69   58   330  518  891   165   20  692    76
Added Vol:      0    0     0    0    0     0    0   22     0    0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  158   79    17   69   58   330  518  913   165   20  703    76
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   158   79    17   69   58   330  518  913   165   20  703    76
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  158   79    17   69   58   330  518  913   165   20  703    76
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  158   79    17   69   58   330  518  913   165   20  703    76
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.97 0.97  0.85 0.90 0.90  0.90 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       0.67 0.33  1.00 0.15 0.13  0.72 1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1226  613  1615  257  216  1230 1805 1900  1615 1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.01 0.27 0.27  0.27 0.29 0.48  0.10 0.01 0.37  0.05
Crit Moves:  ****               ****               ****               ****
Green/Cycle: 0.13 0.13  0.13 0.17 0.17  0.17 0.31 0.31  0.31 0.24 0.24  0.24
Volume/Cap:  1.03 1.03  0.08 1.54 1.54  1.54 0.92 1.54  0.33 0.05 1.54  0.20
Delay/Veh:  102.6  103  31.1 293.6  294 293.6  47.3  280  21.5 23.4  286  24.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 102.6  103  31.1 293.6  294 293.6  47.3  280  21.5 23.4  286  24.5
LOS by Move:    F    F     C     F    F     F    D    F     C    C    F     C
HCM2kAvgQ:    279  279    11   820  820   820  422 1578    82   10 1229    40
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   33    11     2    5     2    20  106    14     8   83    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   33    11     2    5     2    20  106    14     8   83    13
Added Vol:      0  103     0     0    0     0     1    0     0     0    0    12
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6  136    11     2    5     2    21  106    14     8   83    25
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6  136    11     2    5     2    21  106    14     8   83    25
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6  136    11     2    5     2    21  106    14     8   83    25
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  270  279   113   340  274    96   108 xxxx xxxxx   120 xxxx xxxxx
Potent Cap.:  687  632   945   618  637   967  1495 xxxx xxxxx  1480 xxxx xxxxx
Move Cap.:    671  620   945   500  624   967  1495 xxxx xxxxx  1480 xxxx xxxxx
Volume/Cap:  0.01 0.22  0.01  0.00 0.01  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  638 xxxxx  xxxx  639 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.4 xxxxx xxxxx 10.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      12.4             10.7            xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  136    11     2    5     2    21  106    14     8   83    25
ApproachDel:      12.4             10.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=153]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=419]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=419]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

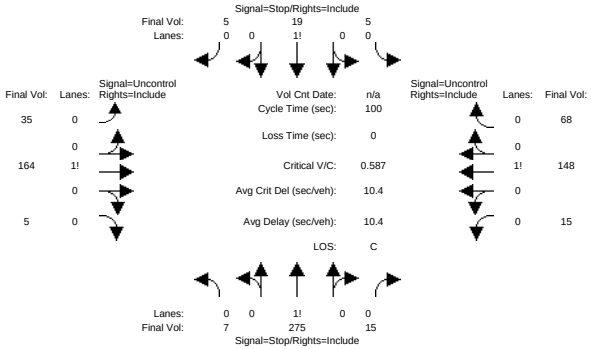
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  136    11     2    5     2    21  106    14     8   83    25
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             257
Minor Approach Volume:           153
Minor Approach Volume Threshold: 582
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  107    15     5   19     5    32  164     5    15  148    21
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7  107    15     5   19     5    32  164     5    15  148    21
Added Vol:      0  168     0     0    0     0     3    0     0     0    0    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7  275    15     5   19     5    35  164     5    15  148    68
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7  275    15     5   19     5    35  164     5    15  148    68
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7  275    15     5   19     5    35  164     5    15  148    68
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  461  483   167   594  451   182   216 xxxx xxxxx   169 xxxx xxxxx
Potent Cap.:  515  487   883   420  507   866  1366 xxxx xxxxx  1421 xxxx xxxxx
Move Cap.:    483  469   883   215  488   866  1366 xxxx xxxxx  1421 xxxx xxxxx
Volume/Cap:  0.01 0.59  0.02  0.02 0.04  0.01  0.03 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.0 xxxx xxxxx   0.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx   7.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  480 xxxxx  xxxx  427 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  4.1 xxxxx xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 23.9 xxxxx xxxxx 14.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     *    *     *     *    *     *
ApproachDel:      23.9             14.1           xxxxxx           xxxxxx
ApproachLOS:         C                B                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  275    15     5   19     5    35  164     5    15  148    68
ApproachDel:      23.9             14.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=297]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=761]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=29]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=761]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

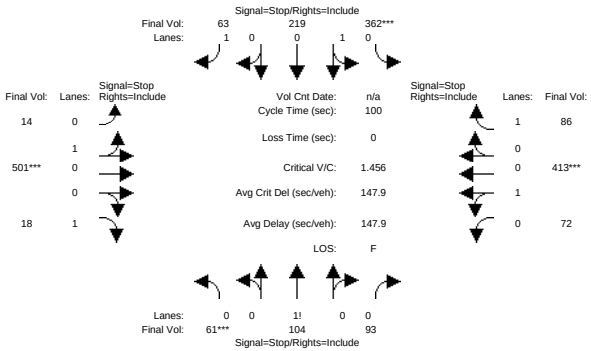
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  275    15     5   19     5    35  164     5    15  148    68
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             435
Minor Approach Volume:           297
Minor Approach Volume Threshold: 441
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #57: 13th St / M St




```
Street Name:            13th Street                         M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61   103    85   141   214    63    14   480    18    62   402    86
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   61   103    85   141   214    63    14   480    18    62   402    86
Added Vol:      0     1     8   221     5     0     0    21     0    10    11     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   61   104    93   362   219    63    14   501    18    72   413    86
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    61   104    93   362   219    63    14   501    18    72   413    86
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   61   104    93   362   219    63    14   501    18    72   413    86
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   61   104    93   362   219    63    14   501    18    72   413    86
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.24  0.40  0.36  0.62  0.38  1.00  0.03  0.97  1.00  0.15  0.85  1.00
Final Sat.:    89   152   136   249   150   450    11   400   448    61   349   449
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.68  0.68  0.68  1.46  1.46  0.14  1.25  1.25  0.04  1.18  1.18  0.19
Crit Moves:  ****             ****                    ****                ****
Delay/Veh:   30.9  30.9  30.9 242.4   242  12.0 158.2   158  11.1 132.8   133  12.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  30.9  30.9  30.9 242.4   242  12.0 158.2   158  11.1 132.8   133  12.6
LOS by Move:    D     D     D     F     F     B     F     F     B     F     F     B
ApproachDel:       30.9             219.9             153.2             114.7
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        30.9             219.9             153.2             114.7
LOS by Appr:          D                 F                 F                 F
AllWayAvgQ:  48.1  48.1  48.1   639   639   4.1   419   419   1.0   345   345   5.9
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #57 13th St / M St
*******************************************************************************
```



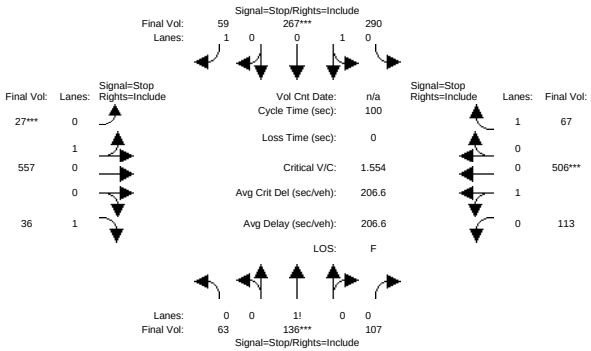
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   61  104    93   362  219    63    14  501    18    72  413    86
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1104
Minor Approach Volume:           644
Minor Approach Volume Threshold: 332
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #57: 13th St / M St




```
Street Name:            13th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63   133   100   172   266    59    27   541    36   100   486    67
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   63   133   100   172   266    59    27   541    36   100   486    67
Added Vol:      0     3     7   118     1     0     0    16     0    13    20     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   63   136   107   290   267    59    27   557    36   113   506    67
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    63   136   107   290   267    59    27   557    36   113   506    67
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   63   136   107   290   267    59    27   557    36   113   506    67
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   63   136   107   290   267    59    27   557    36   113   506    67
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.21  0.44  0.35  0.52  0.48  1.00  0.05  0.95  1.00  0.18  0.82  1.00
Final Sat.:    78   167   132   204   188   437    19   383   436    73   326   437
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.81  0.81  0.81  1.42  1.42  0.14  1.46  1.46  0.08  1.55  1.55  0.15
Crit Moves:        ****              ****        ****                    ****
Delay/Veh:   42.9  42.9  42.9 229.4   229  12.2 242.4   242  11.7 284.2   284  12.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  42.9  42.9  42.9 229.4   229  12.2 242.4   242  11.7 284.2   284  12.4
LOS by Move:    E     E     E     F     F     B     F     F     B     F     F     B
ApproachDel:       42.9            208.6            229.0            257.7
Delay Adj:         1.00             1.00             1.00             1.00
ApprAdjDel:        42.9            208.6            229.0            257.7
LOS by Appr:          E                F                F                F
AllWayAvgQ:  79.5  79.5  79.5   591   591   3.9   643   643   2.2   754   754   4.5
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #57 13th St / M St
*******************************************************************************
```



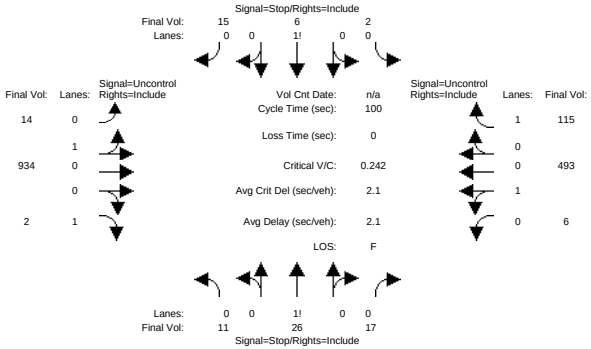
```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1    0  1  0  0  1
Initial Vol:   63  136   107   290  267    59    27  557    36   113  506    67
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1306
Minor Approach Volume:           616
Minor Approach Volume Threshold: 259
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #58: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      11   26    13     2    6    15    14  684     2     6  471    12
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   11   26    13     2    6    15    14  684     2     6  471    12
Added Vol:      0    0     4     0    0     0     0  250     0     0   22   103
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   11   26    17     2    6    15    14  934     2     6  493   115
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    11   26    17     2    6    15    14  934     2     6  493   115
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   11   26    17     2    6    15    14  934     2     6  493   115
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1535 1582   934  1490 1469   493   608 xxxx xxxxx   936 xxxx xxxxx
Potent Cap.:   96  110   325   103  129   580   980 xxxx xxxxx   740 xxxx xxxxx
Move Cap.:     89  107   325    78  126   580   980 xxxx xxxxx   740 xxxx xxxxx
Volume/Cap:  0.12 0.24  0.05  0.03 0.05  0.03  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx   0.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.7 xxxx xxxxx   9.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  129 xxxxx  xxxx  232 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.8 xxxxx xxxxx  0.3 xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 51.7 xxxxx xxxxx 22.2 xxxxx   8.7 xxxx xxxxx   9.9 xxxx xxxxx
Shared LOS:     *    F     *     *    C     *     A    *     *     A    *     *
ApproachDel:      51.7             22.2           xxxxxx           xxxxxx
ApproachLOS:         F                C                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:   11   26    17     2    6    15    14  934     2     6  493   115
ApproachDel:      51.7             22.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=54]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1641]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1641]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

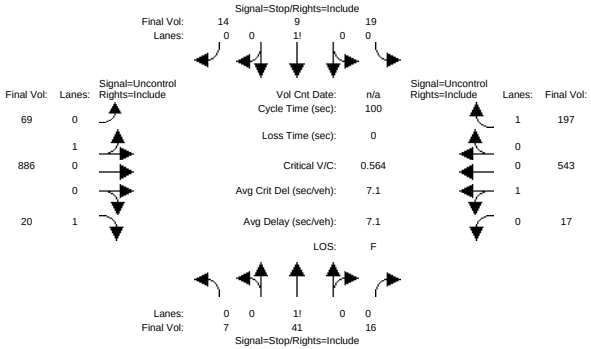
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:   11   26    17     2    6    15    14  934     2     6  493   115
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1564
Minor Approach Volume:           54
Minor Approach Volume Threshold: 131
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #58: 14th St / M St




```
Street Name:            14th Street                     M Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7   41    15    19    9    14    69  745    20    17  511    29
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7   41    15    19    9    14    69  745    20    17  511    29
Added Vol:      0    0     1     0    0     0     0  141     0     0   32   168
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7   41    16    19    9    14    69  886    20    17  543   197
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7   41    16    19    9    14    69  886    20    17  543   197
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7   41    16    19    9    14    69  886    20    17  543   197
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1711 1798   886  1640 1621   543   740 xxxx xxxxx   906 xxxx xxxxx
Potent Cap.:   72   81   346    81  104   544   876 xxxx xxxxx   759 xxxx xxxxx
Move Cap.:     60   73   346    40   93   544   876 xxxx xxxxx   759 xxxx xxxxx
Volume/Cap:  0.12 0.56  0.05  0.48 0.10  0.03  0.08 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   6.4 xxxx xxxxx   1.7 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.5 xxxx xxxxx   9.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   88 xxxxx  xxxx   70 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.6 xxxxx xxxxx  2.6 xxxxx   0.3 xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx  115 xxxxx xxxxx  115 xxxxx   9.5 xxxx xxxxx   9.8 xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     A    *     *     A    *     *
ApproachDel:     115.4            114.8           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    7   41    16    19    9    14    69  886    20    17  543   197
ApproachDel:     115.4            114.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=64]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1838]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=42]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1838]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

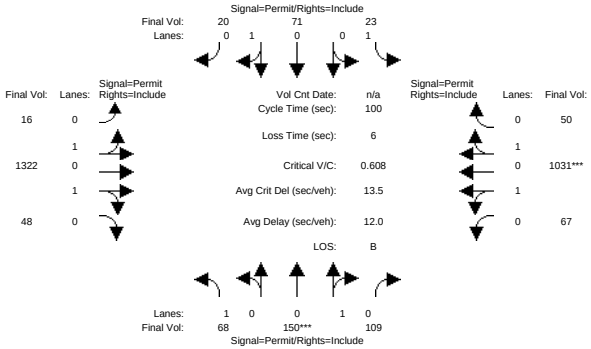
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #58 14th St / M St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  1    0  1  0  0  1
Initial Vol:    7   41    16    19    9    14    69  886    20    17  543   197
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1732
Minor Approach Volume:           64
Minor Approach Volume Threshold: 96 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #59: Main St / M St



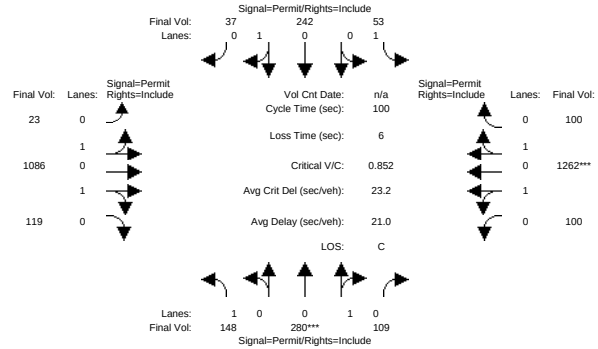
Street Name:	Main Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	67	149	109	23	71	20	16	1301	48	67	1017	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	67	149	109	23	71	20	16	1301	48	67	1017	50
Added Vol:	1	1	0	0	0	0	0	21	0	0	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68	150	109	23	71	20	16	1322	48	67	1031	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	150	109	23	71	20	16	1322	48	67	1031	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	150	109	23	71	20	16	1322	48	67	1031	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	150	109	23	71	20	16	1322	48	67	1031	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.67	0.94	0.94	0.35	0.97	0.97	0.88	0.88	0.88	0.71	0.71	0.71
Lanes:	1.00	0.58	0.42	1.00	0.78	0.22	0.02	1.91	0.07	0.12	1.79	0.09
Final Sat.:	1265	1031	749	665	1433	404	39	3200	116	157	2418	117
Capacity Analysis Module:												
Vol/Sat:	0.05	0.15	0.15	0.03	0.05	0.05	0.41	0.41	0.41	0.43	0.43	0.43
Crit Moves:		****									****	
Green/Cycle:	0.24	0.24	0.24	0.24	0.24	0.24	0.70	0.70	0.70	0.70	0.70	0.70
Volume/Cap:	0.22	0.61	0.61	0.14	0.21	0.21	0.59	0.59	0.59	0.61	0.61	0.61
Delay/Veh:	31.0	36.4	36.4	30.4	30.7	30.7	8.0	8.0	8.0	8.4	8.4	8.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.0	36.4	36.4	30.4	30.7	30.7	8.0	8.0	8.0	8.4	8.4	8.4
LOS by Move:	C	D	D	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	45	196	196	17	57	57	271	271	271	241	241	241

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #59: Main St / M St



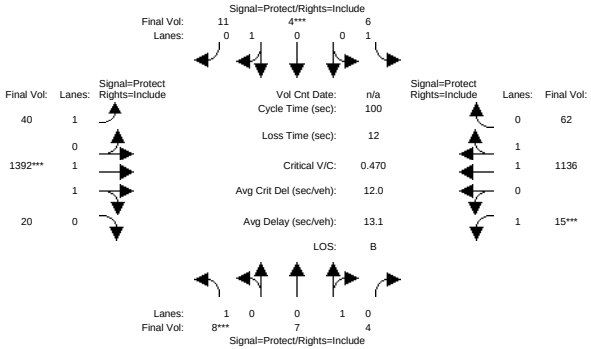
Street Name:	Main Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	148	280	109	53	241	37	23	1072	118	100	1241	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	148	280	109	53	241	37	23	1072	118	100	1241	100
Added Vol:	0	0	0	0	1	0	0	14	1	0	21	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	148	280	109	53	242	37	23	1086	119	100	1262	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	148	280	109	53	242	37	23	1086	119	100	1262	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	148	280	109	53	242	37	23	1086	119	100	1262	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	148	280	109	53	242	37	23	1086	119	100	1262	100
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.36	0.96	0.96	0.20	0.98	0.98	0.84	0.84	0.84	0.66	0.66	0.66
Lanes:	1.00	0.72	0.28	1.00	0.87	0.13	0.04	1.77	0.19	0.14	1.72	0.14
Final Sat.:	689	1310	510	382	1615	247	60	2832	310	170	2149	170
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.21	0.14	0.15	0.15	0.38	0.38	0.38	0.59	0.59	0.59
Crit Moves:		****									****	
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.69	0.69	0.69	0.69	0.69	0.69
Volume/Cap:	0.86	0.85	0.85	0.55	0.60	0.60	0.56	0.56	0.56	0.85	0.85	0.85
Delay/Veh:	67.8	50.0	50.0	39.5	35.1	35.1	8.1	8.1	8.1	16.0	16.0	16.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	67.8	50.0	50.0	39.5	35.1	35.1	8.1	8.1	8.1	16.0	16.0	16.0
LOS by Move:	E	D	D	D	D	D	A	A	A	B	B	B
HCM2kAvgQ:	174	356	356	58	206	206	229	229	229	466	466	466

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #60: 18th St / M St



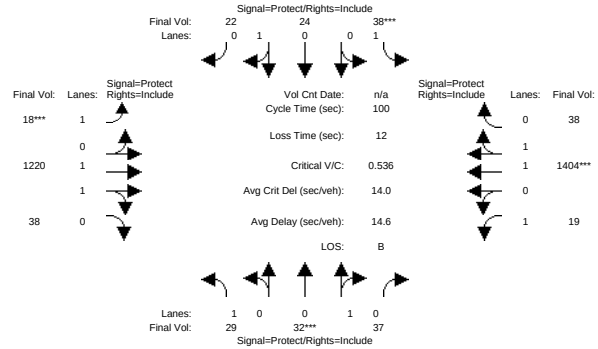
Street Name:	18th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	4	6	4	6	3	11	40	1387	4	15	1126	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	6	4	6	3	11	40	1387	4	15	1126	61
Added Vol:	4	1	0	0	1	0	0	5	16	0	10	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	7	4	6	4	11	40	1392	20	15	1136	62
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	7	4	6	4	11	40	1392	20	15	1136	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	7	4	6	4	11	40	1392	20	15	1136	62
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	8	7	4	6	4	11	40	1392	20	15	1136	62
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.89	0.89	0.95	0.95	0.95	0.95	0.94	0.94
Lanes:	1.00	0.64	0.36	1.00	0.27	0.73	1.00	1.97	0.03	1.00	1.90	0.10
Final Sat.:	1805	1143	653	1805	451	1240	1805	3552	51	1805	3396	185
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.00	0.01	0.01	0.02	0.39	0.39	0.01	0.33	0.33
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.10	0.10	0.07	0.10	0.10	0.12	0.64	0.64	0.07	0.59	0.59
Volume/Cap:	0.06	0.06	0.06	0.05	0.09	0.09	0.18	0.61	0.61	0.12	0.57	0.57
Delay/Veh:	43.6	40.9	40.9	43.5	41.1	41.1	39.7	11.1	11.1	44.0	13.2	13.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.6	40.9	40.9	43.5	41.1	41.1	39.7	11.1	11.1	44.0	13.2	13.2
LOS by Move:	D	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	7	9	9	4	10	10	26	331	331	13	304	304

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #60: 18th St / M St



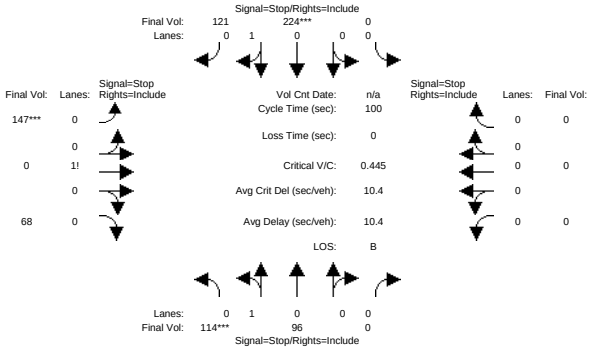
Street Name:	18th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	13	31	37	37	23	22	18	1210	34	19	1399	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	31	37	37	23	22	18	1210	34	19	1399	38
Added Vol:	16	1	0	1	1	0	0	10	4	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	32	37	38	24	22	18	1220	38	19	1404	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	32	37	38	24	22	18	1220	38	19	1404	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	32	37	38	24	22	18	1220	38	19	1404	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	32	37	38	24	22	18	1220	38	19	1404	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	1.00	0.46	0.54	1.00	0.52	0.48	1.00	1.94	0.06	1.00	1.95	0.05
Final Sat.:	1805	811	937	1805	920	843	1805	3487	109	1805	3501	95
Capacity Analysis Module:												
Vol/Sat:	0.02	0.04	0.04	0.02	0.03	0.03	0.01	0.35	0.35	0.01	0.40	0.40
Crit Moves:		****		****			****				****	
Green/Cycle:	0.07	0.10	0.10	0.07	0.10	0.10	0.07	0.59	0.59	0.12	0.64	0.64
Volume/Cap:	0.23	0.39	0.39	0.30	0.26	0.26	0.14	0.59	0.59	0.09	0.63	0.63
Delay/Veh:	44.9	43.6	43.6	45.5	42.4	42.4	44.2	13.3	13.3	39.5	11.4	11.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.9	43.6	43.6	45.5	42.4	42.4	44.2	13.3	13.3	39.5	11.4	11.4
LOS by Move:	D	D	D	D	D	D	D	B	B	D	B	B
HCM2kAvgQ:	26	60	60	27	32	32	12	312	312	14	358	358

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #61: 15th St / Canal St

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Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     114    64     0     0    94   121   147     0    68     0     0     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:  114    64     0     0    94   121   147     0    68     0     0     0
Added Vol:      0    32     0     0   130     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  114    96     0     0   224   121   147     0    68     0     0     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:   114    96     0     0   224   121   147     0    68     0     0     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  114    96     0     0   224   121   147     0    68     0     0     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:  114    96     0     0   224   121   147     0    68     0     0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.54  0.46  0.00  0.00  0.65  0.35  0.68  0.00  0.32  0.00  0.00  0.00
Final Sat.:   380   320     0     0   503   272   457     0   211     0     0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.30  0.30  xxxx  xxxx  0.45  0.45  0.32  xxxx  0.32  xxxx  xxxx  xxxx
Crit Moves:  ****                    ****        ****
Delay/Veh:    9.9   9.9   0.0   0.0  10.9  10.9  10.2   0.0  10.2   0.0   0.0   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.9   9.9   0.0   0.0  10.9  10.9  10.2   0.0  10.2   0.0   0.0   0.0
LOS by Move:    A     A     *     *     B     B     B     *     B     *     *     *
ApproachDel:        9.9              10.9              10.2            xxxxxx
Delay Adj:         1.00              1.00              1.00             xxxxx
ApprAdjDel:         9.9              10.9              10.2            xxxxxx
LOS by Appr:          A                 B                 B                 *
AllWayAvgQ:   9.7   9.7   9.7  18.1  18.1  18.1  10.1  10.1  10.1   0.0   0.0   0.0
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #61 15th St / Canal St
*******************************************************************************
```



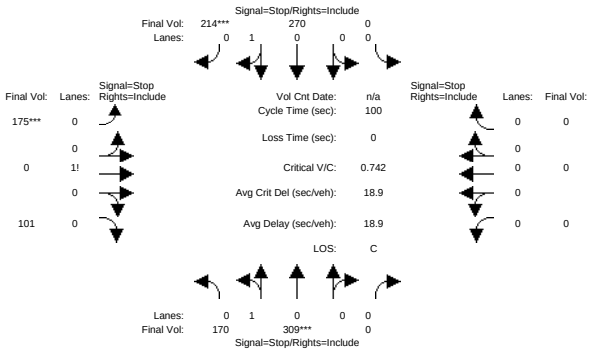
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  114   96     0    0  224   121   147    0    68    0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             555
Minor Approach Volume:           215
Minor Approach Volume Threshold: 376
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #61: 15th St / Canal St




```
Street Name:            15th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     170  179     0     0  238   214   175    0   101     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  170  179     0     0  238   214   175    0   101     0    0     0
Added Vol:      0  130     0     0   32     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  170  309     0     0  270   214   175    0   101     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   170  309     0     0  270   214   175    0   101     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  170  309     0     0  270   214   175    0   101     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  170  309     0     0  270   214   175    0   101     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.35 0.65  0.00  0.00 0.56  0.44  0.63 0.00  0.37  0.00 0.00  0.00
Final Sat.:   229  417     0     0  381   302   356    0   205     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.74 0.74  xxxx  xxxx 0.71  0.71  0.49 xxxx  0.49  xxxx xxxx  xxxx
Crit Moves:       ****                    ****  ****
Delay/Veh:   21.6 21.6   0.0   0.0 19.0  19.0  14.0  0.0  14.0   0.0  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  21.6 21.6   0.0   0.0 19.0  19.0  14.0  0.0  14.0   0.0  0.0   0.0
LOS by Move:    C    C     *     *    C     C     B    *     B     *    *     *
ApproachDel:      21.6             19.0             14.0           xxxxxx
Delay Adj:        1.00             1.00             1.00            xxxxx
ApprAdjDel:       21.6             19.0             14.0           xxxxxx
LOS by Appr:         C                C                B                *
AllWayAvgQ:  59.1 59.1  59.1  51.4 51.4  51.4  19.5 19.5  19.5   0.0  0.0   0.0
Note: Queue reported is the distance per lane in feet.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #61 15th St / Canal St

****

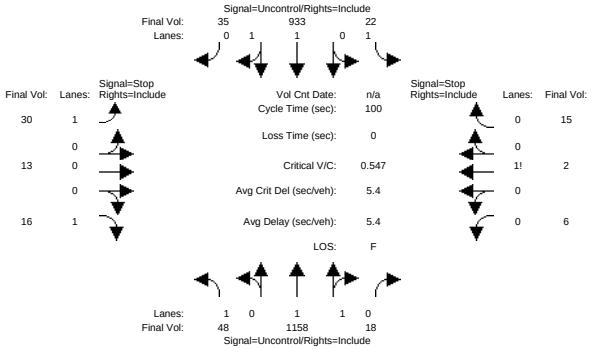

```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  170  309     0    0  270   214   175    0   101    0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             963
Minor Approach Volume:           276
Minor Approach Volume Threshold: 229
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      48  969    18    22  716    35    30   13    16     6    2    15
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   48  969    18    22  716    35    30   13    16     6    2    15
Added Vol:      0  189     0     0  217     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   48 1158    18    22  933    35    30   13    16     6    2    15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    48 1158    18    22  933    35    30   13    16     6    2    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   48 1158    18    22  933    35    30   13    16     6    2    15
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  968 xxxx xxxxx  1176 xxxx xxxxx  1671 2267   484  1780 2275   588
Potent Cap.:  720 xxxx xxxxx   601 xxxx xxxxx    64   41   534    53   41   457
Move Cap.:    720 xxxx xxxxx   601 xxxx xxxxx    55   37   534    35   37   457
Volume/Cap:  0.07 xxxx  xxxx  0.04 xxxx  xxxx  0.55 0.35  0.03  0.17 0.05  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    5.3 xxxx xxxxx   2.8 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.4 xxxx xxxxx  11.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx    48 xxxx    76  xxxx   88 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.7 xxxx   1.5 xxxxx  0.9 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 233.1 xxxx  78.9 xxxxx 59.5 xxxxx
Shared LOS:     *    *     *     *    *     *     F    *     F     *    F     *
ApproachDel:    xxxxxx           xxxxxx            171.0            59.5
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   48 1158    18    22  933    35    30   13    16     6    2    15
ApproachDel:    xxxxxx           xxxxxx            171.0            59.5
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.8]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=59]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2296]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2296]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

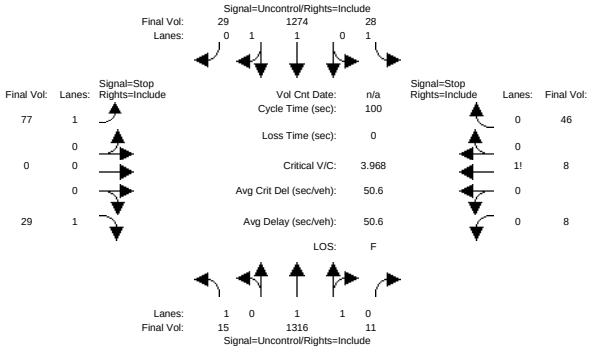
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  1  0  1  0    0  0  1! 0  0
Initial Vol:   48 1158    18    22  933    35    30   13    16     6    2    15
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2214
Minor Approach Volume:           59
Minor Approach Volume Threshold: 32 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #62: 16th St / Canal St




```
Street Name:            16th Street                     Canal Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15 1099    11    28 1085    29    77    0    29     8    8    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15 1099    11    28 1085    29    77    0    29     8    8    46
Added Vol:      0  217     0     0  189     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   15 1316    11    28 1274    29    77    0    29     8    8    46
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    15 1316    11    28 1274    29    77    0    29     8    8    46
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   15 1316    11    28 1274    29    77    0    29     8    8    46
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1303 xxxx xxxxx  1327 xxxx xxxxx  2037 xxxx   652  2045 2711   664
Potent Cap.:  538 xxxx xxxxx   527 xxxx xxxxx    34 xxxx   416    33   21   408
Move Cap.:    538 xxxx xxxxx   527 xxxx xxxxx    19 xxxx   416    29   20   408
Volume/Cap:  0.03 xxxx  xxxx  0.05 xxxx  xxxx  3.97 xxxx  0.07  0.27 0.41  0.11
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.1 xxxx xxxxx   4.2 xxxx xxxxx   252 xxxx   5.6  xxxx xxxx xxxxx
Control Del: 11.9 xxxx xxxxx  12.2 xxxx xxxxx  1740 xxxx  14.3 xxxxx xxxx xxxxx
LOS by Move:    B    *     *     B    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx   78 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  3.9 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  141 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    F     *
ApproachDel:    xxxxxx           xxxxxx           1267.8            140.9
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   15 1316    11    28 1274    29    77    0    29     8    8    46
ApproachDel:    xxxxxx           xxxxxx           1267.8            140.9
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=37.3]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=106]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2841]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2841]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

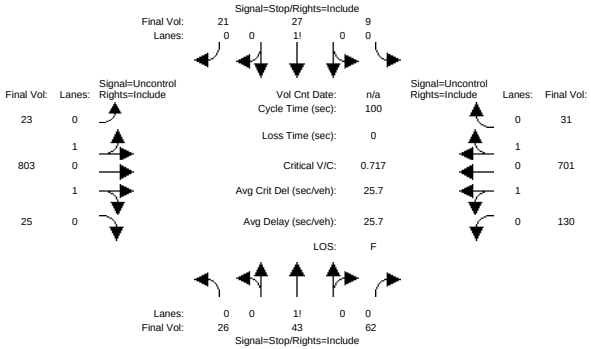
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #62 16th St / Canal St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  0  1    0  0  1! 0  0
Initial Vol:   15 1316    11    28 1274    29    77    0    29     8    8    46
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2673
Minor Approach Volume:           106
Minor Approach Volume Threshold: -49 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #63: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26   42    46     9   25    11     4  794    25    65  692    31
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26   42    46     9   25    11     4  794    25    65  692    31
Added Vol:      0    1    16     0    2    10    19    9     0    65    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26   43    62     9   27    21    23  803    25   130  701    31
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26   43    62     9   27    21    23  803    25   130  701    31
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26   43    62     9   27    21    23  803    25   130  701    31
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1486 1854   414  1446 1851   366   732 xxxx xxxxx   828 xxxx xxxxx
Potent Cap.:   88   75   593    94   75   637   882 xxxx xxxxx   812 xxxx xxxxx
Move Cap.:     48   60   593    31   60   637   882 xxxx xxxxx   812 xxxx xxxxx
Volume/Cap:  0.55 0.72  0.10  0.29 0.45  0.03  0.03 xxxx  xxxx  0.16 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.0 xxxx xxxxx  14.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.2 xxxx xxxxx  10.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   96 xxxxx  xxxx   74 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  9.6 xxxxx xxxxx  3.7 xxxxx   0.1 xxxx xxxxx   0.6 xxxx xxxxx
Shrd ConDel:xxxxx  299 xxxxx xxxxx  143 xxxxx   9.2 xxxx xxxxx  10.3 xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     A    *     *     B    *     *
ApproachDel:     298.8            143.3           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   26   43    62     9   27    21    23  803    25   130  701    31
ApproachDel:     298.8            143.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=10.9]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=131]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1901]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=57]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1901]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

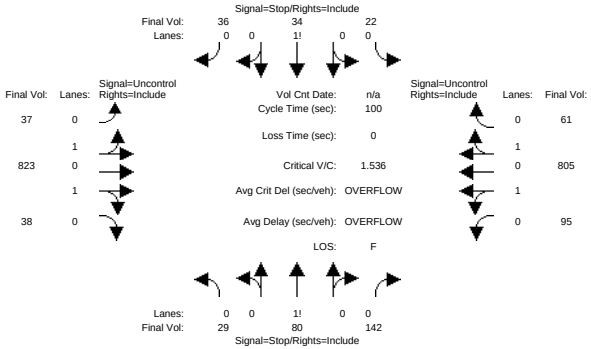
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   26   43    62     9   27    21    23  803    25   130  701    31
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1713
Minor Approach Volume:           131
Minor Approach Volume Threshold: 99 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #63: 11th St / Martin Luther King Wy




```
Street Name:            11th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      29   74    77    22   34    17    27  814    38    79  796    61
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   29   74    77    22   34    17    27  814    38    79  796    61
Added Vol:      0    6    65     0    0    19    10    9     0    16    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   29   80   142    22   34    36    37  823    38    95  805    61
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    29   80   142    22   34    36    37  823    38    95  805    61
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   29   80   142    22   34    36    37  823    38    95  805    61
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1526 1972   431  1551 1961   433   866 xxxx xxxxx   861 xxxx xxxxx
Potent Cap.:   82   63   579    79   64   576   786 xxxx xxxxx   789 xxxx xxxxx
Move Cap.:     33   52   579     0   53   576   786 xxxx xxxxx   789 xxxx xxxxx
Volume/Cap:  0.88 1.54  0.25  xxxx 0.64  0.06  0.05 xxxx  xxxx  0.12 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.7 xxxx xxxxx  10.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.8 xxxx xxxxx  10.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   94 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 23.6 xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx   0.4 xxxx xxxxx
Shrd ConDel:xxxxx  846 xxxxx xxxxx xxxx xxxxx   9.8 xxxx xxxxx  10.2 xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     A    *     *     B    *     *
ApproachDel:     846.3           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         F                F                 *                *
Note: Queue reported is the distance per lane in feet.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   29   80   142    22   34    36    37  823    38    95  805    61
ApproachDel:     846.3           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=59.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=251]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2202]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=92]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2202]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

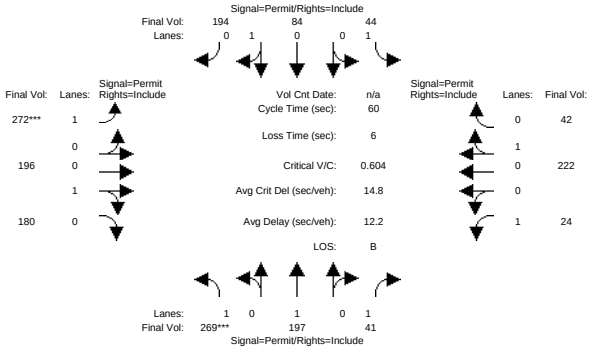
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #63 11th St / Martin Luther King Wy
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  1  0  1  0
Initial Vol:   29   80   142    22   34    36    37  823    38    95  805    61
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1859
Minor Approach Volume:           251
Minor Approach Volume Threshold: 71 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #64: Main St / Martin Luther King Wy



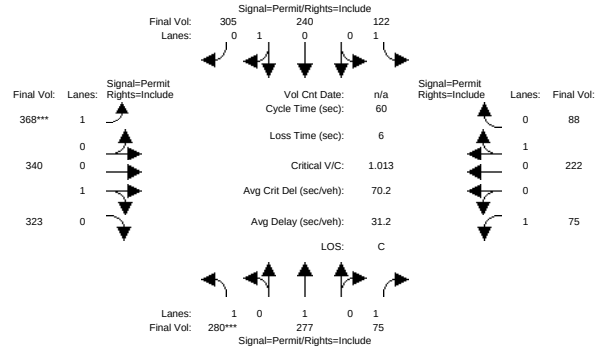
Street Name:	Main Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	269		195		41	44		84		194	272		196		180	24		222		42
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	269		195		41	44		84		194	272		196		180	24		222		42
Added Vol:	0		2		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	269		197		41	44		84		194	272		196		180	24		222		42
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	269		197		41	44		84		194	272		196		180	24		222		42
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	269		197		41	44		84		194	272		196		180	24		222		42
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	269		197		41	44		84		194	272		196		180	24		222		42
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.52		1.00		0.85	0.60		0.90		0.90	0.53		0.93		0.93	0.42		0.98		0.98
Lanes:	1.00		1.00		1.00	1.00		0.30		0.70	1.00		0.52		0.48	1.00		0.84		0.16
Final Sat.:	984		1900		1615	1146		514		1187	1007		919		844	800		1559		295
Capacity Analysis Module:																				
Vol/Sat:	0.27		0.10		0.03	0.04		0.16		0.16	0.27		0.21		0.21	0.03		0.14		0.14
Crit Moves:	****										****									
Green/Cycle:	0.45		0.45		0.45	0.45		0.45		0.45	0.45		0.45		0.45	0.45		0.45		0.45
Volume/Cap:	0.60		0.23		0.06	0.08		0.36		0.36	0.60		0.48		0.48	0.07		0.32		0.32
Delay/Veh:	14.7		10.2		9.3	9.4		11.0		11.0	14.9		12.1		12.1	9.5		10.9		10.9
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	14.7		10.2		9.3	9.4		11.0		11.0	14.9		12.1		12.1	9.5		10.9		10.9
LOS by Move:	B		B		A	A		B		B	B		B		B	A		B		B
HCM2kAvgQ:	120		58		11	13		90		90	91		114		114	7		82		82

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #64: Main St / Martin Luther King Wy



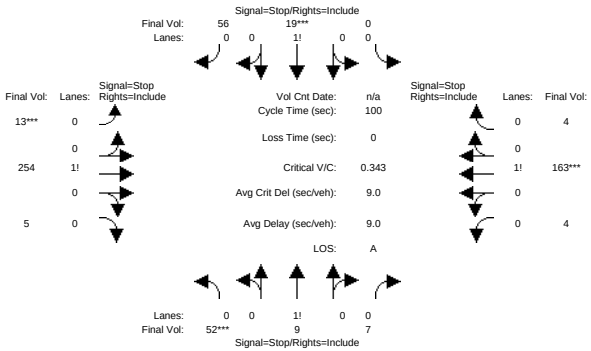
Street Name:	Main Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	280		277		75	122		238		305	368		340		323	75		222		88
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	280		277		75	122		238		305	368		340		323	75		222		88
Added Vol:	0		0		0	0		2		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	280		277		75	122		240		305	368		340		323	75		222		88
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	280		277		75	122		240		305	368		340		323	75		222		88
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	280		277		75	122		240		305	368		340		323	75		222		88
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	280		277		75	122		240		305	368		340		323	75		222		88
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.30		1.00		0.85	0.53		0.92		0.92	0.47		0.93		0.93	0.16		0.96		0.96
Lanes:	1.00		1.00		1.00	1.00		0.44		0.56	1.00		0.51		0.49	1.00		0.72		0.28
Final Sat.:	564		1900		1615	1011		766		974	885		903		858	310		1302		516
Capacity Analysis Module:																				
Vol/Sat:	0.50		0.15		0.05	0.12		0.31		0.31	0.42		0.38		0.38	0.24		0.17		0.17
Crit Moves:	****										****									
Green/Cycle:	0.49		0.49		0.49	0.49		0.49		0.49	0.41		0.41		0.41	0.41		0.41		0.41
Volume/Cap:	1.01		0.30		0.09	0.25		0.64		0.64	1.01		0.92		0.92	0.59		0.42		0.42
Delay/Veh:	72.8		9.3		8.2	9.1		13.0		13.0	68.3		33.4		33.4	20.9		13.0		13.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	72.8		9.3		8.2	9.1		13.0		13.0	68.3		33.4		33.4	20.9		13.0		13.0
LOS by Move:	E		A		A	A		B		B	E		C		C	C		B		B
HCM2kAvgQ:	270		79		19	38		211		211	189		272		272	55		109		109

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #65: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      52     4     7     0     2    56    13   254     5     4   163     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   52     4     7     0     2    56    13   254     5     4   163     4
Added Vol:      0     5     0     0    17     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   52     9     7     0    19    56    13   254     5     4   163     4
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    52     9     7     0    19    56    13   254     5     4   163     4
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   52     9     7     0    19    56    13   254     5     4   163     4
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   52     9     7     0    19    56    13   254     5     4   163     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.77  0.13  0.10  0.00  0.25  0.75  0.05  0.93  0.02  0.02  0.96  0.02
Final Sat.:   503    87    68     0   185   545    38   740    15    18   734    18
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10  0.10  0.10  xxxx  0.10  0.10  0.34  0.34  0.34  0.22  0.22  0.22
Crit Moves:  ****                    ****        ****                    ****
Delay/Veh:    8.6   8.6   8.6   0.0   8.0   8.0   9.6   9.6   9.6   8.8   8.8   8.8
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.6   8.6   8.6   0.0   8.0   8.0   9.6   9.6   9.6   8.8   8.8   8.8
LOS by Move:    A     A     A     *     A     A     A     A     A     A     A     A
ApproachDel:        8.6               8.0               9.6               8.8
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         8.6               8.0               9.6               8.8
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   2.4   2.4   2.4   2.4   2.4   2.4  12.1  12.1  12.1   6.6   6.6   6.6
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #65 18th St / Martin Luther King Wy
*******************************************************************************
```



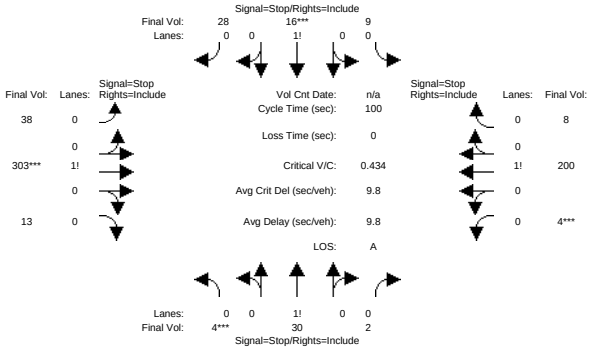
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   52    9     7    0   19    56    13  254     5    4  163     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             443
Minor Approach Volume:           75
Minor Approach Volume Threshold: 437
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #65: 18th St / Martin Luther King Wy




```
Street Name:            18th Street                    Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    13     2     9    11    28    38   303    13     4   200     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4    13     2     9    11    28    38   303    13     4   200     8
Added Vol:      0    17     0     0     5     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    4    30     2     9    16    28    38   303    13     4   200     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4    30     2     9    16    28    38   303    13     4   200     8
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    4    30     2     9    16    28    38   303    13     4   200     8
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    4    30     2     9    16    28    38   303    13     4   200     8
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.11 0.83  0.06  0.17 0.30  0.53  0.11 0.85  0.04  0.02 0.94  0.04
Final Sat.:    70  526    35   114  202   353    87  698    30    15  741    30
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.06  0.06  0.08 0.08  0.08  0.43 0.43  0.43  0.27 0.27  0.27
Crit Moves:  ****                 ****             ****        ****
Delay/Veh:    8.4  8.4   8.4   8.2  8.2   8.2  10.5 10.5  10.5   9.0  9.0   9.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.4  8.4   8.4   8.2  8.2   8.2  10.5 10.5  10.5   9.0  9.0   9.0
LOS by Move:    A    A     A     A    A     A     B    B     B     A    A     A
ApproachDel:       8.4              8.2             10.5              9.0
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.4              8.2             10.5              9.0
LOS by Appr:         A                A                B                A
AllWayAvgQ:   1.2  1.2   1.2   1.7  1.7   1.7  18.1 18.1  18.1   8.6  8.6   8.6
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #65 18th St / Martin Luther King Wy
*******************************************************************************
```



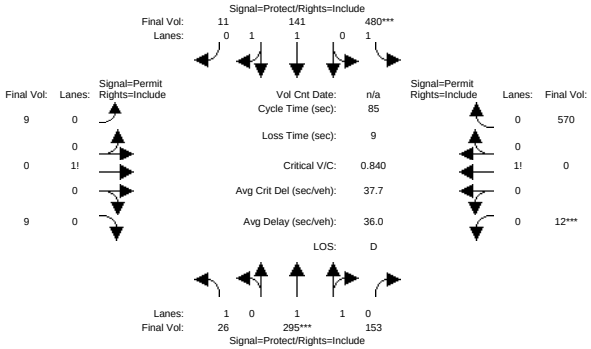
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    4   30     2     9   16    28    38  303    13     4  200     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             566
Minor Approach Volume:           53
Minor Approach Volume Threshold: 371
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #66: 16th St / H St



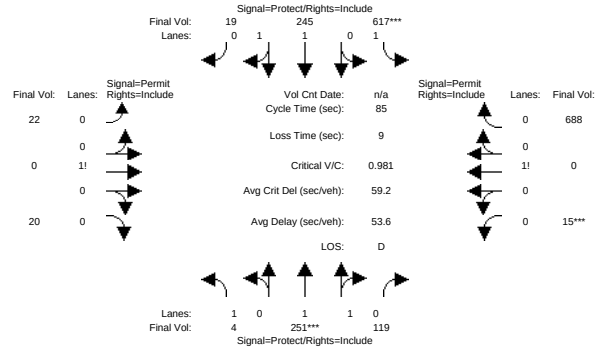
Street Name:	16th Street						H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	26	273	153	466	132	11	9	0	9	12	0	560
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	273	153	466	132	11	9	0	9	12	0	560
Added Vol:	0	22	0	14	9	0	0	0	0	0	0	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	295	153	480	141	11	9	0	9	12	0	570
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	295	153	480	141	11	9	0	9	12	0	570
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	295	153	480	141	11	9	0	9	12	0	570
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	295	153	480	141	11	9	0	9	12	0	570
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.94	0.94	0.78	1.00	0.78	0.86	1.00	0.86
Lanes:	1.00	1.32	0.68	1.00	1.86	0.14	0.50	0.00	0.50	0.02	0.00	0.98
Final Sat.:	1805	2256	1170	1805	3312	258	744	0	744	34	0	1609
Capacity Analysis Module:												
Vol/Sat:	0.01	0.13	0.13	0.27	0.04	0.04	0.01	0.00	0.01	0.35	0.00	0.35
Crit Moves:		****		****						****		
Green/Cycle:	0.19	0.16	0.16	0.32	0.28	0.28	0.42	0.00	0.42	0.42	0.00	0.42
Volume/Cap:	0.07	0.84	0.84	0.84	0.15	0.15	0.03	0.00	0.03	0.84	0.00	0.84
Delay/Veh:	28.1	46.2	46.2	37.7	23.2	23.2	14.4	0.0	14.4	31.0	0.0	31.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.1	46.2	46.2	37.7	23.2	23.2	14.4	0.0	14.4	31.0	0.0	31.0
LOS by Move:	C	D	D	D	C	C	B	A	B	C	A	C
HCM2kAvgQ:	15	218	218	362	40	40	7	0	7	409	0	409

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #66: 16th St / H St



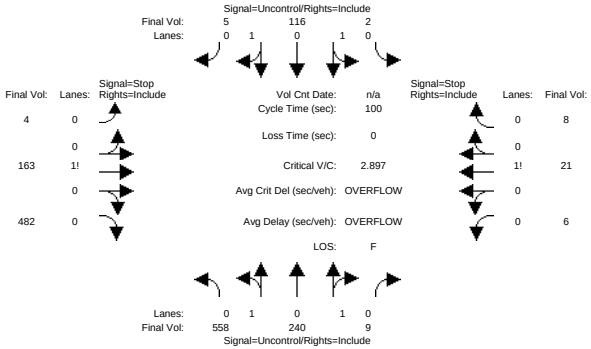
Street Name:	16th Street						H Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	4	236	119	600	231	19	22	0	20	15	0	680
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	236	119	600	231	19	22	0	20	15	0	680
Added Vol:	0	15	0	17	14	0	0	0	0	0	0	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	251	119	617	245	19	22	0	20	15	0	688
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	251	119	617	245	19	22	0	20	15	0	688
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	251	119	617	245	19	22	0	20	15	0	688
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	251	119	617	245	19	22	0	20	15	0	688
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.94	0.94	0.72	1.00	0.72	0.86	1.00	0.86
Lanes:	1.00	1.36	0.64	1.00	1.86	0.14	0.52	0.00	0.48	0.02	0.00	0.98
Final Sat.:	1805	2331	1105	1805	3313	257	713	0	648	35	0	1608
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.11	0.34	0.07	0.07	0.03	0.00	0.03	0.43	0.00	0.43
Crit Moves:		****		****						****		
Green/Cycle:	0.19	0.12	0.12	0.34	0.27	0.27	0.43	0.00	0.43	0.43	0.00	0.43
Volume/Cap:	0.01	0.92	0.92	0.99	0.27	0.27	0.07	0.00	0.07	0.99	0.00	0.99
Delay/Veh:	27.9	62.1	62.1	61.5	24.5	24.5	14.2	0.0	14.2	55.5	0.0	55.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.9	62.1	62.1	61.5	24.5	24.5	14.2	0.0	14.2	55.5	0.0	55.5
LOS by Move:	C	E	E	E	C	C	B	A	B	E	A	E
HCM2kAvgQ:	2	212	212	574	74	74	16	0	16	637	0	637

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     548  238     9     2  116     5     4  163   468     6   21     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  548  238     9     2  116     5     4  163   468     6   21     8
Added Vol:     10    2     0     0    0     0     0    0    14     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  558  240     9     2  116     5     4  163   482     6   21     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   558  240     9     2  116     5     4  163   482     6   21     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  558  240     9     2  116     5     4  163   482     6   21     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  121 xxxx xxxxx   249 xxxx xxxxx  1369 1488    61  1504 1486   125
Potent Cap.: 1479 xxxx xxxxx  1328 xxxx xxxxx   107  125   999    85  126   909
Move Cap.:   1479 xxxx xxxxx  1328 xxxx xxxxx    44   56   999     0   56   909
Volume/Cap:  0.38 xxxx  xxxx  0.00 xxxx  xxxx  0.09 2.90  0.48  xxxx 0.37  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   44.7 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.9 xxxx xxxxx   7.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  187 xxxxx  xxxx    0 xxxxx
SharedQueue:  1.8 xxxx xxxxx   0.0 xxxx xxxxx xxxxx 61.7 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.9 xxxx xxxxx   7.7 xxxx xxxxx xxxxx 1162 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     A    *     *     *    F     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           1162.3           xxxxxx
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  558  240     9     2  116     5     4  163   482     6   21     8
ApproachDel:    xxxxxx           xxxxxx           1162.3           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=209.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=649]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1614]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1614]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

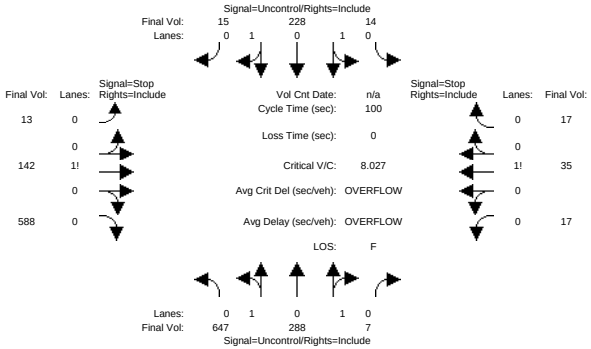
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  558  240     9     2  116     5     4  163   482     6   21     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             930
Minor Approach Volume:           649
Minor Approach Volume Threshold: 310
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #67: Main St / H St




```
Street Name:            Main Street                         H Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     639  288     7    14  226    15    13  142   571    17   35    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  639  288     7    14  226    15    13  142   571    17   35    17
Added Vol:      8    0     0     0    2     0     0    0    17     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  647  288     7    14  228    15    13  142   588    17   35    17
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   647  288     7    14  228    15    13  142   588    17   35    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  647  288     7    14  228    15    13  142   588    17   35    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  243 xxxx xxxxx   295 xxxx xxxxx  1719 1853   122  1799 1857   148
Potent Cap.: 1335 xxxx xxxxx  1278 xxxx xxxxx    59   75   913    51   74   879
Move Cap.:   1335 xxxx xxxxx  1278 xxxx xxxxx     0   18   913     0   18   879
Volume/Cap:  0.48 xxxx  xxxx  0.01 xxxx  xxxx  xxxx 8.03  0.64  xxxx 1.99  0.02
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   68.3 xxxx xxxxx   0.8 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.2 xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx    0 xxxxx  xxxx    0 xxxxx
SharedQueue:  2.7 xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 10.2 xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     A    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                F                F
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  647  288     7    14  228    15    13  142   588    17   35    17
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=743]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2011]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=69]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2011]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

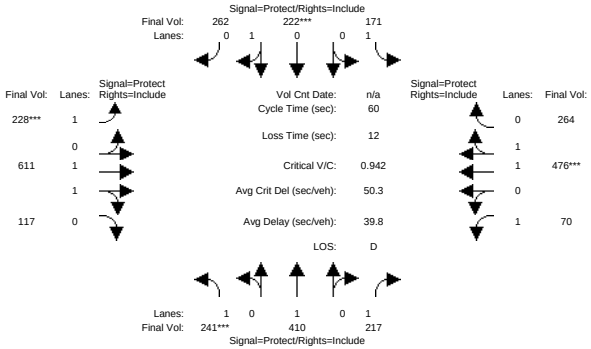
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #67 Main St / H St
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  1  0    0  1  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  647  288     7    14  228    15    13  142   588    17   35    17
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1199
Minor Approach Volume:           743
Minor Approach Volume Threshold: 222
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #69: Main St / G St



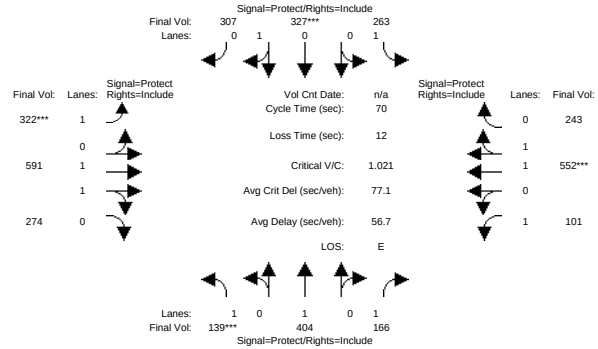
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	235	410	214	166	222	252	224	609	116	70	472	256
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	410	214	166	222	252	224	609	116	70	472	256
Added Vol:	6	0	3	5	0	10	4	2	1	0	4	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	241	410	217	171	222	262	228	611	117	70	476	264
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	241	410	217	171	222	262	228	611	117	70	476	264
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	241	410	217	171	222	262	228	611	117	70	476	264
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	241	410	217	171	222	262	228	611	117	70	476	264
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.00	1.00	1.00	0.46	0.54	1.00	1.68	0.32	1.00	1.29	0.71
Final Sat.:	1805	1900	1615	1805	801	945	1805	2957	566	1805	2197	1218
Capacity Analysis Module:												
Vol/Sat:	0.13	0.22	0.13	0.09	0.28	0.28	0.13	0.21	0.21	0.04	0.22	0.22
Crit Moves:	****				****		****				****	
Green/Cycle:	0.14	0.28	0.28	0.15	0.29	0.29	0.13	0.23	0.23	0.13	0.23	0.23
Volume/Cap:	0.94	0.76	0.47	0.62	0.94	0.94	0.94	0.89	0.89	0.30	0.94	0.94
Delay/Veh:	66.1	26.0	18.6	28.0	46.6	46.6	67.8	33.9	33.9	24.2	42.1	42.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	66.1	26.0	18.6	28.0	46.6	46.6	67.8	33.9	33.9	24.2	42.1	42.1
LOS by Move:	E	C	B	C	D	D	E	C	C	C	D	D
HCM2kAvgQ:	215	225	97	103	350	350	208	268	268	29	227	227

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #69: Main St / G St



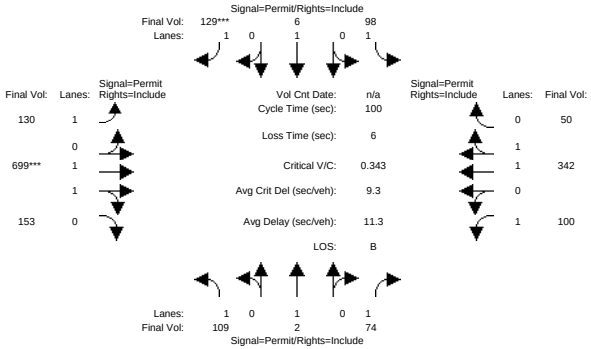
Street Name:	Main Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	138	404	165	255	327	296	318	588	268	99	549	238
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	138	404	165	255	327	296	318	588	268	99	549	238
Added Vol:	1	0	1	8	0	11	4	3	6	2	3	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	139	404	166	263	327	307	322	591	274	101	552	243
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	139	404	166	263	327	307	322	591	274	101	552	243
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	139	404	166	263	327	307	322	591	274	101	552	243
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	139	404	166	263	327	307	322	591	274	101	552	243
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.90	0.90	0.95	0.91	0.91
Lanes:	1.00	1.00	1.00	1.00	0.52	0.48	1.00	1.37	0.63	1.00	1.39	0.61
Final Sat.:	1805	1900	1615	1805	908	853	1805	2348	1089	1805	2391	1053
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.10	0.15	0.36	0.36	0.18	0.25	0.25	0.06	0.23	0.23
Crit Moves:	****				****		****				****	
Green/Cycle:	0.10	0.26	0.26	0.18	0.34	0.34	0.17	0.28	0.28	0.11	0.22	0.22
Volume/Cap:	0.77	0.81	0.39	0.81	1.06	1.06	1.06	0.91	0.91	0.51	1.06	1.06
Delay/Veh:	48.9	34.1	21.9	42.0	75.4	75.4	96.0	36.6	36.6	31.5	75.9	75.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.9	34.1	21.9	42.0	75.4	75.4	96.0	36.6	36.6	31.5	75.9	75.9
LOS by Move:	D	C	C	D	E	E	F	D	D	C	E	E
HCM2kAvgQ:	124	268	82	200	589	589	344	343	343	52	348	348

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #70: 18th St / G St



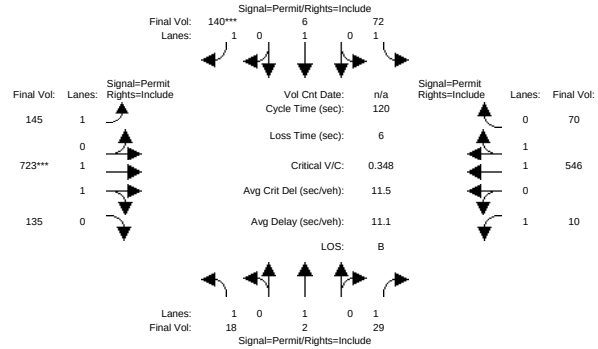
Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	109	2	74	98	6	128	126	693	153	100	331	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	109	2	74	98	6	128	126	693	153	100	331	50
Added Vol:	0	0	0	0	0	1	4	6	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	109	2	74	98	6	129	130	699	153	100	342	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	109	2	74	98	6	129	130	699	153	100	342	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	109	2	74	98	6	129	130	699	153	100	342	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	109	2	74	98	6	129	130	699	153	100	342	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.85	0.77	1.00	0.85	0.51	0.92	0.92	0.30	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.64	0.36	1.00	1.74	0.26
Final Sat.:	1452	1900	1615	1457	1900	1615	975	2882	631	564	3090	452
Capacity Analysis Module:												
Vol/Sat:	0.08	0.00	0.05	0.07	0.00	0.08	0.13	0.24	0.24	0.18	0.11	0.11
Crit Moves:						****		****				
Green/Cycle:	0.23	0.23	0.23	0.23	0.23	0.23	0.71	0.71	0.71	0.71	0.71	0.71
Volume/Cap:	0.32	0.00	0.20	0.29	0.01	0.34	0.19	0.34	0.34	0.25	0.16	0.16
Delay/Veh:	32.4	29.5	31.1	32.0	29.5	32.5	5.1	5.7	5.7	5.5	4.9	4.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.4	29.5	31.1	32.0	29.5	32.5	5.1	5.7	5.7	5.5	4.9	4.9
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	74	1	47	66	4	88	32	124	124	33	52	52

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #70: 18th St / G St



Street Name:	18th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	18	2	29	72	6	136	144	712	135	10	540	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	18	2	29	72	6	136	144	712	135	10	540	70
Added Vol:	0	0	0	0	0	4	1	11	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	18	2	29	72	6	140	145	723	135	10	546	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	2	29	72	6	140	145	723	135	10	546	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	2	29	72	6	140	145	723	135	10	546	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	2	29	72	6	140	145	723	135	10	546	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.85	0.77	1.00	0.85	0.39	0.93	0.93	0.29	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.69	0.31	1.00	1.77	0.23
Final Sat.:	1452	1900	1615	1457	1900	1615	739	2969	554	555	3145	403
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.02	0.05	0.00	0.09	0.20	0.24	0.24	0.02	0.17	0.17
Crit Moves:						****		****				
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.70	0.70	0.70	0.70	0.70	0.70
Volume/Cap:	0.05	0.00	0.07	0.20	0.01	0.35	0.28	0.35	0.35	0.03	0.25	0.25
Delay/Veh:	34.3	33.8	34.5	35.8	33.9	37.5	7.0	7.2	7.2	5.5	6.6	6.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.3	33.8	34.5	35.8	33.9	37.5	7.0	7.2	7.2	5.5	6.6	6.6
LOS by Move:	C	C	C	D	C	D	A	A	A	A	A	A
HCM2kAvgQ:	13	1	20	54	4	109	47	153	153	3	106	106

Note: Queue reported is the distance per lane in feet.

HEAVY MANTENANCE FACILITY ANALYSIS - CASTLE COMMERCE

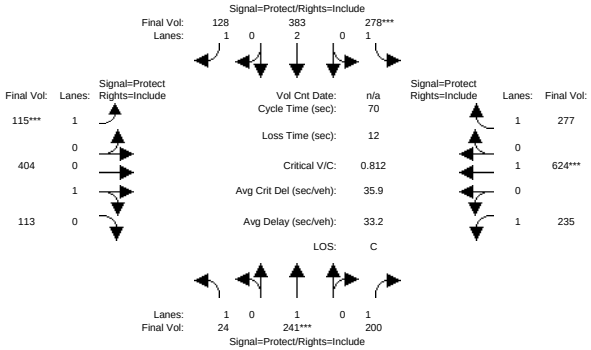
2035 BUILD_OPTION-B MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #2: Atwater Blvd / Applegate Rd



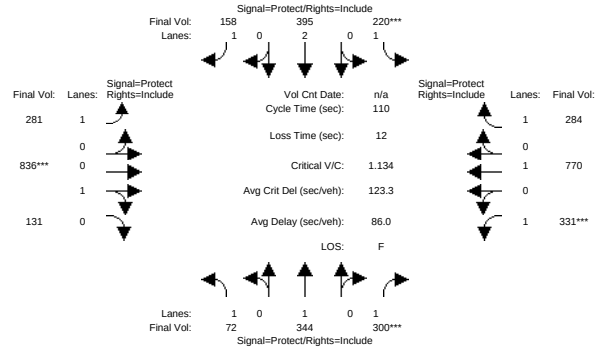
Street Name:	Atwater Boulevard						Applegate Road-Winton Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	24	241	200	278	383	128	115	381	113	235	611	277
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	241	200	278	383	128	115	381	113	235	611	277
Added Vol:	0	0	0	0	0	0	0	23	0	0	13	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	24	241	200	278	383	128	115	404	113	235	624	277
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	24	241	200	278	383	128	115	404	113	235	624	277
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	241	200	278	383	128	115	404	113	235	624	277
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	241	200	278	383	128	115	404	113	235	624	277
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.95	0.85	0.95	0.97	0.97	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	2.00	1.00	1.00	0.78	0.22	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	3610	1615	1805	1436	402	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.13	0.12	0.15	0.11	0.08	0.06	0.28	0.28	0.13	0.33	0.17
Crit Moves:		****		****			****				****	
Green/Cycle:	0.14	0.15	0.15	0.18	0.20	0.20	0.10	0.34	0.34	0.16	0.39	0.39
Volume/Cap:	0.10	0.84	0.82	0.84	0.54	0.40	0.64	0.84	0.84	0.84	0.84	0.44
Delay/Veh:	26.5	47.6	47.6	44.2	26.0	25.3	37.6	31.0	31.0	47.7	27.4	16.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.5	47.6	47.6	44.2	26.0	25.3	37.6	31.0	31.0	47.7	27.4	16.1
LOS by Move:	C	D	D	D	C	C	D	C	C	D	C	B
HCM2kAvgQ:	1	8	7	9	5	3	2	11	11	8	15	5

Note: Queue reported the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #2: Atwater Blvd / Applegate Rd



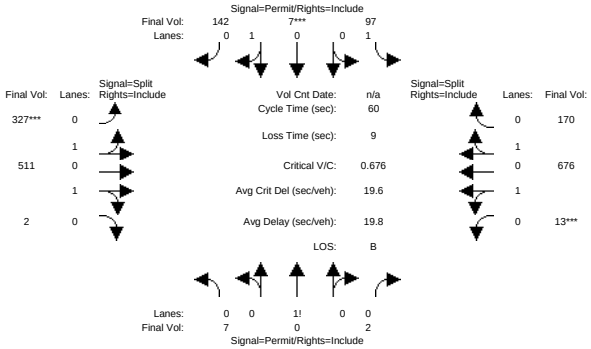
Street Name:	Atwater Boulevard						Applegate Road-Winton Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	72	344	300	220	395	158	281	823	131	331	747	284
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	72	344	300	220	395	158	281	823	131	331	747	284
Added Vol:	0	0	0	0	0	0	0	13	0	0	23	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	72	344	300	220	395	158	281	836	131	331	770	284
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	72	344	300	220	395	158	281	836	131	331	770	284
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	344	300	220	395	158	281	836	131	331	770	284
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	72	344	300	220	395	158	281	836	131	331	770	284
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.95	0.85	0.95	0.98	0.98	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	2.00	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	1805	3610	1615	1805	1610	252	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.18	0.19	0.12	0.11	0.10	0.16	0.52	0.52	0.18	0.41	0.18
Crit Moves:			****	****				****		****		
Green/Cycle:	0.10	0.16	0.16	0.11	0.17	0.17	0.17	0.46	0.46	0.16	0.45	0.45
Volume/Cap:	0.40	1.11	1.13	1.13	0.64	0.57	0.91	1.13	1.13	1.13	0.91	0.39
Delay/Veh:	47.9	128	142.4	154.4	44.6	44.7	72.9	105	104.6	140.0	41.3	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.9	128	142.4	154.4	44.6	44.7	72.9	105	104.6	140.0	41.3	20.7
LOS by Move:	D	F	F	F	D	D	E	F	F	F	D	C
HCM2kAvgQ:	3	19	18	14	7	6	9	45	45	19	28	6

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #4: Sycamore Ave / Applegate Rd



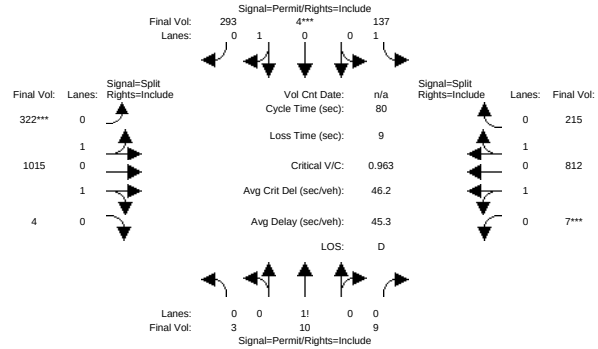
Street Name:	Sycamore Avenue									Applegate Road								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10	10	10			10	10	10			10	10	10			10	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	7	0	2			97	7	142			327	488	2			13	676	157		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	7	0	2			97	7	142			327	488	2			13	676	157		
Added Vol:	0	0	0			0	0	0			0	23	0			0	0	13		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	7	0	2			97	7	142			327	511	2			13	676	170		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	7	0	2			97	7	142			327	511	2			13	676	170		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	7	0	2			97	7	142			327	511	2			13	676	170		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	7	0	2			97	7	142			327	511	2			13	676	170		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.79	1.00	0.79			0.76	0.86	0.86			0.93	0.93	0.93			0.92	0.92	0.92		
Lanes:	0.78	0.00	0.22			1.00	0.05	0.95			0.78	1.21	0.01			0.03	1.57	0.40		
Final Sat.:	1161	0	332			1446	76	1552			1379	2154	8			53	2753	692		
Capacity Analysis Module:																				
Vol/Sat:	0.01	0.00	0.01			0.07	0.09	0.09			0.24	0.24	0.24			0.25	0.25	0.25		
Crit Moves:							****				****					****				
Green/Cycle:	0.17	0.00	0.17			0.17	0.17	0.17			0.34	0.34	0.34			0.35	0.35	0.35		
Volume/Cap:	0.04	0.00	0.04			0.40	0.55	0.55			0.71	0.71	0.71			0.71	0.71	0.71		
Delay/Veh:	21.0	0.0	21.0			23.4	25.3	25.3			19.3	19.3	19.3			18.9	18.9	18.9		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	21.0	0.0	21.0			23.4	25.3	25.3			19.3	19.3	19.3			18.9	18.9	18.9		
LOS by Move:	C	A	C			C	C	C			B	B	B			B	B	B		
HCM2kAvgQ:	0	0	0			2	3	3			7	7	7			7	7	7		

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #4: Sycamore Ave / Applegate Rd



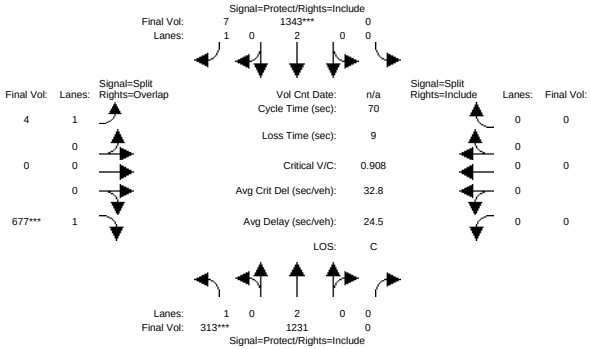
Street Name:	Sycamore Avenue									Applegate Road								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10	10	10			10	10	10			10	10	10			10	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	3	10	9			137	4	293			322	1002	4			7	812	192		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	3	10	9			137	4	293			322	1002	4			7	812	192		
Added Vol:	0	0	0			0	0	0			0	13	0			0	0	23		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	3	10	9			137	4	293			322	1015	4			7	812	215		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	3	10	9			137	4	293			322	1015	4			7	812	215		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	3	10	9			137	4	293			322	1015	4			7	812	215		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	3	10	9			137	4	293			322	1015	4			7	812	215		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.87	0.87	0.87			0.75	0.85	0.85			0.94	0.94	0.94			0.92	0.92	0.92		
Lanes:	0.14	0.45	0.41			1.00	0.01	0.99			0.48	1.51	0.01			0.01	1.57	0.42		
Final Sat.:	225	750	675			1425	22	1597			856	2700	11			24	2747	727		
Capacity Analysis Module:																				
Vol/Sat:	0.01	0.01	0.01			0.10	0.18	0.18			0.38	0.38	0.38			0.30	0.30	0.30		
Crit Moves:							****				****					****				
Green/Cycle:	0.19	0.19	0.19			0.19	0.19	0.19			0.39	0.39	0.39			0.31	0.31	0.31		
Volume/Cap:	0.07	0.07	0.07			0.50	0.96	0.96			0.96	0.96	0.96			0.96	0.96	0.96		
Delay/Veh:	26.7	26.7	26.7			30.5	73.4	73.4			40.0	40.0	40.0			46.5	46.5	46.5		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	26.7	26.7	26.7			30.5	73.4	73.4			40.0	40.0	40.0			46.5	46.5	46.5		
LOS by Move:	C	C	C			C	E	E			D	D	D			D	D	D		
HCM2kAvgQ:	0	0	0			4	12	12			20	20	20			14	14	14		

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #16: Santa Fe Dr / W Ave 2



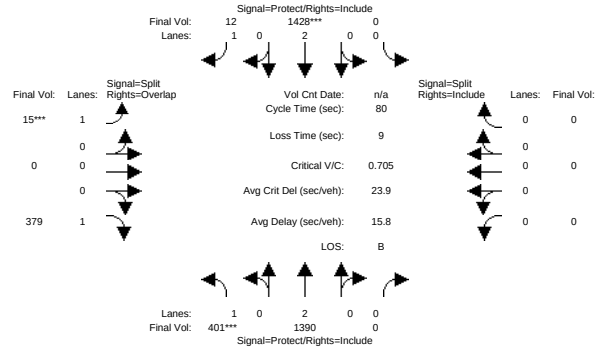
Street Name:	Santa Fe Drive								W Ave 2							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	7	10	0		0	10	10		10	0	10		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	313	825	0		0	1114	7		4	0	677		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	313	825	0		0	1114	7		4	0	677		0	0	0	
Added Vol:	0	406	0		0	229	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	313	1231	0		0	1343	7		4	0	677		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	313	1231	0		0	1343	7		4	0	677		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	313	1231	0		0	1343	7		4	0	677		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	313	1231	0		0	1343	7		4	0	677		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.95	1.00		1.00	0.95	0.85		0.95	1.00	0.85		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		0.00	2.00	1.00		1.00	0.00	1.00		0.00	0.00	0.00	
Final Sat.:	1805	3610	0		0	3610	1615		1805	0	1615		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.17	0.34	0.00		0.00	0.37	0.00		0.00	0.00	0.42		0.00	0.00	0.00	
Crit Moves:	****					****					****					
Green/Cycle:	0.19	0.60	0.00		0.00	0.41	0.41		0.27	0.00	0.46		0.00	0.00	0.00	
Volume/Cap:	0.91	0.57	0.00		0.00	0.91	0.01		0.01	0.00	0.91		0.00	0.00	0.00	
Delay/Veh:	54.4	8.8	0.0		0.0	27.9	12.3		18.7	0.0	32.4		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	54.4	8.8	0.0		0.0	27.9	12.3		18.7	0.0	32.4		0.0	0.0	0.0	
LOS by Move:	D	A	A		A	C	B		B	A	C		A	A	A	
HCM2kAvgQ:	6	8	0		0	16	0		0	0	18		0	0	0	

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #16: Santa Fe Dr / W Ave 2



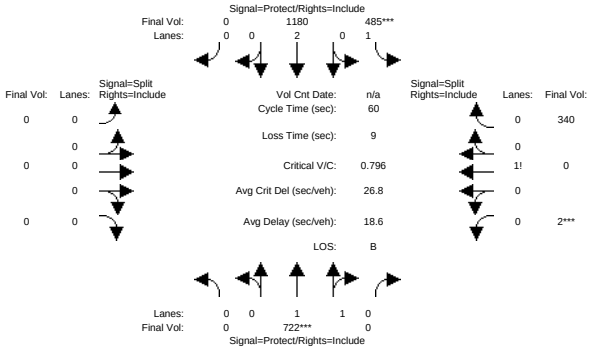
Street Name:	Santa Fe Drive								W Ave 2							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Min. Green:	7	10	0		0	10	10		10	0	10		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	401	1161	0		0	1022	12		15	0	379		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	401	1161	0		0	1022	12		15	0	379		0	0	0	
Added Vol:	0	229	0		0	406	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	401	1390	0		0	1428	12		15	0	379		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	401	1390	0		0	1428	12		15	0	379		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	401	1390	0		0	1428	12		15	0	379		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	401	1390	0		0	1428	12		15	0	379		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	0.95	1.00		1.00	0.95	0.85		0.95	1.00	0.85		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		0.00	2.00	1.00		1.00	0.00	1.00		0.00	0.00	0.00	
Final Sat.:	1805	3610	0		0	3610	1615		1805	0	1615		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.22	0.39	0.00		0.00	0.40	0.01		0.01	0.00	0.23		0.00	0.00	0.00	
Crit Moves:	****					****			****							
Green/Cycle:	0.27	0.76	0.00		0.00	0.49	0.49		0.13	0.00	0.40		0.00	0.00	0.00	
Volume/Cap:	0.81	0.50	0.00		0.00	0.81	0.02		0.07	0.00	0.59		0.00	0.00	0.00	
Delay/Veh:	36.8	3.8	0.0		0.0	20.3	10.6		31.0	0.0	20.3		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	36.8	3.8	0.0		0.0	20.3	10.6		31.0	0.0	20.3		0.0	0.0	0.0	
LOS by Move:	D	A	A		A	C	B		C	A	C		A	A	A	
HCM2kAvgQ:	8	6	0		0	16	0		0	0	8		0	0	0	

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #19: Santa Fe Dr / Belcher Ave

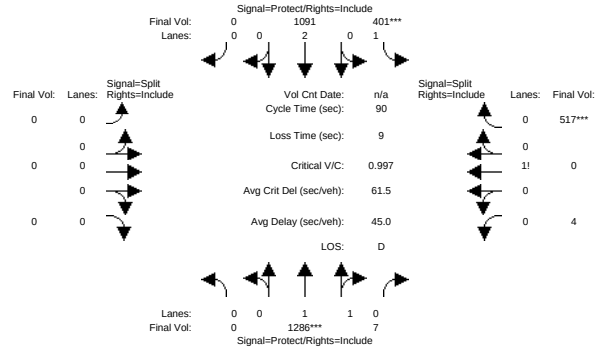



```
Street Name:          Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10     0     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  675     0   485 1154     0     0    0     0     2    0   340
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  675     0   485 1154     0     0    0     0     2    0   340
Added Vol:      0   47     0     0   26     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  722     0   485 1180     0     0    0     0     2    0   340
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  722     0   485 1180     0     0    0     0     2    0   340
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  722     0   485 1180     0     0    0     0     2    0   340
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  722     0   485 1180     0     0    0     0     2    0   340
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.95  0.95  0.95 0.95  1.00  1.00 1.00  1.00  0.87 1.00  0.87
Lanes:       0.00 2.00  0.00  1.00 2.00  0.00  0.00 0.00  0.00  0.01 0.00  0.99
Final Sat.:     0 3610     0  1805 3610     0     0    0     0    10    0  1636
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.20  0.00  0.27 0.33  0.00  0.00 0.00  0.00  0.21 0.00  0.21
Crit Moves:        ****        ****                             ****
Green/Cycle: 0.00 0.25  0.00  0.34 0.59  0.00  0.00 0.00  0.00  0.26 0.00  0.26
Volume/Cap:  0.00 0.80  0.00  0.80 0.56  0.00  0.00 0.00  0.00  0.80 0.00  0.80
Delay/Veh:    0.0 26.0   0.0  25.2  7.9   0.0   0.0  0.0   0.0  30.6  0.0  30.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 26.0   0.0  25.2  7.9   0.0   0.0  0.0   0.0  30.6  0.0  30.6
LOS by Move:    A    C     A     C    A     A     A    A     A     C    A     C
HCM2kAvgQ:      0    9     0     7    6     0     0    0     0     8    0     8
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 1 - CASTLE COMMERCE _Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #19: Santa Fe Dr / Belcher Ave

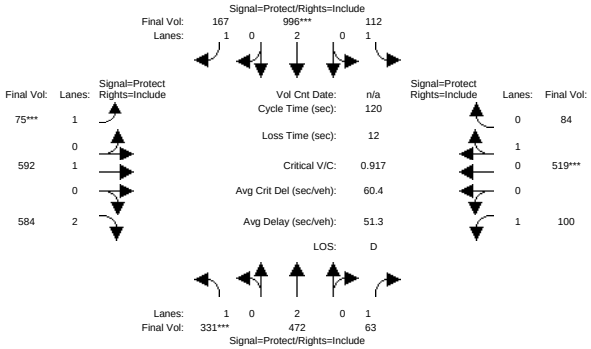



```
Street Name:          Santa Fe Drive                    Belcher Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10    10     7   10     0     0    0     0    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1260     7   401 1044     0     0    0     0     4    0   517
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1260     7   401 1044     0     0    0     0     4    0   517
Added Vol:      0   26     0     0   47     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0 1286     7   401 1091     0     0    0     0     4    0   517
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1286     7   401 1091     0     0    0     0     4    0   517
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1286     7   401 1091     0     0    0     0     4    0   517
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0 1286     7   401 1091     0     0    0     0     4    0   517
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.95  0.95  0.95 0.95  1.00  1.00 1.00  1.00  0.87 1.00  0.87
Lanes:       0.00 1.99  0.01  1.00 2.00  0.00  0.00 0.00  0.00  0.01 0.00  0.99
Final Sat.:     0 3587    20  1805 3610     0     0    0     0    13    0  1633
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.36  0.36  0.22 0.30  0.00  0.00 0.00  0.00  0.32 0.00  0.32
Crit Moves:        ****        ****                             ****
Green/Cycle: 0.00 0.36  0.36  0.22 0.58  0.00  0.00 0.00  0.00  0.32 0.00  0.32
Volume/Cap:  0.00 1.00  1.00  1.00 0.52  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Delay/Veh:    0.0 53.0  53.0  79.0 11.5   0.0   0.0  0.0   0.0  69.2  0.0  69.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 53.0  53.0  79.0 11.5   0.0   0.0  0.0   0.0  69.2  0.0  69.2
LOS by Move:    A    D     D     E    B     A     A    A     A     E    A     E
HCM2kAvgQ:      0   26    26    12    9     0     0    0     0    21    0    21
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

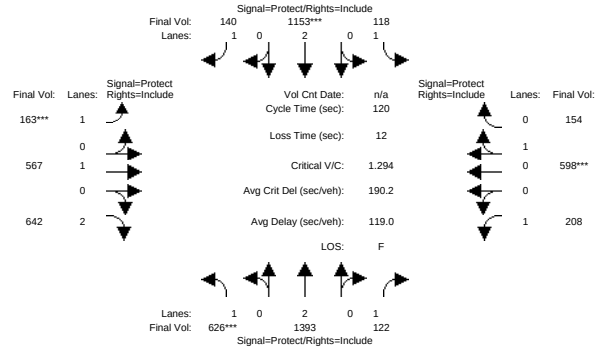



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     331 425  63   112 970 167    75 584 584   100 502  84
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  331 425  63   112 970 167    75 584 584   100 502  84
Added Vol:      0   0   0     0   0   0     0   8   0     0  17   0
Added Vol:      0  47   0     0  26   0     0   0   0     0   0   0
Initial Fut:  331 472  63   112 996 167    75 592 584   100 519  84
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   331 472  63   112 996 167    75 592 584   100 519  84
Reduct Vol:     0   0   0     0   0   0     0   0   0     0   0   0
Reduced Vol:  331 472  63   112 996 167    75 592 584   100 519  84
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  331 472  63   112 996 167    75 592 584   100 519  84
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 1.00 0.75 0.95 0.98 0.98
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 1.00 2.00 1.00 0.86 0.14
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 1900 2842 1805 1601  259
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.13 0.04 0.06 0.28 0.10 0.04 0.31 0.21 0.06 0.32 0.32
Crit Moves:  ****                ****        ****                ****
Green/Cycle: 0.20 0.33 0.33 0.16 0.30 0.30 0.06 0.34 0.34 0.06 0.35 0.35
Volume/Cap:  0.93 0.39 0.12 0.39 0.93 0.35 0.71 0.91 0.60 0.86 0.93 0.93
Delay/Veh:   77.9 30.8 27.7 46.1 54.9 33.6 75.9 54.5 33.7 100.3 57.9 57.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  77.9 30.8 27.7 46.1 54.9 33.6 75.9 54.5 33.7 100.3 57.9 57.9
LOS by Move:    E    C    C    D    D    C    E    D    C    F    E    E
HCM2kAvgQ:    342 168  38   99 575 122   104 613 264   150 643 643
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #20: Olive Ave - Santa Fe Dr / SR-59

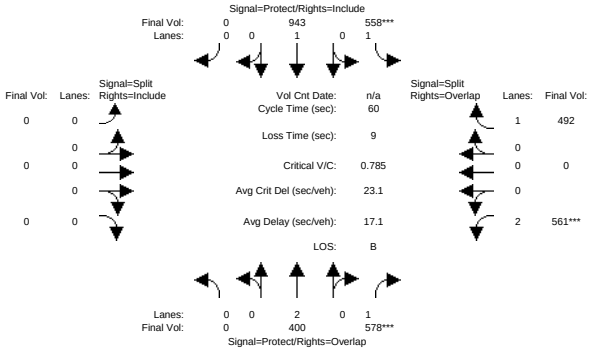



```
Street Name:  Olive Avenue - Santa Fe Drive                SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7  10  10     7  10  10     7  10  10     7  10  10
Y+R:          4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0   4.0 4.0 4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     626 1367 122   118 1106 140   163 550 642   208 590 154
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  626 1367 122   118 1106 140   163 550 642   208 590 154
Added Vol:      0    0   0     0    0   0     0  17   0     0   8   0
Added Vol:      0   26   0     0   47   0     0   0   0     0   0   0
Initial Fut:  626 1393 122   118 1153 140   163 567 642   208 598 154
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   626 1393 122   118 1153 140   163 567 642   208 598 154
Reduct Vol:     0    0   0     0    0   0     0   0   0     0   0   0
Reduced Vol:  626 1393 122   118 1153 140   163 567 642   208 598 154
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  626 1393 122   118 1153 140   163 567 642   208 598 154
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.95 0.95 0.85 0.95 0.95 0.85 0.95 1.00 0.75 0.95 0.97 0.97
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 1.00 2.00 1.00 0.80 0.20
Final Sat.:  1805 3610 1615 1805 3610 1615 1805 1900 2842 1805 1464  377
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35 0.39 0.08 0.07 0.32 0.09 0.09 0.30 0.23 0.12 0.41 0.41
Crit Moves:  ****                ****        ****                ****
Green/Cycle: 0.27 0.44 0.44 0.07 0.25 0.25 0.07 0.28 0.28 0.11 0.32 0.32
Volume/Cap:  1.29 0.88 0.17 0.88 1.29 0.35 1.29 1.07 0.81 1.07 1.29 1.29
Delay/Veh:  191.1 36.5 20.5 98.0 186 37.8 234.8 104 46.8 139.1 186 186.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 191.1 36.5 20.5 98.0 186 37.8 234.8 104 46.8 139.1 186 186.0
LOS by Move:    F    D    C    F    F    F    F    F    D    F    F    F
HCM2kAvgQ:    972 568  62   171 1028 110   321 752 366   325 1255 1255
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #25: 16th St / SR-59

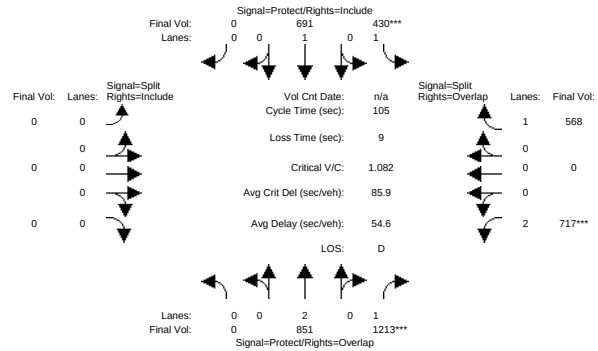



```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10   10     7   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  371  570   558  943    0     0    0    0   544    0  492
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0  371  570   558  943    0     0    0    0   544    0  492
Added Vol:      0   29    8     0    0    0     0    0    0    17    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  400  578   558  943    0     0    0    0   561    0  492
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0  400  578   558  943    0     0    0    0   561    0  492
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  400  578   558  943    0     0    0    0   561    0  492
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0  400  578   558  943    0     0    0    0   561    0  492
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.95 0.85  0.95 1.00 1.00  1.00 1.00 1.00  0.92 1.00 0.85
Lanes:       0.00 2.00 1.00  1.00 1.00 0.00  0.00 0.00 0.00  2.00 0.00 1.00
Final Sat.:     0 3610 1615  1805 1900    0     0    0    0  3502    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.11 0.36  0.31 0.50 0.00  0.00 0.00 0.00  0.16 0.00 0.30
Crit Moves:                ****  ****                        ****
Green/Cycle: 0.00 0.25 0.45  0.40 0.65 0.00  0.00 0.00 0.00  0.20 0.00 0.60
Volume/Cap:  0.00 0.45 0.79  0.77 0.77 0.00  0.00 0.00 0.00  0.78 0.00 0.51
Delay/Veh:    0.0 19.5 20.1  21.0 10.5  0.0   0.0  0.0  0.0  28.3  0.0  7.2
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 19.5 20.1  21.0 10.5  0.0   0.0  0.0  0.0  28.3  0.0  7.2
LOS by Move:    A    B    C     C    B    A     A    A    A     C    A    A
HCM2kAvgQ:      0   94  288   277  353    0     0    0    0   185    0  142
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #25: 16th St / SR-59

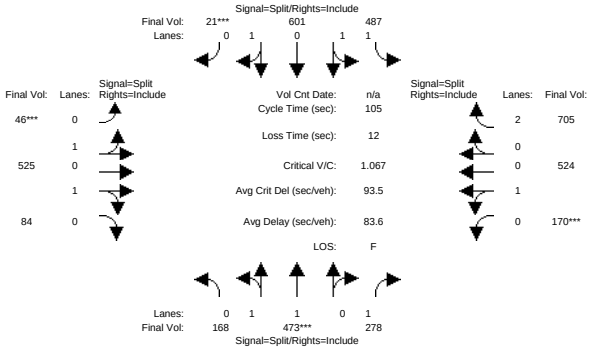



```
Street Name:           16th Street                          SR-59
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0   10   10     7   10    0     0    0    0    10    0   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  817 1196   430  691    0     0    0    0   709    0  568
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0  817 1196   430  691    0     0    0    0   709    0  568
Added Vol:      0   34   17     0    0    0     0    0    0     8    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  851 1213   430  691    0     0    0    0   717    0  568
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0  851 1213   430  691    0     0    0    0   717    0  568
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  851 1213   430  691    0     0    0    0   717    0  568
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0  851 1213   430  691    0     0    0    0   717    0  568
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.95 0.85  0.95 1.00 1.00  1.00 1.00 1.00  0.92 1.00 0.85
Lanes:       0.00 2.00 1.00  1.00 1.00 0.00  0.00 0.00 0.00  2.00 0.00 1.00
Final Sat.:     0 3610 1615  1805 1900    0     0    0    0  3502    0 1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.24 0.75  0.24 0.36 0.00  0.00 0.00 0.00  0.20 0.00 0.35
Crit Moves:                ****  ****                        ****
Green/Cycle: 0.00 0.50 0.69  0.22 0.73 0.00  0.00 0.00 0.00  0.19 0.00 0.41
Volume/Cap:  0.00 0.47 1.08  1.08 0.50 0.00  0.00 0.00 0.00  1.08 0.00 0.86
Delay/Veh:    0.0 17.0 68.0 109.9  6.5  0.0   0.0  0.0  0.0 101.8  0.0 39.2
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 17.0 68.0 109.9  6.5  0.0   0.0  0.0  0.0 101.8  0.0 39.2
LOS by Move:    A    B    E     F    A    A     A    A    A     F    A    D
HCM2kAvgQ:      0  233 1368   555  243    0     0    0    0   489    0  488
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

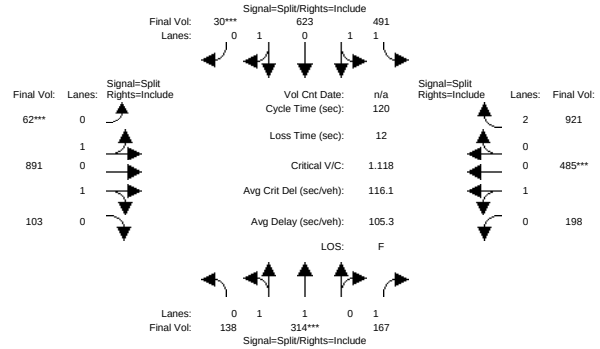



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10   10   10   10   10   10   10   10   10   10
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     113  229  233  484  585   19   45  513   84  170  520  695
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  113  229  233  484  585   19   45  513   84  170  520  695
Added Vol:     55  244   45    3   16    2    1   12    0    0    4   10
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:  168  473  278  487  601   21   46  525   84  170  524  705
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   168  473  278  487  601   21   46  525   84  170  524  705
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  168  473  278  487  601   21   46  525   84  170  524  705
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  168  473  278  487  601   21   46  525   84  170  524  705
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.94 0.94 0.85 0.93 0.93 0.93 0.93 0.93 0.93 0.99 0.99 0.75
Lanes:       0.52 1.48 1.00 1.32 1.62 0.06 0.14 1.60 0.26 0.24 0.76 2.00
Final Sat.:   934 2629 1615 2321 2864  100  248 2830  453  460 1417 2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18 0.17 0.21 0.21 0.21 0.19 0.19 0.19 0.37 0.37 0.25
Crit Moves:        ****                ****  ****            ****
Green/Cycle: 0.17 0.17 0.17 0.20 0.20 0.20 0.17 0.17 0.17 0.35 0.35 0.35
Volume/Cap:  1.07 1.07 1.02 1.07 1.07 1.07 1.07 1.07 1.07 1.07 1.07 0.72
Delay/Veh:   99.5 99.5 103.6 89.7 89.7 89.7 98.8 98.8 98.8 88.8 88.8 32.3
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  99.5 99.5 103.6 89.7 89.7 89.7 98.8 98.8 98.8 88.8 88.8 32.3
LOS by Move:    F    F     F    F    F    F    F    F    F    F    F    C
HCM2kAvgQ:    445  445  359  500  500  500  453  453  453  817  817  310
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #26: 13th St - SR-99 SB Off-Ramp / V St

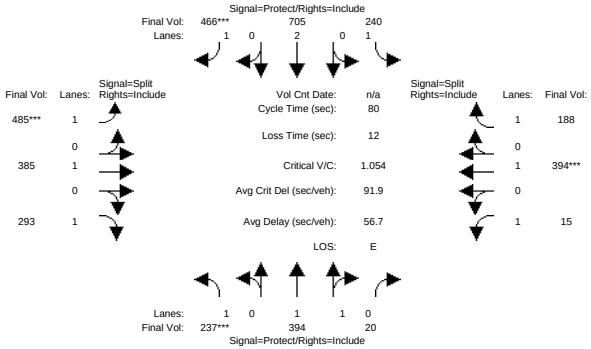



```
Street Name:SR-99 SB Off-Ramp(NB)-13th St (SB              V Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10   10   10   10   10   10   10   10   10   10
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     104  172  156  489  615   29   60  842  103  198  484  901
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  104  172  156  489  615   29   60  842  103  198  484  901
Added Vol:     34  142   11    2    8    1    2   49    0    0    1   20
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:  138  314  167  491  623   30   62  891  103  198  485  921
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   138  314  167  491  623   30   62  891  103  198  485  921
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  138  314  167  491  623   30   62  891  103  198  485  921
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  138  314  167  491  623   30   62  891  103  198  485  921
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.94 0.94 0.85 0.93 0.93 0.93 0.93 0.93 0.93 0.99 0.99 0.75
Lanes:       0.61 1.39 1.00 1.29 1.63 0.08 0.12 1.69 0.19 0.29 0.71 2.00
Final Sat.:  1086 2470 1615 2266 2875  138  208 2991  346  543 1330 2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13 0.10 0.22 0.22 0.22 0.30 0.30 0.30 0.36 0.36 0.32
Crit Moves:        ****                ****  ****            ****
Green/Cycle: 0.11 0.11 0.11 0.19 0.19 0.19 0.27 0.27 0.27 0.33 0.33 0.33
Volume/Cap:  1.12 1.12 0.91 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 0.99
Delay/Veh:  134.0  134  94.2 114.8  115 114.8 111.4  111 111.4 113.8  114  68.2
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 134.0  134  94.2 114.8  115 114.8 111.4  111 111.4 113.8  114  68.2
LOS by Move:    F    F     F    F    F    F    F    F    F    F    F    E
HCM2kAvgQ:    379  379  229  590  590  590  782  782  782  939  939  632
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #29: 16th St / V St



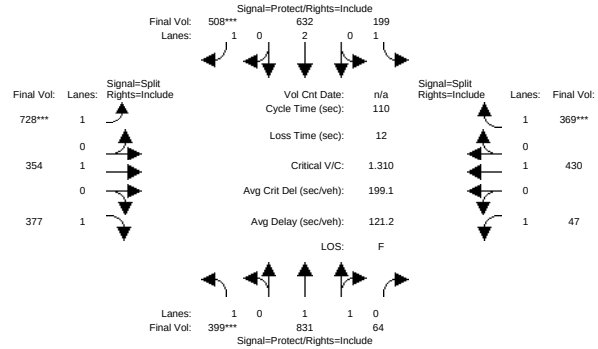
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	212	358	17	239	691	464	485	363	256	14	388	188
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	212	358	17	239	691	464	485	363	256	14	388	188
Added Vol:	25	36	3	1	14	2	0	22	37	1	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	237	394	20	240	705	466	485	385	293	15	394	188
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	237	394	20	240	705	466	485	385	293	15	394	188
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	237	394	20	240	705	466	485	385	293	15	394	188
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	237	394	20	240	705	466	485	385	293	15	394	188
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.90	0.10	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3412	173	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.12	0.12	0.13	0.20	0.29	0.27	0.20	0.18	0.01	0.21	0.12
Crit Moves:	****					****	****				****	
Green/Cycle:	0.12	0.19	0.19	0.21	0.27	0.27	0.25	0.25	0.25	0.20	0.20	0.20
Volume/Cap:	1.05	0.60	0.60	0.65	0.71	1.05	1.05	0.79	0.71	0.04	1.05	0.59
Delay/Veh:	110.0	30.9	30.9	33.1	28.7	86.8	86.7	36.7	32.9	26.1	93.6	32.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	110.0	30.9	30.9	33.1	28.7	86.8	86.7	36.7	32.9	26.1	93.6	32.2
LOS by Move:	F	C	C	C	C	F	F	D	C	C	F	C
HCM2kAvgQ:	219	122	122	164	242	491	429	231	167	8	429	128

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #29: 16th St / V St



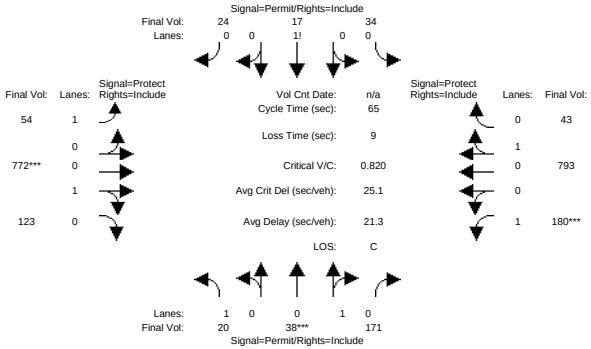
Street Name:	16th Street						V Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	371	783	63	199	624	508	726	348	344	44	408	368
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	371	783	63	199	624	508	726	348	344	44	408	368
Added Vol:	28	48	1	0	8	0	2	6	33	3	22	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	399	831	64	199	632	508	728	354	377	47	430	369
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	399	831	64	199	632	508	728	354	377	47	430	369
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	399	831	64	199	632	508	728	354	377	47	430	369
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	399	831	64	199	632	508	728	354	377	47	430	369
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.86	0.14	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3315	255	1805	3610	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.22	0.25	0.25	0.11	0.18	0.31	0.40	0.19	0.23	0.03	0.23	0.23
Crit Moves:	****					****	****					****
Green/Cycle:	0.17	0.28	0.28	0.12	0.24	0.24	0.31	0.31	0.31	0.17	0.17	0.17
Volume/Cap:	1.31	0.88	0.88	0.88	0.73	1.31	1.31	0.61	0.76	0.15	1.30	1.31
Delay/Veh:	207.0	46.9	46.9	78.2	41.7	198.9	190.3	34.2	41.0	38.7	200	208.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	207.0	46.9	46.9	78.2	41.7	198.9	190.3	34.2	41.0	38.7	200	208.2
LOS by Move:	F	D	D	E	D	F	F	C	D	D	F	F
HCM2kAvgQ:	619	385	385	240	293	850	1128	243	283	35	722	636

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #37: 15th St / M St



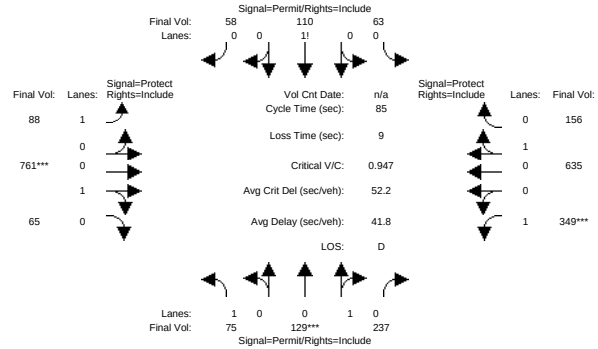
Street Name:	15th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	4	26	167	34	14	24	54	631	11	165	685	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	26	167	34	14	24	54	631	11	165	685	43
Added Vol:	16	12	4	0	3	0	0	141	112	15	108	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	38	171	34	17	24	54	772	123	180	793	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	38	171	34	17	24	54	772	123	180	793	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	38	171	34	17	24	54	772	123	180	793	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	38	171	34	17	24	54	772	123	180	793	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.79	0.88	0.88	0.59	0.59	0.59	0.95	0.98	0.98	0.95	0.99	0.99
Lanes:	1.00	0.18	0.82	0.45	0.23	0.32	1.00	0.86	0.14	1.00	0.95	0.05
Final Sat.:	1505	303	1363	506	253	357	1805	1604	256	1805	1788	97
Capacity Analysis Module:												
Vol/Sat:	0.01	0.13	0.13	0.07	0.07	0.07	0.03	0.48	0.48	0.10	0.44	0.44
Crit Moves:		****						****		****		
Green/Cycle:	0.15	0.15	0.15	0.15	0.15	0.15	0.14	0.59	0.59	0.12	0.57	0.57
Volume/Cap:	0.09	0.82	0.82	0.44	0.44	0.44	0.22	0.82	0.82	0.82	0.78	0.78
Delay/Veh:	23.7	44.6	44.6	26.7	26.7	26.7	25.3	15.8	15.8	49.1	14.5	14.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.7	44.6	44.6	26.7	26.7	26.7	25.3	15.8	15.8	49.1	14.5	14.5
LOS by Move:	C	D	D	C	C	C	C	B	B	D	B	B
HCM2kAvgQ:	8	114	114	49	49	49	23	366	366	97	330	330

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #37: 15th St / M St



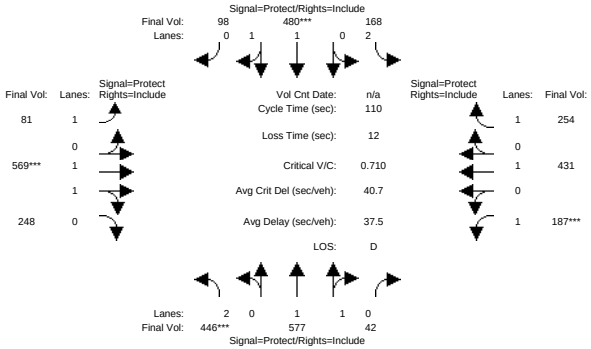
Street Name:	15th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	79	223	63	109	58	88	647	37	345	500	156
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	79	223	63	109	58	88	647	37	345	500	156
Added Vol:	65	50	14	0	1	0	0	114	28	4	135	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	129	237	63	110	58	88	761	65	349	635	156
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	129	237	63	110	58	88	761	65	349	635	156
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	129	237	63	110	58	88	761	65	349	635	156
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	129	237	63	110	58	88	761	65	349	635	156
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.74	0.90	0.90	0.61	0.61	0.61	0.95	0.99	0.99	0.95	0.97	0.97
Lanes:	1.00	0.35	0.65	0.27	0.48	0.25	1.00	0.92	0.08	1.00	0.80	0.20
Final Sat.:	1414	605	1111	315	551	290	1805	1729	148	1805	1480	363
Capacity Analysis Module:												
Vol/Sat:	0.05	0.21	0.21	0.20	0.20	0.20	0.05	0.44	0.44	0.19	0.43	0.43
Crit Moves:		****						****		****		
Green/Cycle:	0.23	0.23	0.23	0.23	0.23	0.23	0.11	0.46	0.46	0.20	0.56	0.56
Volume/Cap:	0.24	0.95	0.95	0.89	0.89	0.89	0.45	0.95	0.95	0.95	0.76	0.76
Delay/Veh:	27.3	64.7	64.7	60.3	60.3	60.3	37.2	40.6	40.6	66.7	17.8	17.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.3	64.7	64.7	60.3	60.3	60.3	37.2	40.6	40.6	66.7	17.8	17.8
LOS by Move:	C	E	E	E	E	E	D	D	D	E	B	B
HCM2kAvgQ:	38	278	278	228	228	228	52	575	575	249	385	385

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #38: 16th St / M St



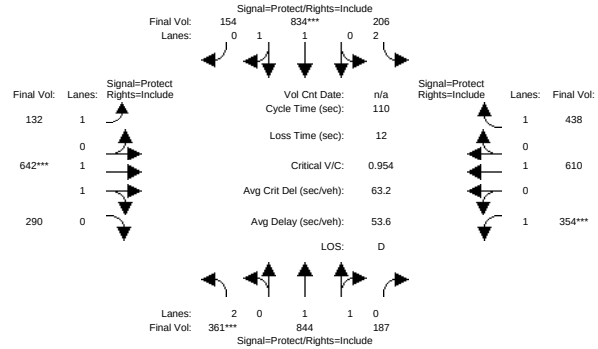
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	339	502	38	167	396	91	77	553	124	182	422	252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	339	502	38	167	396	91	77	553	124	182	422	252
Added Vol:	107	75	4	1	84	7	4	16	124	5	9	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	446	577	42	168	480	98	81	569	248	187	431	254
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	446	577	42	168	480	98	81	569	248	187	431	254
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	446	577	42	168	480	98	81	569	248	187	431	254
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	446	577	42	168	480	98	81	569	248	187	431	254
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.94	0.94	0.92	0.93	0.93	0.95	0.91	0.91	0.95	1.00	0.85
Lanes:	2.00	1.86	0.14	2.00	1.66	0.34	1.00	1.39	0.61	1.00	1.00	1.00
Final Sat.:	3502	3331	242	3502	2923	597	1805	2399	1045	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.17	0.17	0.05	0.16	0.16	0.04	0.24	0.24	0.10	0.23	0.16
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.30	0.30	0.11	0.23	0.23	0.11	0.33	0.33	0.15	0.37	0.37
Volume/Cap:	0.71	0.58	0.58	0.43	0.71	0.71	0.43	0.71	0.71	0.71	0.60	0.42
Delay/Veh:	46.2	33.3	33.3	46.5	41.8	41.8	47.6	34.0	34.0	53.4	29.3	26.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.2	33.3	33.3	46.5	41.8	41.8	47.6	34.0	34.0	53.4	29.3	26.0
LOS by Move:	D	C	C	D	D	D	D	C	C	D	C	C
HCM2kAvgQ:	181	223	223	80	267	267	60	303	303	151	284	152

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #38: 16th St / M St



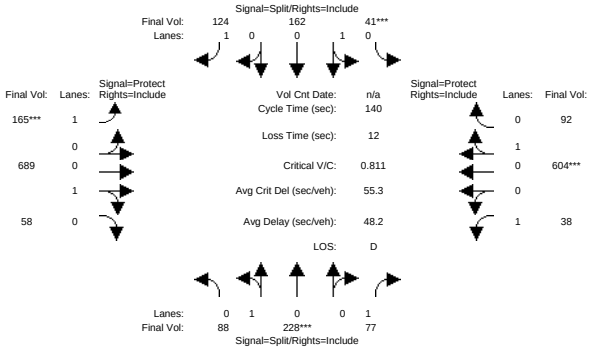
Street Name:	16th Street						M Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	241	755	182	205	763	150	123	633	180	350	594	436
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	241	755	182	205	763	150	123	633	180	350	594	436
Added Vol:	120	89	5	1	71	4	9	9	110	4	16	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	361	844	187	206	834	154	132	642	290	354	610	438
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	361	844	187	206	834	154	132	642	290	354	610	438
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	361	844	187	206	834	154	132	642	290	354	610	438
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	361	844	187	206	834	154	132	642	290	354	610	438
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.93	0.93	0.95	0.91	0.91	0.95	1.00	0.85
Lanes:	2.00	1.64	0.36	2.00	1.69	0.31	1.00	1.38	0.62	1.00	1.00	1.00
Final Sat.:	3502	2875	637	3502	2977	550	1805	2370	1070	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.29	0.29	0.06	0.28	0.28	0.07	0.27	0.27	0.20	0.32	0.27
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.33	0.33	0.07	0.29	0.29	0.09	0.28	0.28	0.21	0.40	0.40
Volume/Cap:	0.95	0.89	0.89	0.82	0.95	0.95	0.81	0.95	0.95	0.95	0.81	0.68
Delay/Veh:	83.2	43.7	43.7	69.6	56.1	56.1	73.5	57.4	57.4	78.1	35.6	30.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	83.2	43.7	43.7	69.6	56.1	56.1	73.5	57.4	57.4	78.1	35.6	30.3
LOS by Move:	F	D	D	E	E	E	E	E	E	E	D	C
HCM2kAvgQ:	177	443	443	142	556	556	104	406	406	315	439	289

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #41: Childs Ave / Martin Luther King Wy



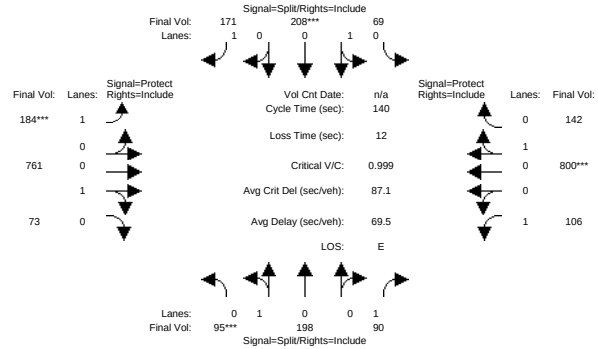
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	224	77	41	161	123	161	662	51	38	588	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	224	77	41	161	123	161	662	51	38	588	90
Added Vol:	2	4	0	0	1	1	4	27	7	0	16	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	228	77	41	162	124	165	689	58	38	604	92
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	228	77	41	162	124	165	689	58	38	604	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	228	77	41	162	124	165	689	58	38	604	92
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	228	77	41	162	124	165	689	58	38	604	92
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.85	0.99	0.99	0.85	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.28	0.72	1.00	0.20	0.80	1.00	1.00	0.92	0.08	1.00	0.87	0.13
Final Sat.:	522	1352	1615	380	1501	1615	1805	1731	146	1805	1616	246
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.05	0.11	0.11	0.08	0.09	0.40	0.40	0.02	0.37	0.37
Crit Moves:		****		****			****				****	
Green/Cycle:	0.21	0.21	0.21	0.13	0.13	0.13	0.11	0.51	0.51	0.06	0.46	0.46
Volume/Cap:	0.81	0.81	0.23	0.81	0.81	0.58	0.81	0.78	0.78	0.33	0.81	0.81
Delay/Veh:	65.0	65.0	46.5	76.8	76.8	60.8	81.9	32.2	32.2	64.3	38.4	38.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.0	65.0	46.5	76.8	76.8	60.8	81.9	32.2	32.2	64.3	38.4	38.4
LOS by Move:	E	E	D	E	E	E	F	C	C	E	D	D
HCM2kAvgQ:	373	373	70	264	264	144	225	671	671	38	652	652

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #41: Childs Ave / Martin Luther King Wy



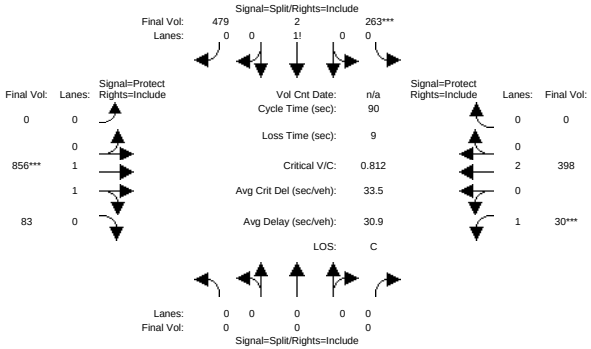
Street Name:	Childs Ave						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	197	90	67	204	167	183	745	71	106	773	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	197	90	67	204	167	183	745	71	106	773	142
Added Vol:	7	1	0	2	4	4	1	16	2	0	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	95	198	90	69	208	171	184	761	73	106	800	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	95	198	90	69	208	171	184	761	73	106	800	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	198	90	69	208	171	184	761	73	106	800	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	198	90	69	208	171	184	761	73	106	800	142
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.85	0.99	0.99	0.85	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	0.32	0.68	1.00	0.25	0.75	1.00	1.00	0.91	0.09	1.00	0.85	0.15
Final Sat.:	606	1263	1615	468	1410	1615	1805	1711	164	1805	1576	280
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.06	0.15	0.15	0.11	0.10	0.44	0.44	0.06	0.51	0.51
Crit Moves:	****				****		****				****	
Green/Cycle:	0.16	0.16	0.16	0.15	0.15	0.15	0.10	0.54	0.54	0.07	0.51	0.51
Volume/Cap:	1.00	1.00	0.36	1.00	1.00	0.72	1.00	0.83	0.83	0.83	1.00	1.00
Delay/Veh:	111.4	111	53.6	113.5	114	66.9	129.0	32.5	32.5	97.7	63.6	63.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	111.4	111	53.6	113.5	114	66.9	129.0	32.5	32.5	97.7	63.6	63.6
LOS by Move:	F	F	D	F	F	E	F	C	C	F	E	E
HCM2kAvgQ:	436	436	92	416	416	210	299	774	774	122	1144	1144

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy

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Street Name:          SR-99 SB Ramp                 Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0   10    0   10     0   10   10     7   10     0
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  263    2  418     0  841   82    30  396     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0    0     0  263    2  418     0  841   82    30  396     0
Added Vol:      0    0     0    0    0   61     0   15    1     0    2     0
PasserByVol:    0    0     0    0    0    0     0    0    0     0    0     0
Initial Fut:    0    0     0  263    2  479     0  856   83    30  398     0
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0    0     0  263    2  479     0  856   83    30  398     0
Reduct Vol:     0    0     0    0    0    0     0    0    0     0    0     0
Reduced Vol:    0    0     0  263    2  479     0  856   83    30  398     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0    0     0  263    2  479     0  856   83    30  398     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 1.00  1.00 0.87 0.87 0.87  1.00 0.94 0.94  0.95 0.95 1.00
Lanes:       0.00 0.00  0.00 0.35 0.01 0.64  0.00 1.82 0.18  1.00 2.00 0.00
Final Sat.:     0    0     0  584    4 1063     0 3248  315  1805 3610    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.45 0.45 0.45  0.00 0.26 0.26  0.02 0.11 0.00
Crit Moves:                  ****               ****       ****
Green/Cycle: 0.00 0.00  0.00 0.52 0.52 0.52  0.00 0.30 0.30  0.08 0.38 0.00
Volume/Cap:  0.00 0.00  0.00 0.87 0.87 0.87  0.00 0.87 0.87  0.21 0.29 0.00
Delay/Veh:    0.0  0.0   0.0 28.4 28.4 28.4   0.0 37.3 37.3  39.7 19.5  0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0  0.0   0.0 28.4 28.4 28.4   0.0 37.3 37.3  39.7 19.5  0.0
LOS by Move:    A    A     A    C    C    C     A    D    D     D    B    A
HCM2kAvgQ:      0    0     0  530  530  530     0  343  343    19   95    0
Note: Queue reported is the distance per lane in feet.
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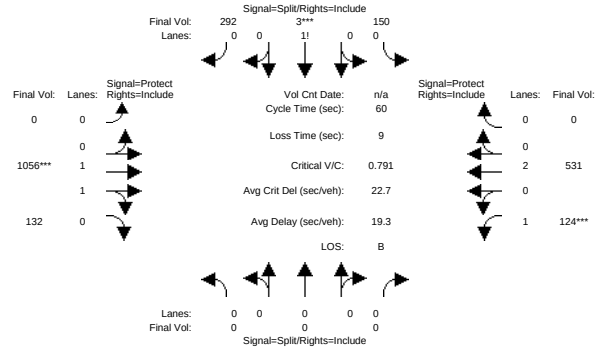
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #43: SR-99 SB Ramps / Martin Luther King Wy

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Street Name:          SR-99 SB Ramp                 Martin Luther King Way
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0   10   10   10     0   10   10     7   10     0
Y+R:          4.0  4.0   4.0  4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  150    3  277     0  995  127   124  531     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0    0     0  150    3  277     0  995  127   124  531     0
Added Vol:      0    0     0    0    0   15     0   61    5     0    0     0
PasserByVol:    0    0     0    0    0    0     0    0    0     0    0     0
Initial Fut:    0    0     0  150    3  292     0 1056  132   124  531     0
User Adj:    1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0    0     0  150    3  292     0 1056  132   124  531     0
Reduct Vol:     0    0     0    0    0    0     0    0    0     0    0     0
Reduced Vol:    0    0     0  150    3  292     0 1056  132   124  531     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0    0     0  150    3  292     0 1056  132   124  531     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 1.00  1.00 0.87 0.87 0.87  1.00 0.93 0.93  0.95 0.95 1.00
Lanes:       0.00 0.00  0.00 0.34 0.01 0.65  0.00 1.78 0.22  1.00 2.00 0.00
Final Sat.:     0    0     0  557   11 1085     0 3154  394  1805 3610    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.27 0.27 0.27  0.00 0.33 0.33  0.07 0.15 0.00
Crit Moves:                  ****               ****       ****
Green/Cycle: 0.00 0.00  0.00 0.33 0.33 0.33  0.00 0.41 0.41  0.12 0.52 0.00
Volume/Cap:  0.00 0.00  0.00 0.82 0.82 0.82  0.00 0.82 0.82  0.59 0.28 0.00
Delay/Veh:    0.0  0.0   0.0 28.5 28.5 28.5   0.0 19.9 19.9  29.5  8.1  0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0  0.0   0.0 28.5 28.5 28.5   0.0 19.9 19.9  29.5  8.1  0.0
LOS by Move:    A    A     A    C    C    C     A    B    B     C    A    A
HCM2kAvgQ:      0    0     0  260  260  260     0  245  245    52   67    0
Note: Queue reported is the distance per lane in feet.
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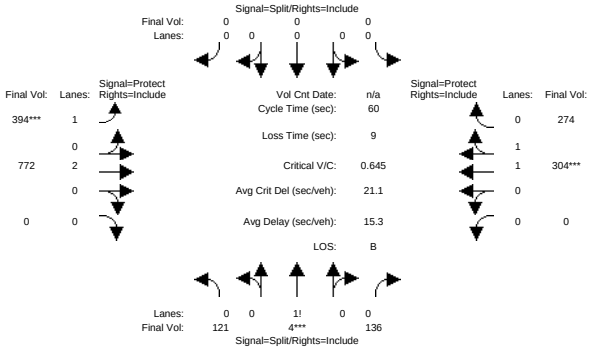
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy



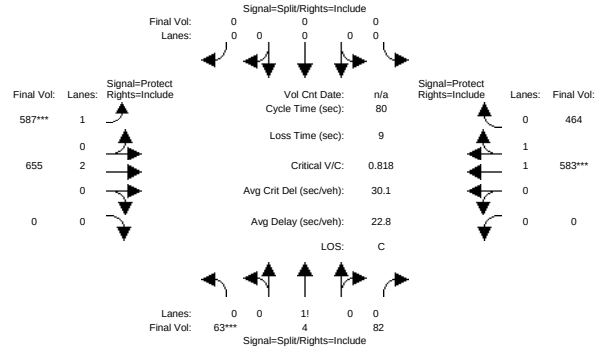
Street Name:	SR-99 NB Ramps						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	119	4	136	0	0	0	379	772	0	0	304	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	119	4	136	0	0	0	379	772	0	0	304	274
Added Vol:	2	0	0	0	0	0	15	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	121	4	136	0	0	0	394	772	0	0	304	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	121	4	136	0	0	0	394	772	0	0	304	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	121	4	136	0	0	0	394	772	0	0	304	274
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	121	4	136	0	0	0	394	772	0	0	304	274
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.88	0.88
Lanes:	0.46	0.02	0.52	0.00	0.00	0.00	1.00	2.00	0.00	0.00	1.05	0.95
Final Sat.:	768	25	863	0	0	0	1805	3610	0	0	1764	1590
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.16	0.00	0.00	0.00	0.22	0.21	0.00	0.00	0.17	0.17
Crit Moves:		****					****				****	
Green/Cycle:	0.24	0.24	0.24	0.00	0.00	0.00	0.34	0.61	0.00	0.00	0.27	0.27
Volume/Cap:	0.65	0.65	0.65	0.00	0.00	0.00	0.65	0.35	0.00	0.00	0.65	0.65
Delay/Veh:	23.9	23.9	23.9	0.0	0.0	0.0	19.2	6.0	0.0	0.0	21.1	21.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.9	23.9	23.9	0.0	0.0	0.0	19.2	6.0	0.0	0.0	21.1	21.1
LOS by Move:	C	C	C	A	A	A	B	A	A	A	C	C
HCM2kAvgQ:	139	139	139	0	0	0	146	88	0	0	127	127

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #44: SR-99 NB Ramps / Martin Luther King Wy



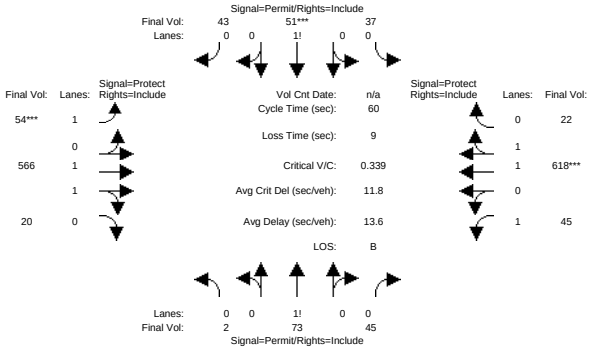
Street Name:	SR-99 NB Ramps						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	63	4	82	0	0	0	526	655	0	0	583	464
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	63	4	82	0	0	0	526	655	0	0	583	464
Added Vol:	0	0	0	0	0	0	61	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	63	4	82	0	0	0	587	655	0	0	583	464
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	4	82	0	0	0	587	655	0	0	583	464
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	4	82	0	0	0	587	655	0	0	583	464
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	4	82	0	0	0	587	655	0	0	583	464
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.89	0.89
Lanes:	0.42	0.03	0.55	0.00	0.00	0.00	1.00	2.00	0.00	0.00	1.11	0.89
Final Sat.:	702	45	913	0	0	0	1805	3610	0	0	1877	1494
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.00	0.00	0.00	0.33	0.18	0.00	0.00	0.31	0.31
Crit Moves:	****						****				****	
Green/Cycle:	0.13	0.13	0.13	0.00	0.00	0.00	0.39	0.76	0.00	0.00	0.37	0.37
Volume/Cap:	0.72	0.72	0.72	0.00	0.00	0.00	0.83	0.24	0.00	0.00	0.83	0.83
Delay/Veh:	45.1	45.1	45.1	0.0	0.0	0.0	30.5	2.8	0.0	0.0	27.8	27.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.1	45.1	45.1	0.0	0.0	0.0	30.5	2.8	0.0	0.0	27.8	27.8
LOS by Move:	D	D	D	A	A	A	C	A	A	A	C	C
HCM2kAvgQ:	130	130	130	0	0	0	323	58	0	0	323	323

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #45: 14th St / Martin Luther King Wy



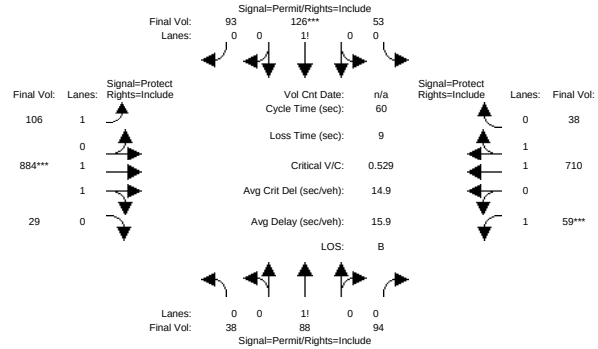
Street Name:	14th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	2		69		45	37		51		43	54		566		20	45		618		22
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	2		69		45	37		51		43	54		566		20	45		618		22
Added Vol:	0		4		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	2		73		45	37		51		43	54		566		20	45		618		22
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	2		73		45	37		51		43	54		566		20	45		618		22
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	2		73		45	37		51		43	54		566		20	45		618		22
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	2		73		45	37		51		43	54		566		20	45		618		22
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.95		0.95	0.86		0.86		0.86	0.95		0.95		0.95	0.95		0.95		0.95
Lanes:	0.02		0.61		0.37	0.28		0.39		0.33	1.00		1.93		0.07	1.00		1.93		0.07
Final Sat.:	30		1092		673	461		635		535	1805		3469		123	1805		3468		123
Capacity Analysis Module:																				
Vol/Sat:	0.07		0.07		0.07	0.08		0.08		0.08	0.03		0.16		0.16	0.02		0.18		0.18
Crit Moves:								****			****							****		
Green/Cycle:	0.23		0.23		0.23	0.23		0.23		0.23	0.12		0.37		0.37	0.26		0.51		0.51
Volume/Cap:	0.29		0.29		0.29	0.35		0.35		0.35	0.26		0.45		0.45	0.10		0.35		0.35
Delay/Veh:	19.6		19.6		19.6	20.0		20.0		20.0	24.8		14.7		14.7	17.1		9.0		9.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	19.6		19.6		19.6	20.0		20.0		20.0	24.8		14.7		14.7	17.1		9.0		9.0
LOS by Move:	B		B		B	C		C		C	C		B		B	B		A		A
HCM2kAvgQ:	45		45		45	50		50		50	22		106		106	15		91		91

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #45: 14th St / Martin Luther King Wy



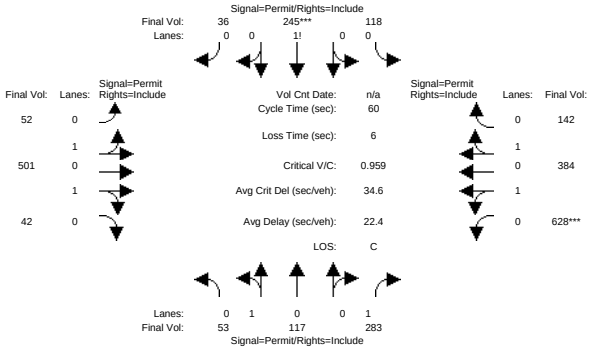
Street Name:	14th Street									Martin Luther King Way								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	7		10		10	7		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	38		87		94	53		126		93	106		884		29	59		710		38
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	38		87		94	53		126		93	106		884		29	59		710		38
Added Vol:	0		1		0	0		0		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	38		88		94	53		126		93	106		884		29	59		710		38
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	38		88		94	53		126		93	106		884		29	59		710		38
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	38		88		94	53		126		93	106		884		29	59		710		38
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	38		88		94	53		126		93	106		884		29	59		710		38
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.87		0.87		0.87	0.88		0.88		0.88	0.95		0.95		0.95	0.95		0.94		0.94
Lanes:	0.17		0.40		0.43	0.19		0.47		0.34	1.00		1.94		0.06	1.00		1.90		0.10
Final Sat.:	287		664		709	325		772		570	1805		3478		114	1805		3399		182
Capacity Analysis Module:																				
Vol/Sat:	0.13		0.13		0.13	0.16		0.16		0.16	0.06		0.25		0.25	0.03		0.21		0.21
Crit Moves:								****					****			****				
Green/Cycle:	0.29		0.29		0.29	0.29		0.29		0.29	0.20		0.45		0.45	0.12		0.36		0.36
Volume/Cap:	0.46		0.46		0.46	0.57		0.57		0.57	0.29		0.57		0.57	0.28		0.58		0.58
Delay/Veh:	18.3		18.3		18.3	19.9		19.9		19.9	20.7		12.8		12.8	24.9		16.1		16.1
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	18.3		18.3		18.3	19.9		19.9		19.9	20.7		12.8		12.8	24.9		16.1		16.1
LOS by Move:	B		B		B	B		B		B	C		B		B	C		B		B
HCM2kAvgQ:	83		83		83	108		108		108	40		164		164	24		146		146

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #48: 13th St / G St



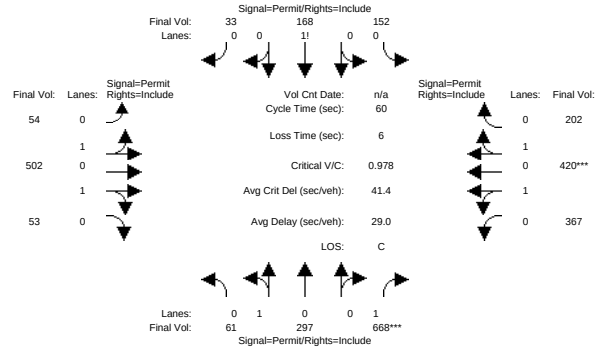
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	117	283	118	245	32	52	497	42	628	372	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	117	283	118	245	32	52	497	42	628	372	142
Added Vol:	0	0	0	0	0	4	0	4	0	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	117	283	118	245	36	52	501	42	628	384	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	117	283	118	245	36	52	501	42	628	384	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	117	283	118	245	36	52	501	42	628	384	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	117	283	118	245	36	52	501	42	628	384	142
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.77	0.85	0.81	0.81	0.81	0.76	0.76	0.76	0.55	0.55	0.55
Lanes:	0.31	0.69	1.00	0.30	0.61	0.09	0.17	1.69	0.14	1.00	0.73	0.27
Final Sat.:	454	1003	1615	456	946	139	253	2438	204	1039	758	280
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.18	0.26	0.26	0.26	0.21	0.21	0.21	0.60	0.51	0.51
Crit Moves:					****					****		
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.63	0.63	0.63	0.63	0.63	0.63
Volume/Cap:	0.43	0.43	0.65	0.96	0.96	0.96	0.33	0.33	0.33	0.96	0.80	0.80
Delay/Veh:	18.9	18.9	22.8	55.2	55.2	55.2	5.3	5.3	5.3	27.5	11.7	11.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.9	18.9	22.8	55.2	55.2	55.2	5.3	5.3	5.3	27.5	11.7	11.7
LOS by Move:	B	B	C	E	E	E	A	A	A	C	B	B
HCM2kAvgQ:	77	77	147	222	222	222	73	73	73	362	209	209

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #48: 13th St / G St



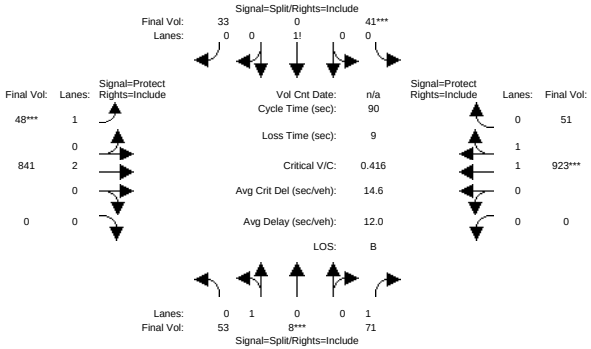
Street Name:	13th Street						G Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	61	297	668	151	168	32	54	490	53	367	416	202
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	297	668	151	168	32	54	490	53	367	416	202
Added Vol:	0	0	0	1	0	1	0	12	0	0	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	297	668	152	168	33	54	502	53	367	420	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	297	668	152	168	33	54	502	53	367	420	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	297	668	152	168	33	54	502	53	367	420	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	297	668	152	168	33	54	502	53	367	420	202
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.90	0.85	0.62	0.62	0.62	0.76	0.76	0.76	0.56	0.56	0.56
Lanes:	0.17	0.83	1.00	0.43	0.48	0.09	0.18	1.65	0.17	0.74	0.85	0.41
Final Sat.:	291	1415	1615	509	562	110	257	2391	252	787	900	433
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.41	0.30	0.30	0.30	0.21	0.21	0.21	0.47	0.47	0.47
Crit Moves:			****								****	
Green/Cycle:	0.42	0.42	0.42	0.42	0.42	0.42	0.48	0.48	0.48	0.48	0.48	0.48
Volume/Cap:	0.50	0.50	0.98	0.71	0.71	0.71	0.44	0.44	0.44	0.98	0.98	0.98
Delay/Veh:	13.2	13.2	45.9	18.8	18.8	18.8	10.6	10.6	10.6	38.4	38.4	38.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.2	13.2	45.9	18.8	18.8	18.8	10.6	10.6	10.6	38.4	38.4	38.4
LOS by Move:	B	B	D	B	B	B	B	B	B	D	D	D
HCM2kAvgQ:	133	133	480	126	126	126	108	108	108	305	305	305

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #49: SR-99 - 14th St / G St

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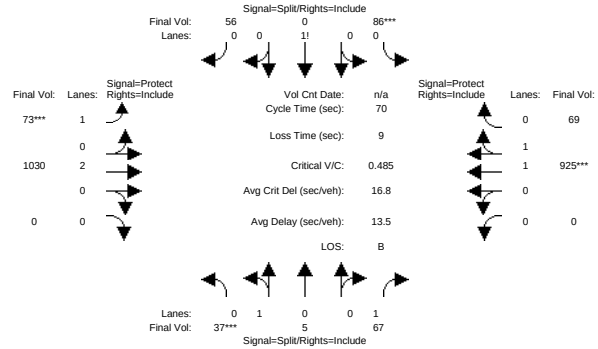
Street Name: SR-99 NB Off-Ramp - 14th Street              G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10    0    10    7   10     0     0   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      50    4    71   41    0    33   48  837     0     0  908    51
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   50    4    71   41    0    33   48  837     0     0  908    51
Added Vol:      3    4     0    0    0     0    0    4     0     0   15     0
PasserByVol:    0    0     0    0    0     0    0    0     0     0    0     0
Initial Fut:   53    8    71   41    0    33   48  841     0     0  923    51
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    53    8    71   41    0    33   48  841     0     0  923    51
Reduct Vol:     0    0     0    0    0     0    0    0     0     0    0     0
Reduced Vol:   53    8    71   41    0    33   48  841     0     0  923    51
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   53    8    71   41    0    33   48  841     0     0  923    51
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900  1900 1900  1900
Adjustment:  0.96 0.96  0.85 0.91 1.00  0.91 0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       0.87 0.13  1.00 0.55 0.00  0.45 1.00 2.00  0.00  0.00 1.90  0.10
Final Sat.:  1581  239  1615  963    0   775 1805 3610     0     0 3394   188
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.03  0.04 0.04 0.00  0.04 0.03 0.23  0.00  0.00 0.27  0.27
Crit Moves:        ****        ****             ****                 ****
Green/Cycle: 0.11 0.11  0.11 0.11 0.00  0.11 0.08 0.68  0.00  0.00 0.60  0.60
Volume/Cap:  0.30 0.30  0.40 0.38 0.00  0.38 0.34 0.34  0.00  0.00 0.45  0.45
Delay/Veh:   37.6 37.6  38.6 38.4  0.0  38.4 40.8  6.2   0.0   0.0 10.0  10.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  37.6 37.6  38.6 38.4  0.0  38.4 40.8  6.2   0.0   0.0 10.0  10.0
LOS by Move:    D    D     D    D    A     D    D    A     A     A    B     B
HCM2kAvgQ:     46   46    57   47    0    47   31  126     0     0  181   181
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #49: SR-99 - 14th St / G St

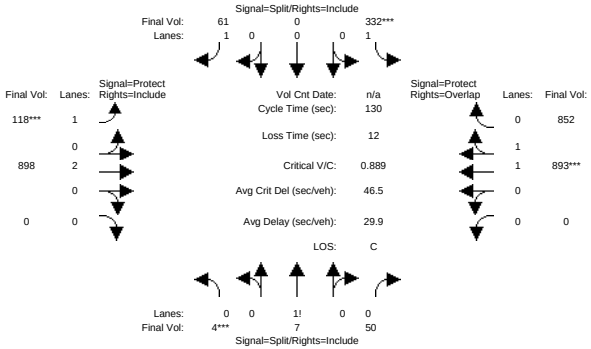



```
Street Name: SR-99 NB Off-Ramp - 14th Street              G Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10    0    10    7   10     0     0   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36    4    67   86    0    56   73 1021     0     0  914    69
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36    4    67   86    0    56   73 1021     0     0  914    69
Added Vol:      1    1     0    0    0     0    0    9     0     0   11     0
PasserByVol:    0    0     0    0    0     0    0    0     0     0    0     0
Initial Fut:   37    5    67   86    0    56   73 1030     0     0  925    69
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    37    5    67   86    0    56   73 1030     0     0  925    69
Reduct Vol:     0    0     0    0    0     0    0    0     0     0    0     0
Reduced Vol:   37    5    67   86    0    56   73 1030     0     0  925    69
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   37    5    67   86    0    56   73 1030     0     0  925    69
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900  1900 1900  1900
Adjustment:  0.96 0.96  0.85 0.92 1.00  0.92 0.95 0.95  1.00  1.00 0.94  0.94
Lanes:       0.88 0.12  1.00 0.61 0.00  0.39 1.00 2.00  0.00  0.00 1.86  0.14
Final Sat.:  1604  217  1615 1058    0   689 1805 3610     0     0 3326   248
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.02  0.04 0.08 0.00  0.08 0.04 0.29  0.00  0.00 0.28  0.28
Crit Moves:  ****             ****             ****                 ****
Green/Cycle: 0.14 0.14  0.14 0.14 0.00  0.14 0.10 0.59  0.00  0.00 0.49  0.49
Volume/Cap:  0.16 0.16  0.29 0.57 0.00  0.57 0.40 0.49  0.00  0.00 0.57  0.57
Delay/Veh:   26.6 26.6  27.5 31.1  0.0  31.1 31.0  8.6   0.0   0.0 13.3  13.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  26.6 26.6  27.5 31.1  0.0  31.1 31.0  8.6   0.0   0.0 13.3  13.3
LOS by Move:    C    C     C    C    A     C    C    A     A     A    B     B
HCM2kAvgQ:     23   23    39   71    0    71   36  166     0     0  184   184
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

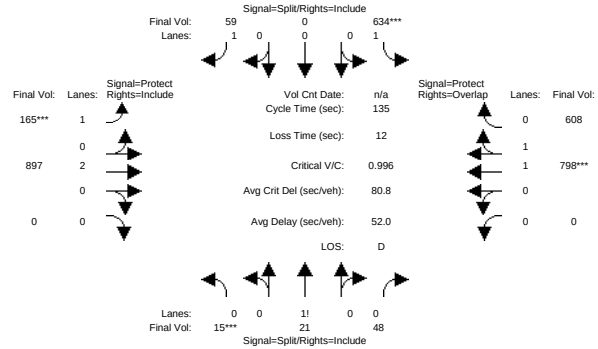



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10    10    0   10     7   10    0     0   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    6   50   330    0   61   118  889    0     0  879  844
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    4    6   50   330    0   61   118  889    0     0  879  844
Added Vol:      0    1    0     2    0    0     0    9    0     0   14    8
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    4    7   50   332    0   61   118  898    0     0  893  852
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     4    7   50   332    0   61   118  898    0     0  893  852
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    4    7   50   332    0   61   118  898    0     0  893  852
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    4    7   50   332    0   61   118  898    0     0  893  852
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.89 0.89 0.89  0.95 1.00 0.85  0.95 0.95 1.00  1.00 0.88 0.88
Lanes:       0.07 0.11 0.82  1.00 0.00 1.00  1.00 2.00 0.00  0.00 1.02 0.98
Final Sat.:   110  193 1380  1805    0 1615  1805 3610    0     0 1713 1634
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.04 0.04  0.18 0.00 0.04  0.07 0.25 0.00  0.00 0.52 0.52
Crit Moves:  ****            ****            ****                 ****
Green/Cycle: 0.08 0.08 0.08  0.20 0.00 0.20  0.07 0.63 0.00  0.00 0.56 0.76
Volume/Cap:  0.47 0.47 0.47  0.93 0.00 0.19  0.93 0.39 0.00  0.00 0.93 0.69
Delay/Veh:   60.2 60.2 60.2  81.0  0.0 43.7 117.9 11.8  0.0   0.0 34.6  8.6
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  60.2 60.2 60.2  81.0  0.0 43.7 117.9 11.8  0.0   0.0 34.6  8.6
LOS by Move:    E    E    E     F    A    D     F    B    A     A    C    A
HCM2kAvgQ:     73   73   73   420    0   52   189  225    0     0  781  420
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #54: SR-99 NB Off-Ramp / Yosemite Pkwy (SR-140)

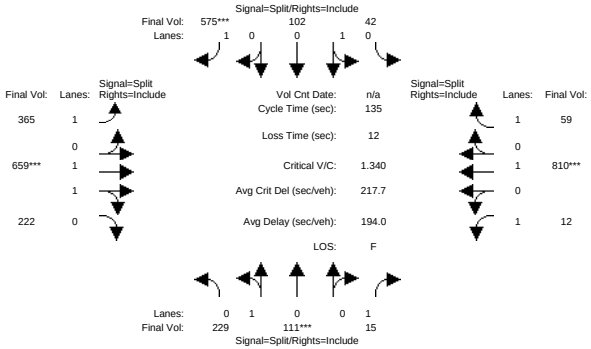



```
Street Name: SR-99 NB Off-Ramp - Main Street      Yosemite Parkway (SR-140)
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10    10    0   10     7   10    0     0   10   10
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   21   48   626    0   59   165  883    0     0  789  606
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   15   21   48   626    0   59   165  883    0     0  789  606
Added Vol:      0    0    0     8    0    0     0   14    0     0    9    2
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:   15   21   48   634    0   59   165  897    0     0  798  608
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:    15   21   48   634    0   59   165  897    0     0  798  608
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   15   21   48   634    0   59   165  897    0     0  798  608
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:   15   21   48   634    0   59   165  897    0     0  798  608
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.91 0.91 0.91  0.95 1.00 0.85  0.95 0.95 1.00  1.00 0.89 0.89
Lanes:       0.18 0.25 0.57  1.00 0.00 1.00  1.00 2.00 0.00  0.00 1.14 0.86
Final Sat.:   310  434  993  1805    0 1615  1805 3610    0     0 1916 1460
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.05 0.05  0.35 0.00 0.04  0.09 0.25 0.00  0.00 0.42 0.42
Crit Moves:  ****            ****            ****                 ****
Green/Cycle: 0.07 0.07 0.07  0.34 0.00 0.34  0.09 0.49 0.00  0.00 0.41 0.75
Volume/Cap:  0.65 0.65 0.65  1.03 0.00 0.11  1.03 0.50 0.00  0.00 1.03 0.56
Delay/Veh:   72.2 72.2 72.2  87.5  0.0 30.4 139.6 23.1  0.0   0.0 71.4  7.6
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  72.2 72.2 72.2  87.5  0.0 30.4 139.6 23.1  0.0   0.0 71.4  7.6
LOS by Move:    E    E    E     F    A    C     F    C    A     A    E    A
HCM2kAvgQ:    114  114  114   844    0   41   275  322    0     0  792  303
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)



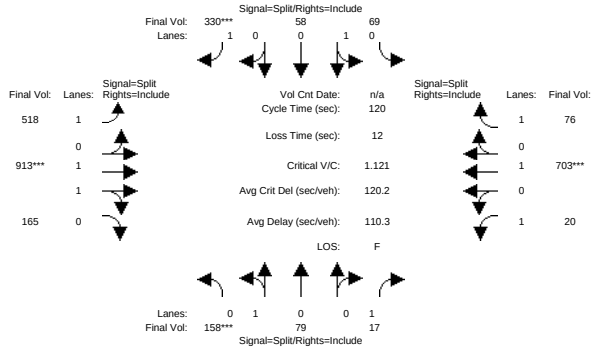
Street Name:	Motel Drive - Glen Avenue						Yosemite Parkway (SR-140)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	229	111	15	42	102	575	365	648	222	12	788	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	229	111	15	42	102	575	365	648	222	12	788	59
Added Vol:	0	0	0	0	0	0	0	11	0	0	22	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	229	111	15	42	102	575	365	659	222	12	810	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	229	111	15	42	102	575	365	659	222	12	810	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	229	111	15	42	102	575	365	659	222	12	810	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	229	111	15	42	102	575	365	659	222	12	810	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.99	0.99	0.85	0.95	0.91	0.91	0.95	1.00	0.85
Lanes:	0.67	0.33	1.00	0.29	0.71	1.00	1.00	1.50	0.50	1.00	1.00	1.00
Final Sat.:	1237	600	1615	546	1327	1615	1805	2598	875	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.01	0.08	0.08	0.36	0.20	0.25	0.25	0.01	0.43	0.04
Crit Moves:		****				****		****			****	
Green/Cycle:	0.14	0.14	0.14	0.27	0.27	0.27	0.19	0.19	0.19	0.32	0.32	0.32
Volume/Cap:	1.34	1.34	0.07	0.29	0.29	1.34	1.07	1.34	1.34	0.02	1.34	0.11
Delay/Veh:	235.4	235	50.7	39.8	39.8	217.7	122.7	218	217.9	31.6	210	32.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	235.4	235	50.7	39.8	39.8	217.7	122.7	218	217.9	31.6	210	32.7
LOS by Move:	F	F	D	D	D	F	F	F	F	C	F	C
HCM2kAvgQ:	665	665	14	117	117	1078	495	841	841	8	1489	42

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #55: Motel Dr / Glen Ave / Yosemite Pkwy (SR-140)



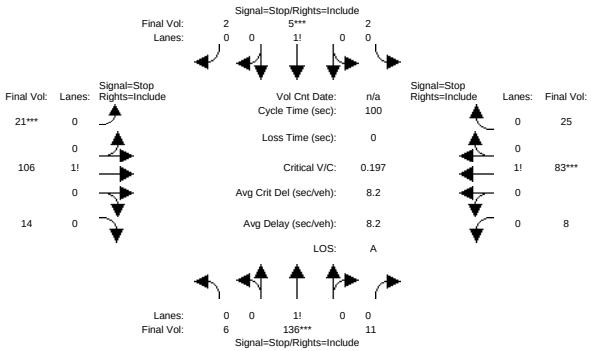
Street Name:	Motel Drive - Glen Avenue						Yosemite Parkway (SR-140)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	158	79	17	69	58	330	518	891	165	20	692	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	158	79	17	69	58	330	518	891	165	20	692	76
Added Vol:	0	0	0	0	0	0	0	22	0	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	158	79	17	69	58	330	518	913	165	20	703	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	158	79	17	69	58	330	518	913	165	20	703	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	158	79	17	69	58	330	518	913	165	20	703	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	158	79	17	69	58	330	518	913	165	20	703	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.97	0.97	0.85	0.95	0.93	0.93	0.95	1.00	0.85
Lanes:	0.67	0.33	1.00	0.54	0.46	1.00	1.00	1.69	0.31	1.00	1.00	1.00
Final Sat.:	1226	613	1615	1005	845	1615	1805	2987	540	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.01	0.07	0.07	0.20	0.29	0.31	0.31	0.01	0.37	0.05
Crit Moves:	****					****		****			****	
Green/Cycle:	0.11	0.11	0.11	0.18	0.18	0.18	0.27	0.27	0.27	0.33	0.33	0.33
Volume/Cap:	1.12	1.12	0.09	0.38	0.38	1.12	1.05	1.12	1.12	0.03	1.12	0.14
Delay/Veh:	151.3	151	47.7	43.8	43.8	138.1	98.7	112	111.9	27.3	114	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	151.3	151	47.7	43.8	43.8	138.1	98.7	112	111.9	27.3	114	28.4
LOS by Move:	F	F	D	D	D	F	F	F	F	C	F	C
HCM2kAvgQ:	379	379	15	108	108	501	614	741	741	12	967	49

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                     O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6    33    11     2     5     2    20   106    14     8    83    13
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    6    33    11     2     5     2    20   106    14     8    83    13
Added Vol:      0   103     0     0     0     0     1     0     0     0     0    12
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    6   136    11     2     5     2    21   106    14     8    83    25
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     6   136    11     2     5     2    21   106    14     8    83    25
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    6   136    11     2     5     2    21   106    14     8    83    25
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    6   136    11     2     5     2    21   106    14     8    83    25
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.04  0.89  0.07  0.22  0.56  0.22  0.15  0.75  0.10  0.07  0.71  0.22
Final Sat.:    31   692    56   165   414   165   119   601    79    56   578   174
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.20  0.20  0.20  0.01  0.01  0.01  0.18  0.18  0.18  0.14  0.14  0.14
Crit Moves:        ****              ****        ****                    ****
Delay/Veh:    8.5   8.5   8.5   7.6   7.6   7.6   8.3   8.3   8.3   8.0   8.0   8.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.5   8.5   8.5   7.6   7.6   7.6   8.3   8.3   8.3   8.0   8.0   8.0
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:       8.5              7.6              8.3              8.0
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.5              7.6              8.3              8.0
LOS by Appr:         A                A                A                A
AllWayAvgQ:   5.5   5.5   5.5   0.3   0.3   0.3   5.0   5.0   5.0   3.9   3.9   3.9
Note: Queue reported is the distance per lane in feet.
              Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #56 14th St / O St
*******************************************************************************
```



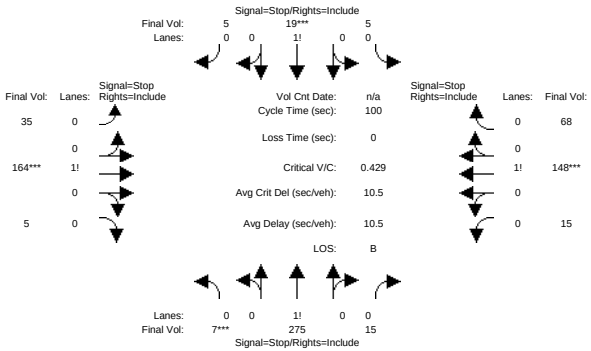
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6  136    11     2     5     2    21  106    14     8    83    25
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             257
Minor Approach Volume:           153
Minor Approach Volume Threshold: 582
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #56: 14th St / O St




```
Street Name:            14th Street                         O Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  107    15     5   19     5    32  164     5    15  148    21
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7  107    15     5   19     5    32  164     5    15  148    21
Added Vol:      0  168     0     0    0     0     3    0     0     0    0    47
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7  275    15     5   19     5    35  164     5    15  148    68
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7  275    15     5   19     5    35  164     5    15  148    68
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    7  275    15     5   19     5    35  164     5    15  148    68
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    7  275    15     5   19     5    35  164     5    15  148    68
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.93  0.05  0.17 0.66  0.17  0.17 0.81  0.02  0.06 0.65  0.29
Final Sat.:    16  640    35   105  400   105   116  544    17    46  453   208
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.43 0.43  0.43  0.05 0.05  0.05  0.30 0.30  0.30  0.33 0.33  0.33
Crit Moves:  ****                 ****             ****             ****
Delay/Veh:   11.3 11.3  11.3   8.5  8.5   8.5  10.0 10.0  10.0  10.0 10.0  10.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.3 11.3  11.3   8.5  8.5   8.5  10.0 10.0  10.0  10.0 10.0  10.0
LOS by Move:    B    B     B     A    A     A     B    B     B     A    A     A
ApproachDel:      11.3              8.5             10.0             10.0
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       11.3              8.5             10.0             10.0
LOS by Appr:         B                A                B                A
AllWayAvgQ:  16.2 16.2  16.2   1.0  1.0   1.0   9.4  9.4   9.4  10.6 10.6  10.6
Note: Queue reported is the distance per lane in feet.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #56 14th St / O St

****


```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7  275    15     5   19     5    35  164     5    15  148    68
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             435
Minor Approach Volume:           297
Minor Approach Volume Threshold: 441
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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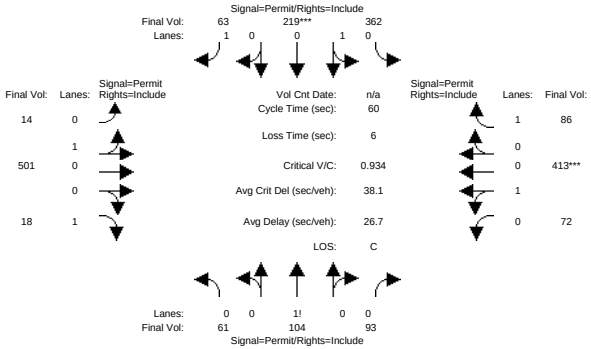
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #57: 13th St / M St



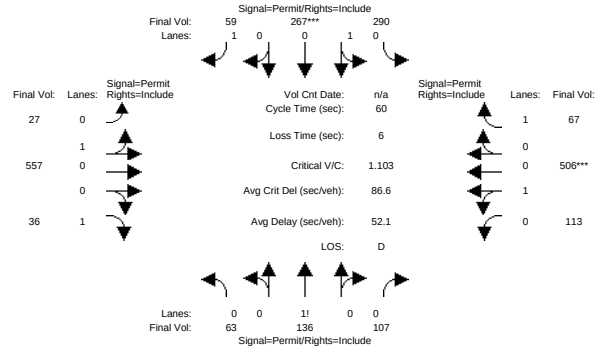
Street Name:	13th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	61		103	85	141		214	63	14		480	18	62		402	86
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	61		103	85	141		214	63	14		480	18	62		402	86
Added Vol:	0		1	8	221		5	0	0		21	0	10		11	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	61		104	93	362		219	63	14		501	18	72		413	86
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	61		104	93	362		219	63	14		501	18	72		413	86
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	61		104	93	362		219	63	14		501	18	72		413	86
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	61		104	93	362		219	63	14		501	18	72		413	86
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.72		0.72	0.72	0.66		0.66	0.85	0.98		0.98	0.85	0.67		0.67	0.85
Lanes:	0.24		0.40	0.36	0.62		0.38	1.00	0.03		0.97	1.00	0.15		0.85	1.00
Final Sat.:	324		553	494	784		474	1615	51		1820	1615	190		1091	1615
Capacity Analysis Module:																
Vol/Sat:	0.19		0.19	0.19	0.46		0.46	0.04	0.28		0.28	0.01	0.38		0.38	0.05
Crit Moves:							****								****	
Green/Cycle:	0.49		0.49	0.49	0.49		0.49	0.49	0.41		0.41	0.41	0.41		0.41	0.41
Volume/Cap:	0.38		0.38	0.38	0.93		0.93	0.08	0.68		0.68	0.03	0.93		0.93	0.13
Delay/Veh:	9.8		9.8	9.8	35.5		35.5	8.0	17.1		17.1	10.7	41.2		41.2	11.3
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	9.8		9.8	9.8	35.5		35.5	8.0	17.1		17.1	10.7	41.2		41.2	11.3
LOS by Move:	A		A	A	D		D	A	B		B	B	D		D	B
HCM2kAvgQ:	71		71	71	385		385	16	226		226	5	266		266	24

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #57: 13th St / M St



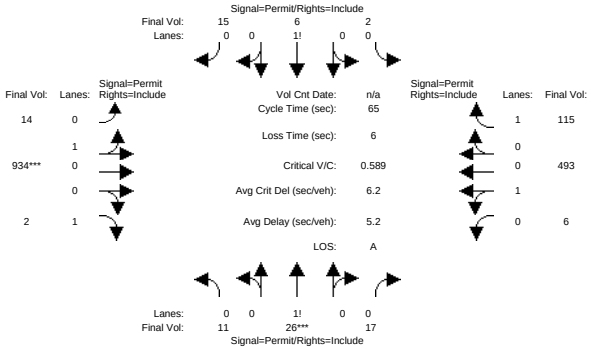
Street Name:	13th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	63		133	100	172		266	59	27		541	36	100		486	67
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	63		133	100	172		266	59	27		541	36	100		486	67
Added Vol:	0		3	7	118		1	0	0		16	0	13		20	0
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	63		136	107	290		267	59	27		557	36	113		506	67
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	63		136	107	290		267	59	27		557	36	113		506	67
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	63		136	107	290		267	59	27		557	36	113		506	67
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	63		136	107	290		267	59	27		557	36	113		506	67
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.62		0.62	0.62	0.64		0.64	0.85	0.96		0.96	0.85	0.61		0.61	0.85
Lanes:	0.21		0.44	0.35	0.52		0.48	1.00	0.05		0.95	1.00	0.18		0.82	1.00
Final Sat.:	242		523	412	635		585	1615	85		1745	1615	211		944	1615
Capacity Analysis Module:																
Vol/Sat:	0.26		0.26	0.26	0.46		0.46	0.04	0.32		0.32	0.02	0.54		0.54	0.04
Crit Moves:							****								****	
Green/Cycle:	0.41		0.41	0.41	0.41		0.41	0.41	0.49		0.49	0.49	0.49		0.49	0.49
Volume/Cap:	0.63		0.63	0.63	1.10		1.10	0.09	0.66		0.66	0.05	1.10		1.10	0.09
Delay/Veh:	16.5		16.5	16.5	88.7		88.7	10.7	13.4		13.4	8.1	84.6		84.6	8.3
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	16.5		16.5	16.5	88.7		88.7	10.7	13.4		13.4	8.1	84.6		84.6	8.3
LOS by Move:	B		B	B	F		F	B	B		B	A	F		F	A
HCM2kAvgQ:	105		105	105	537		537	17	229		229	9	507		507	16

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #58: 14th St / M St



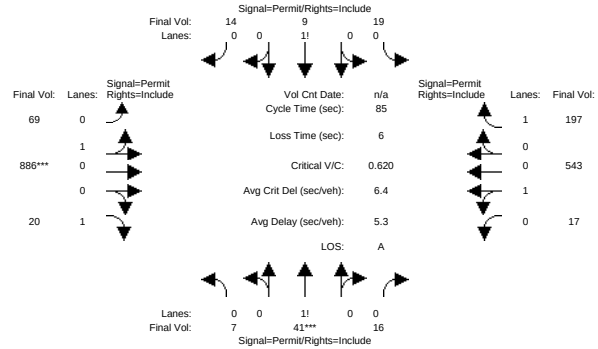
Street Name:	14th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	11		26	13	2		6	15	14		684	2	6		471	12
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	11		26	13	2		6	15	14		684	2	6		471	12
Added Vol:	0		0	4	0		0	0	0		250	0	0		22	103
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	11		26	17	2		6	15	14		934	2	6		493	115
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	11		26	17	2		6	15	14		934	2	6		493	115
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	11		26	17	2		6	15	14		934	2	6		493	115
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	11		26	17	2		6	15	14		934	2	6		493	115
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.91		0.91	0.91	0.89		0.89	0.89	0.99		0.99	0.85	0.99		0.99	0.85
Lanes:	0.20		0.49	0.31	0.09		0.26	0.65	0.01		0.99	1.00	0.01		0.99	1.00
Final Sat.:	351		830	543	148		443	1107	28		1855	1615	23		1866	1615
Capacity Analysis Module:																
Vol/Sat:	0.03		0.03	0.03	0.01		0.01	0.01	0.50		0.50	0.00	0.26		0.26	0.07
Crit Moves:			****								****					
Green/Cycle:	0.15		0.15	0.15	0.15		0.15	0.15	0.75		0.75	0.75	0.75		0.75	0.75
Volume/Cap:	0.20		0.20	0.20	0.09		0.09	0.09	0.67		0.67	0.00	0.35		0.35	0.09
Delay/Veh:	24.4		24.4	24.4	23.7		23.7	23.7	5.2		5.2	2.0	2.8		2.8	2.2
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	24.4		24.4	24.4	23.7		23.7	23.7	5.2		5.2	2.0	2.8		2.8	2.2
LOS by Move:	C		C	C	C		C	C	A		A	A	A		A	A
HCM2kAvgQ:	23		23	23	11		11	11	236		236	0	80		80	15

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #58: 14th St / M St



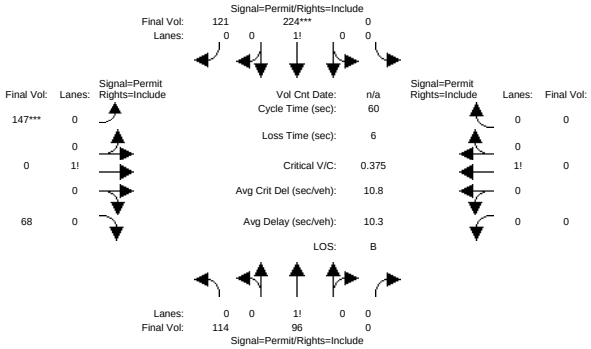
Street Name:	14th Street									M Street						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	10		10	10	10		10	10	10		10	10	10		10	10
Y+R:	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Volume Module:																
Base Vol:	7		41	15	19		9	14	69		745	20	17		511	29
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	7		41	15	19		9	14	69		745	20	17		511	29
Added Vol:	0		0	1	0		0	0	0		141	0	0		32	168
PasserByVol:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	7		41	16	19		9	14	69		886	20	17		543	197
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	7		41	16	19		9	14	69		886	20	17		543	197
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	7		41	16	19		9	14	69		886	20	17		543	197
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	7		41	16	19		9	14	69		886	20	17		543	197
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.94		0.94	0.94	0.83		0.83	0.83	0.93		0.93	0.85	0.97		0.97	0.85
Lanes:	0.11		0.64	0.25	0.46		0.21	0.33	0.07		0.93	1.00	0.03		0.97	1.00
Final Sat.:	195		1141	445	715		339	527	128		1641	1615	56		1787	1615
Capacity Analysis Module:																
Vol/Sat:	0.04		0.04	0.04	0.03		0.03	0.03	0.54		0.54	0.01	0.30		0.30	0.12
Crit Moves:			****								****					
Green/Cycle:	0.12		0.12	0.12	0.12		0.12	0.12	0.81		0.81	0.81	0.81		0.81	0.81
Volume/Cap:	0.31		0.31	0.31	0.23		0.23	0.23	0.67		0.67	0.02	0.37		0.37	0.15
Delay/Veh:	35.2		35.2	35.2	34.6		34.6	34.6	4.5		4.5	1.5	2.3		2.3	1.8
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	35.2		35.2	35.2	34.6		34.6	34.6	4.5		4.5	1.5	2.3		2.3	1.8
LOS by Move:	D		D	D	D		C	C	A		A	A	A		A	A
HCM2kAvgQ:	37		37	37	30		30	30	259		259	2	96		96	27

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #61: 15th St / Canal St



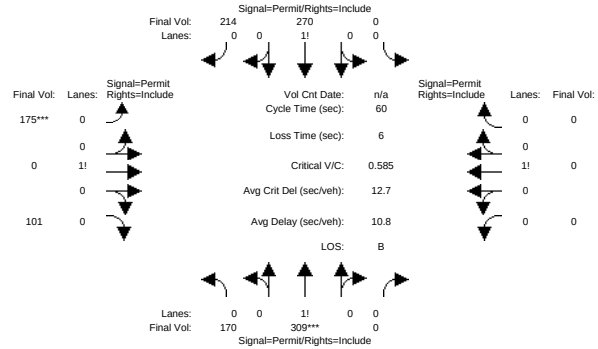
Street Name:	15th Street									Canal Street								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	114		64		0	0		94		121	147		0		68	0		0		0
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	114		64		0	0		94		121	147		0		68	0		0		0
Added Vol:	0		32		0	0		130		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	114		96		0	0		224		121	147		0		68	0		0		0
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	114		96		0	0		224		121	147		0		68	0		0		0
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	114		96		0	0		224		121	147		0		68	0		0		0
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	114		96		0	0		224		121	147		0		68	0		0		0
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.72		0.72		1.00	1.00		0.95		0.95	0.77		1.00		0.77	1.00		1.00		1.00
Lanes:	0.54		0.46		0.00	0.00		0.65		0.35	0.68		0.00		0.32	0.00		1.00		0.00
Final Sat.:	740		623		0	0		1176		635	998		0		462	0		1900		0
Capacity Analysis Module:																				
Vol/Sat:	0.15		0.15		0.00	0.00		0.19		0.19	0.15		0.00		0.15	0.00		0.00		0.00
Crit Moves:								****			****									
Green/Cycle:	0.51		0.51		0.00	0.00		0.51		0.51	0.39		0.00		0.39	0.00		0.00		0.00
Volume/Cap:	0.30		0.30		0.00	0.00		0.38		0.38	0.38		0.00		0.38	0.00		0.00		0.00
Delay/Veh:	8.8		8.8		0.0	0.0		9.2		9.2	13.4		0.0		13.4	0.0		0.0		0.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	8.8		8.8		0.0	0.0		9.2		9.2	13.4		0.0		13.4	0.0		0.0		0.0
LOS by Move:	A		A		A	A		A		A	B		A		B	A		A		A
HCM2kAvgQ:	62		62		0	0		94		94	79		0		79	0		0		0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #61: 15th St / Canal St



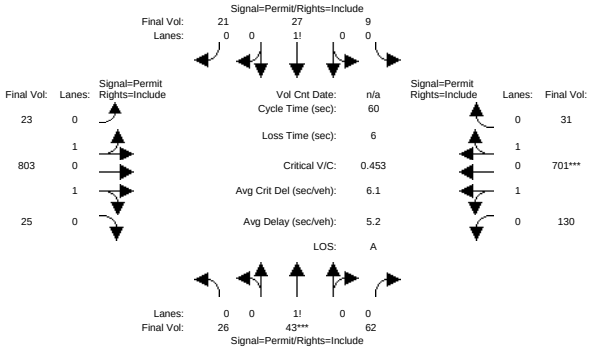
Street Name:	15th Street									Canal Street								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	10		10		10	10		10		10	10		10		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	170		179		0	0		238		214	175		0		101	0		0		0
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	170		179		0	0		238		214	175		0		101	0		0		0
Added Vol:	0		130		0	0		32		0	0		0		0	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	170		309		0	0		270		214	175		0		101	0		0		0
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	170		309		0	0		270		214	175		0		101	0		0		0
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	170		309		0	0		270		214	175		0		101	0		0		0
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	170		309		0	0		270		214	175		0		101	0		0		0
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.75		0.75		1.00	1.00		0.94		0.94	0.76		1.00		0.76	1.00		1.00		1.00
Lanes:	0.35		0.65		0.00	0.00		0.56		0.44	0.63		0.00		0.37	0.00		1.00		0.00
Final Sat.:	506		920		0	0		996		790	919		0		530	0		1900		0
Capacity Analysis Module:																				
Vol/Sat:	0.34		0.34		0.00	0.00		0.27		0.27	0.19		0.00		0.19	0.00		0.00		0.00
Crit Moves:			****								****									
Green/Cycle:	0.57		0.57		0.00	0.00		0.57		0.57	0.33		0.00		0.33	0.00		0.00		0.00
Volume/Cap:	0.58		0.58		0.00	0.00		0.47		0.47	0.58		0.00		0.58	0.00		0.00		0.00
Delay/Veh:	9.3		9.3		0.0	0.0		7.8		7.8	18.7		0.0		18.7	0.0		0.0		0.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	9.3		9.3		0.0	0.0		7.8		7.8	18.7		0.0		18.7	0.0		0.0		0.0
LOS by Move:	A		A		A	A		A		A	B		A		B	A		A		A
HCM2kAvgQ:	162		162		0	0		122		122	129		0		129	0		0		0

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #63: 11th St / Martin Luther King Wy



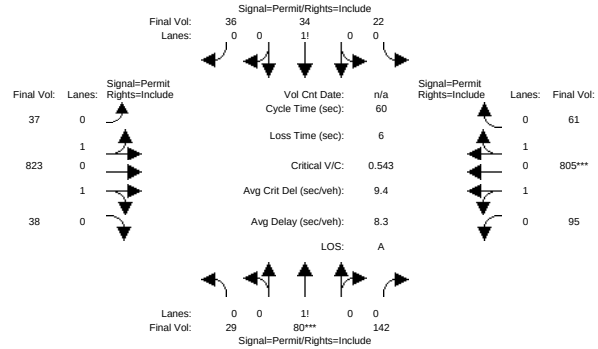
Street Name:	11th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	26	42	46	9	25	11	4	794	25	65	692	31
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	42	46	9	25	11	4	794	25	65	692	31
Added Vol:	0	1	16	0	2	10	19	9	0	65	9	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	43	62	9	27	21	23	803	25	130	701	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	43	62	9	27	21	23	803	25	130	701	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	43	62	9	27	21	23	803	25	130	701	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	43	62	9	27	21	23	803	25	130	701	31
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	0.88	0.88	0.90	0.90	0.90	0.88	0.88	0.88	0.69	0.69	0.69
Lanes:	0.20	0.33	0.47	0.16	0.47	0.37	0.05	1.89	0.06	0.30	1.63	0.07
Final Sat.:	330	546	787	271	812	632	90	3145	98	395	2132	94
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.03	0.03	0.03	0.26	0.26	0.26	0.33	0.33	0.33
Crit Moves:		****									****	
Green/Cycle:	0.17	0.17	0.17	0.17	0.17	0.17	0.73	0.73	0.73	0.73	0.73	0.73
Volume/Cap:	0.45	0.45	0.45	0.19	0.19	0.19	0.35	0.35	0.35	0.45	0.45	0.45
Delay/Veh:	23.3	23.3	23.3	21.5	21.5	21.5	3.1	3.1	3.1	3.5	3.5	3.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.3	23.3	23.3	21.5	21.5	21.5	3.1	3.1	3.1	3.5	3.5	3.5
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	69	69	69	26	26	26	73	73	73	84	84	84

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #63: 11th St / Martin Luther King Wy



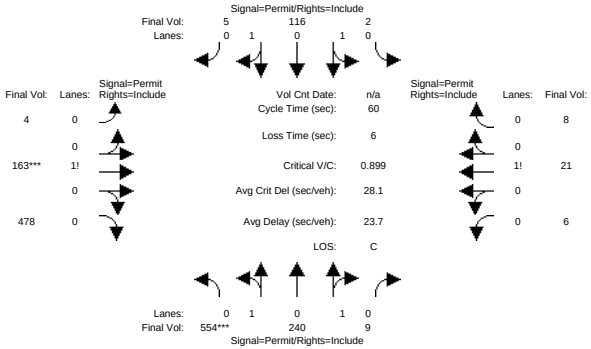
Street Name:	11th Street						Martin Luther King Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	29	74	77	22	34	17	27	814	38	79	796	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	74	77	22	34	17	27	814	38	79	796	61
Added Vol:	0	6	65	0	0	19	10	9	0	16	9	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	80	142	22	34	36	37	823	38	95	805	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	80	142	22	34	36	37	823	38	95	805	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	80	142	22	34	36	37	823	38	95	805	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	80	142	22	34	36	37	823	38	95	805	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.89	0.86	0.86	0.86	0.85	0.85	0.85	0.74	0.74	0.74
Lanes:	0.11	0.32	0.57	0.24	0.37	0.39	0.08	1.84	0.08	0.20	1.67	0.13
Final Sat.:	195	539	956	392	606	642	132	2943	136	279	2367	179
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.15	0.06	0.06	0.06	0.28	0.28	0.28	0.34	0.34	0.34
Crit Moves:		****									****	
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.63	0.63	0.63	0.63	0.63	0.63
Volume/Cap:	0.54	0.54	0.54	0.20	0.20	0.20	0.45	0.45	0.45	0.54	0.54	0.54
Delay/Veh:	19.9	19.9	19.9	17.0	17.0	17.0	6.0	6.0	6.0	6.7	6.7	6.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.9	19.9	19.9	17.0	17.0	17.0	6.0	6.0	6.0	6.7	6.7	6.7
LOS by Move:	B	B	B	B	B	B	A	A	A	A	A	A
HCM2kAvgQ:	118	118	118	36	36	36	107	107	107	125	125	125

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #67: Main St / H St

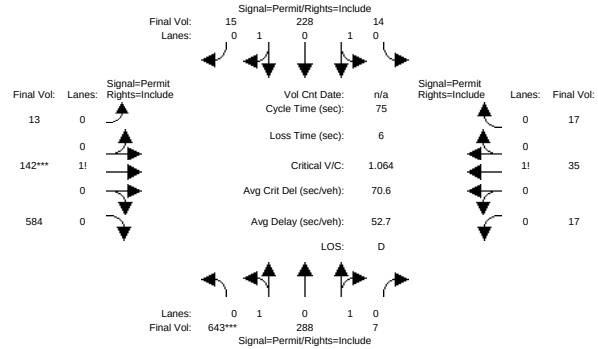



```
Street Name:            Main Street                     H Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10   10   10   10   10   10   10   10   10   10
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     548  238    9    2  116    5    4  163  468    6   21    8
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  548  238    9    2  116    5    4  163  468    6   21    8
Added Vol:      6    2    0    0    0    0    0    0   10    0    0    0
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:  554  240    9    2  116    5    4  163  478    6   21    8
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   554  240    9    2  116    5    4  163  478    6   21    8
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  554  240    9    2  116    5    4  163  478    6   21    8
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  554  240    9    2  116    5    4  163  478    6   21    8
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.68 0.68 0.68 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
Lanes:       1.00 0.96 0.04 0.03 1.89 0.08 0.01 0.25 0.74 0.17 0.60 0.23
Final Sat.:  1284 1238   46   55 3208  138   11  432 1266  293 1024  390
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.43 0.19 0.19 0.04 0.04 0.04 0.38 0.38 0.38 0.02 0.02 0.02
Crit Moves:  ****                         ****
Green/Cycle: 0.48 0.48 0.48 0.48 0.48 0.48 0.42 0.42 0.42 0.42 0.42 0.42
Volume/Cap:  0.90 0.40 0.40 0.08 0.08 0.08 0.90 0.90 0.90 0.05 0.05 0.05
Delay/Veh:   26.2 10.2 10.2  8.4  8.4  8.4 30.4 30.4 30.4 10.3 10.3 10.3
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  26.2 10.2 10.2  8.4  8.4  8.4 30.4 30.4 30.4 10.3 10.3 10.3
LOS by Move:    C    B    B    A    A    A    C    C    C    B    B    B
HCM2kAvgQ:    271   75   75   17   17   17  325  325  325   10   10   10
Note: Queue reported is the distance per lane in feet.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #67: Main St / H St

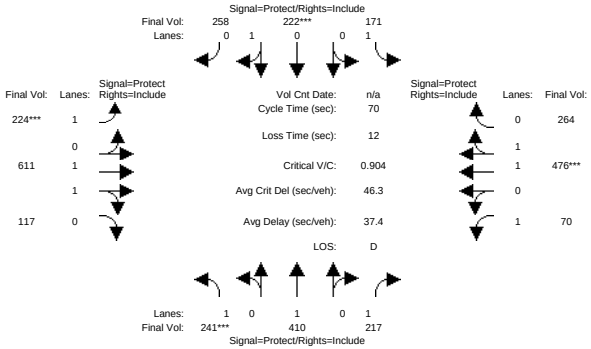



```
Street Name:            Main Street                     H Street
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10   10   10   10   10   10   10   10   10   10   10
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     639  288    7   14  226   15   13  142  571   17   35   17
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  639  288    7   14  226   15   13  142  571   17   35   17
Added Vol:      4    0    0    0    2    0    0    0   13    0    0    0
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:  643  288    7   14  228   15   13  142  584   17   35   17
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   643  288    7   14  228   15   13  142  584   17   35   17
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  643  288    7   14  228   15   13  142  584   17   35   17
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  643  288    7   14  228   15   13  142  584   17   35   17
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.62 0.62 0.62 0.85 0.85 0.85 0.89 0.89 0.89 0.84 0.84 0.84
Lanes:       1.00 0.98 0.02 0.11 1.77 0.12 0.02 0.19 0.79 0.25 0.51 0.24
Final Sat.:  1187 1158   28  177 2875  189   30  325 1335  392  806  392
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.54 0.25 0.25 0.08 0.08 0.08 0.44 0.44 0.44 0.04 0.04 0.04
Crit Moves:  ****                         ****
Green/Cycle: 0.51 0.51 0.51 0.51 0.51 0.51 0.41 0.41 0.41 0.41 0.41 0.41
Volume/Cap:  1.06 0.49 0.49 0.16 0.16 0.16 1.06 1.06 1.06 0.11 0.11 0.11
Delay/Veh:   67.4 12.2 12.2  9.9  9.9  9.9 74.7 74.7 74.7 13.7 13.7 13.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  67.4 12.2 12.2  9.9  9.9  9.9 74.7 74.7 74.7 13.7 13.7 13.7
LOS by Move:    E    B    B    A    A    A    E    E    E    B    B    B
HCM2kAvgQ:    545  111  111   42   42   42  638  638  638   25   25   25
Note: Queue reported is the distance per lane in feet.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #69: Main St / G St



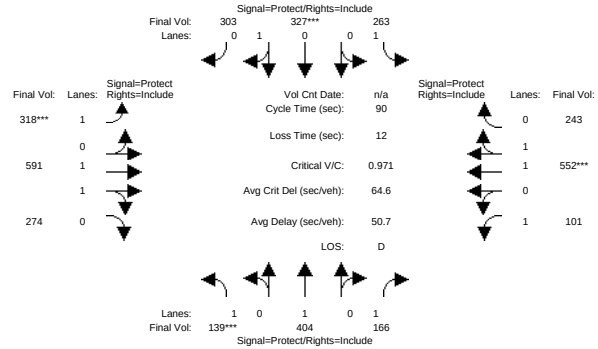
Street Name:	Main Street												G Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7	10	10			7	10	10			7	10	10			7	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	235	410	214			166	222	252			224	609	116			70	472	256		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	235	410	214			166	222	252			224	609	116			70	472	256		
Added Vol:	6	0	3			5	0	6			0	2	1			0	4	8		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	241	410	217			171	222	258			224	611	117			70	476	264		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	241	410	217			171	222	258			224	611	117			70	476	264		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	241	410	217			171	222	258			224	611	117			70	476	264		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	241	410	217			171	222	258			224	611	117			70	476	264		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.95	1.00	0.85			0.95	0.92	0.92			0.95	0.93	0.93			0.95	0.90	0.90		
Lanes:	1.00	1.00	1.00			1.00	0.46	0.54			1.00	1.68	0.32			1.00	1.29	0.71		
Final Sat.:	1805	1900	1615			1805	808	939			1805	2957	566			1805	2197	1218		
Capacity Analysis Module:																				
Vol/Sat:	0.13	0.22	0.13			0.09	0.27	0.27			0.12	0.21	0.21			0.04	0.22	0.22		
Crit Moves:	****						****				****						****			
Green/Cycle:	0.15	0.31	0.31			0.14	0.30	0.30			0.14	0.25	0.25			0.12	0.24	0.24		
Volume/Cap:	0.90	0.70	0.44			0.66	0.90	0.90			0.90	0.81	0.81			0.32	0.90	0.90		
Delay/Veh:	60.6	25.1	19.9			34.7	42.2	42.2			62.7	30.3	30.3			28.8	39.2	39.2		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	60.6	25.1	19.9			34.7	42.2	42.2			62.7	30.3	30.3			28.8	39.2	39.2		
LOS by Move:	E	C	B			C	D	D			E	C	C			C	D	D		
HCM2kAvgQ:	218	229	103			91	291	291			145	210	210			34	242	242		

Note: Queue reported is the distance per lane in feet.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
CASTLE COMMERCE HMF ANALYSIS - OPTION B_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #69: Main St / G St



Street Name:	Main Street												G Street											
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7	10	10			7	10	10			7	10	10			7	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	138	404	165			255	327	296			318	588	268			99	549	238		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	138	404	165			255	327	296			318	588	268			99	549	238		
Added Vol:	1	0	1			8	0	7			0	3	6			2	3	5		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	139	404	166			263	327	303			318	591	274			101	552	243		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	139	404	166			263	327	303			318	591	274			101	552	243		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	139	404	166			263	327	303			318	591	274			101	552	243		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	139	404	166			263	327	303			318	591	274			101	552	243		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.95	1.00	0.85			0.95	0.93	0.93			0.95	0.90	0.90			0.95	0.91	0.91		
Lanes:	1.00	1.00	1.00			1.00	0.52	0.48			1.00	1.37	0.63			1.00	1.39	0.61		
Final Sat.:	1805	1900	1615			1805	915	848			1805	2348	1089			1805	2391	1053		
Capacity Analysis Module:																				
Vol/Sat:	0.08	0.21	0.10			0.15	0.36	0.36			0.18	0.25	0.25			0.06	0.23	0.23		
Crit Moves:	****						****				****						****			
Green/Cycle:	0.08	0.27	0.27			0.18	0.37	0.37			0.18	0.32	0.32			0.10	0.24	0.24		
Volume/Cap:	0.97	0.80	0.39			0.80	0.97	0.97			0.97	0.79	0.79			0.57	0.97	0.97		
Delay/Veh:	107.4	39.7	27.6			48.4	56.0	56.0			78.3	31.6	31.6			42.9	58.4	58.4		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	107.4	39.7	27.6			48.4	56.0	56.0			78.3	31.6	31.6			42.9	58.4	58.4		
LOS by Move:	F	D	C			D	E	E			E	C	C			D	E	E		
HCM2kAvgQ:	185	316	100			188	522	522			271	295	295			68	357	357		

Note: Queue reported is the distance per lane in feet.

HEAVY MANTENANCE FACILITY ANALYSIS – HARRIS DEJAGER

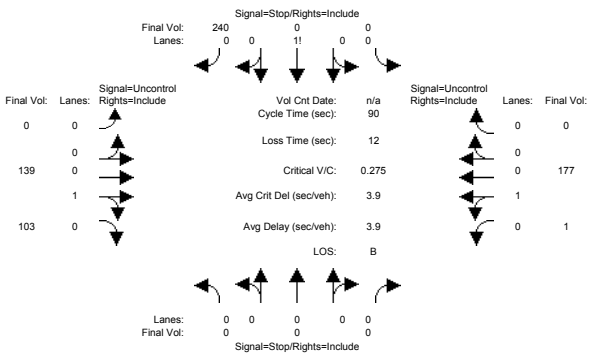
EXISTING WITH MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #3a: SR-99 SB Ramps/Sandy Mush Rd




```
Street Name:           SR-99 SB Ramps                    Sandy Mush Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0     0     0     0     0   240     0   139   103     1   177     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     0     0   240     0   139   103     1   177     0
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    0     0     0     0     0   240     0   139   103     1   177     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     0     0     0     0     0   240     0   139   103     1   177     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0     0     0   240     0   139   103     1   177     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   177  xxxx xxxx xxxxx   242 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   871  xxxx xxxx xxxxx  1336 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   871  xxxx xxxx xxxxx  1336 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.28  xxxx xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   1.1  xxxx xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  10.7 xxxxx xxxx xxxxx   7.7 xxxx xxxxx
LOS by Move:    *     *     *     *     *     B     *     *     *     A     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     *     *     *     A     *     *
ApproachDel:    xxxxxx             10.7           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
```

Peak Hour Delay Signal Warrant Report

```
*******************************************************************************
Intersection #3a SR-99 SB Ramps/Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  0  0  1  0    0  1  0  0  0
Initial Vol:    0     0     0     0     0   240     0   139   103     1   177     0
ApproachDel:    xxxxxx             10.7           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=240]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=660]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

Peak Hour Volume Signal Warrant Report [Urban]

```
*******************************************************************************
Intersection #3a SR-99 SB Ramps/Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  0  0  1    0  0  0  0  1  0    0  1  0  0  0
Initial Vol:    0     0     0     0     0   240     0   139   103     1   177     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             420
Minor Approach Volume:           240
Minor Approach Volume Threshold: 451
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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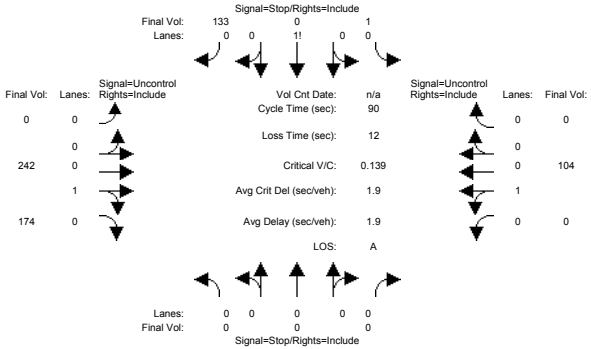
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #3a: SR-99 SB Ramps/Sandy Mush Rd




```
Street Name:           SR-99 SB Ramps                    Sandy Mush Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     1    0   133     0  242   174     0  104     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     1    0   133     0  242   174     0  104     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     1    0   133     0  242   174     0  104     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     1    0   133     0  242   174     0  104     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     1    0   133     0  242   174     0  104     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   433  520   104  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   584  463   956  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   584  463   956  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00 0.00  0.14  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  952 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  9.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    A     *     *    *     *     *    *     *
ApproachDel:    xxxxxx              9.4           xxxxxx           xxxxxx
ApproachLOS:         *               A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3a SR-99 SB Ramps/Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    0  0  1  0  0
Initial Vol:    0    0     0     1    0   133     0  242   174     0  104     0
ApproachDel:    xxxxxx              9.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=134]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=654]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                 Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3a SR-99 SB Ramps/Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    0  0  1  0  0
Initial Vol:    0    0     0     1    0   133     0  242   174     0  104     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             520
Minor Approach Volume:           134
Minor Approach Volume Threshold: 394
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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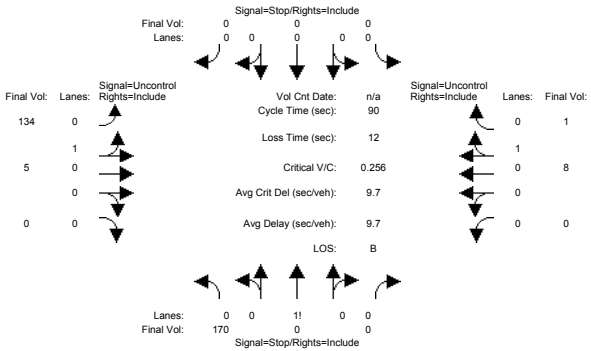
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #3b: SR-99 NB Ramps/Sandy Mush Rd




```
Street Name:          SR-99 NB Ramps                    Sandy Mush Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     170    0     0     0    0     0   134    5     0     0    8     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  170    0     0     0    0     0   134    5     0     0    8     1
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  170    0     0     0    0     0   134    5     0     0    8     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   170    0     0     0    0     0   134    5     0     0    8     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  170    0     0     0    0     0   134    5     0     0    8     1
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5 xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  282 xxxx xxxxx  xxxx xxxx xxxxx     9 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  713 xxxx xxxxx  xxxx xxxx xxxxx  1624 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    664 xxxx xxxxx  xxxx xxxx xxxxx  1624 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.26 xxxx  xxxx  xxxx xxxx  xxxx  0.08 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.0 xxxx xxxxx  xxxx xxxx xxxxx   0.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 12.3 xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.3 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     A    *     *     *    *     *
ApproachDel:      12.3           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         B                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3b SR-99 NB Ramps/Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  0    0  0  0  0  0    0  1  0  0  0    0  0  0  1  0
Initial Vol:  170    0     0     0    0     0   134    5     0     0    8     1
ApproachDel:      12.3           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=170]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=318]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3b SR-99 NB Ramps/Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  0    0  0  0  0  0    0  1  0  0  0    0  0  0  1  0
Initial Vol:  170    0     0     0    0     0   134    5     0     0    8     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             148
Minor Approach Volume:           170
Minor Approach Volume Threshold: 729
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
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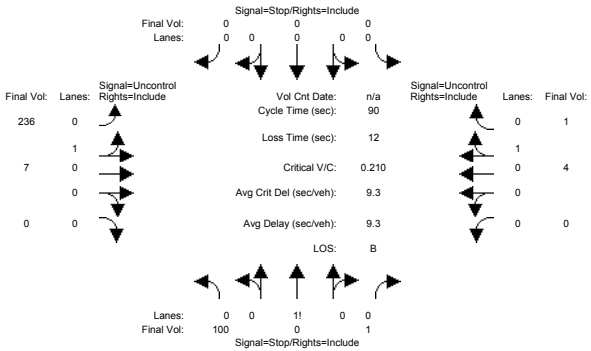
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #3b: SR-99 NB Ramps/Sandy Mush Rd




```
Street Name:           SR-99 NB Ramps                    Sandy Mush Rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     100    0     1     0    0     0   236    7     0     0    4     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  100    0     1     0    0     0   236    7     0     0    4     1
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  100    0     1     0    0     0   236    7     0     0    4     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   100    0     1     0    0     0   236    7     0     0    4     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  100    0     1     0    0     0   236    7     0     0    4     1
------------||---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------||---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  484  484     7  xxxx xxxx xxxxx     5 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  546  486  1081  xxxx xxxx xxxxx  1630 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    476  405  1081  xxxx xxxx xxxxx  1630 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.21 0.00  0.00  xxxx xxxx  xxxx  0.14 xxxx  xxxx  xxxx xxxx  xxxx
------------||---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  479 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.8 xxxxx xxxxx xxxx xxxxx   0.5 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 14.5 xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     A    *     *     *    *     *
ApproachDel:      14.5           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         B                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3b SR-99 NB Ramps/Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  1  0  0  0    0  0  0  1  0
Initial Vol:  100    0     1     0    0     0   236    7     0     0    4     1
ApproachDel:      14.5           xxxxxx            xxxxxx            xxxxxx
------------||---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=101]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=349]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                 Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3b SR-99 NB Ramps/Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  1  0  0  0    0  0  0  1  0
Initial Vol:  100    0     1     0    0     0   236    7     0     0    4     1
------------||---------------||---------------||---------------||---------------|
Major Street Volume:             248
Minor Approach Volume:           101
Minor Approach Volume Threshold: 591
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

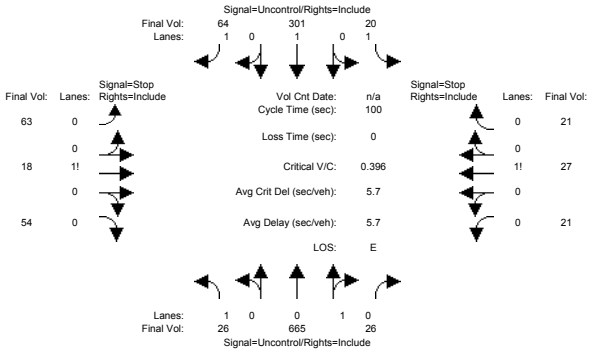
HEAVY MANTENANCE FACILITY ANALYSIS – HARRIS DEJAGER

2035 CONDITIONS – LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #1: SR-59 / Sandy Mush Rd




```
Street Name:              SR-59                          Sandy Mush Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26  665    26    20  301    64    63   18    54    21   27    21
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26  665    26    20  301    64    63   18    54    21   27    21
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26  665    26    20  301    64    63   18    54    21   27    21
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26  665    26    20  301    64    63   18    54    21   27    21
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26  665    26    20  301    64    63   18    54    21   27    21
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  365 xxxx xxxxx   691 xxxx xxxxx  1095 1084   301  1139 1135   678
Potent Cap.: 1205 xxxx xxxxx   913 xxxx xxxxx   193  219   743   180  204   456
Move Cap.:   1205 xxxx xxxxx   913 xxxx xxxxx   159  209   743   151  195   456
Volume/Cap:  0.02 xxxx  xxxx  0.02 xxxx  xxxx  0.40 0.09  0.07  0.14 0.14  0.05
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.1 xxxx xxxxx   9.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  243 xxxxx  xxxx  213 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  3.0 xxxxx xxxxx  1.3 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 36.8 xxxxx xxxxx 29.8 xxxxx
Shared LOS:     *    *     *     *    *     *     *    E     *     *    D     *
ApproachDel:    xxxxxx           xxxxxx             36.8             29.8
ApproachLOS:         *                *                E                D
Note: Queue reported is the number of cars per lane.
```

Peak Hour Delay Signal Warrant Report

```
*******************************************************************************
Intersection #1 SR-59 / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  0  1  0    1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   26  665    26    20  301    64    63   18    54    21   27    21
ApproachDel:    xxxxxx           xxxxxx             36.8             29.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=135]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1306]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=69]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1306]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

Peak Hour Volume Signal Warrant Report [Urban]

```
*******************************************************************************
Intersection #1 SR-59 / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  0  1  0    1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   26  665    26    20  301    64    63   18    54    21   27    21
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1102
Minor Approach Volume:           135
Minor Approach Volume Threshold: 251
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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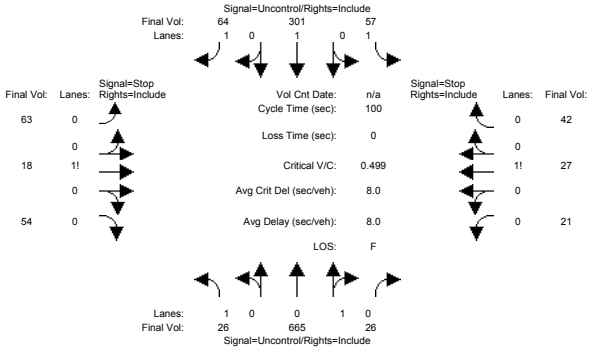
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1: SR-59 / Sandy Mush Rd




```
Street Name:              SR-59                          Sandy Mush Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26  665    26    20  301    64    63   18    54    21   27    21
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26  665    26    20  301    64    63   18    54    21   27    21
Added Vol:      0    0     0    37    0     0     0    0     0     0    0    21
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26  665    26    57  301    64    63   18    54    21   27    42
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    26  665    26    57  301    64    63   18    54    21   27    42
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26  665    26    57  301    64    63   18    54    21   27    42
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  365 xxxx xxxxx   691 xxxx xxxxx  1180 1158   301  1213 1209   678
Potent Cap.: 1205 xxxx xxxxx   913 xxxx xxxxx   169  198   743   160  184   456
Move Cap.:   1205 xxxx xxxxx   913 xxxx xxxxx   126  181   743   129  169   456
Volume/Cap:  0.02 xxxx  xxxx  0.06 xxxx  xxxx  0.50 0.10  0.07  0.16 0.16  0.09
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx   0.2 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.1 xxxx xxxxx   9.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  201 xxxxx  xxxx  217 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  4.1 xxxxx xxxxx  1.9 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 53.2 xxxxx xxxxx 32.9 xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    D     *
ApproachDel:    xxxxxx           xxxxxx             53.2             32.9
ApproachLOS:         *                *                F                D
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-59 / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  0  1  0    1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   26  665    26    57  301    64    63   18    54    21   27    42
ApproachDel:    xxxxxx           xxxxxx             53.2             32.9
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=135]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1364]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=90]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1364]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

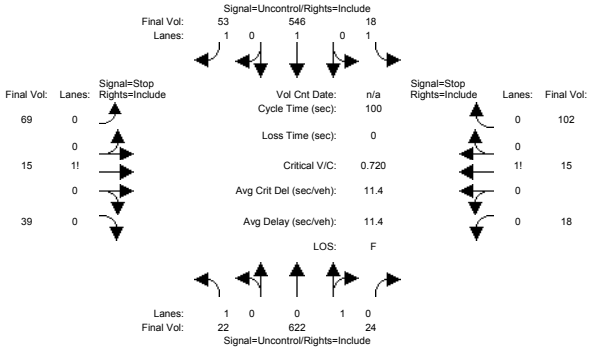
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-59 / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  0  1  0    1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   26  665    26    57  301    64    63   18    54    21   27    42
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1139
Minor Approach Volume:           135
Minor Approach Volume Threshold: 240
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #1: SR-59 / Sandy Mush Rd




```
Street Name:              SR-59                          Sandy Mush Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      22  622    24    18  546    53    69   15    39    18   15   102
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   22  622    24    18  546    53    69   15    39    18   15   102
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   22  622    24    18  546    53    69   15    39    18   15   102
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    22  622    24    18  546    53    69   15    39    18   15   102
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   22  622    24    18  546    53    69   15    39    18   15   102
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  599 xxxx xxxxx   646 xxxx xxxxx  1319 1272   546  1314 1313   634
Potent Cap.:  988 xxxx xxxxx   949 xxxx xxxxx   135  169   541   137  160   483
Move Cap.:    988 xxxx xxxxx   949 xxxx xxxxx    96  162   541   114  153   483
Volume/Cap:  0.02 xxxx  xxxx  0.02 xxxx  xxxx  0.72 0.09  0.07  0.16 0.10  0.21
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.7 xxxx xxxxx   8.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  139 xxxxx  xxxx  289 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  5.9 xxxxx xxxxx  2.3 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  110 xxxxx xxxxx 27.9 xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    D     *
ApproachDel:    xxxxxx           xxxxxx            109.7             27.9
ApproachLOS:         *                *                F                 D
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-59 / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  0  1  0    1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   22  622    24    18  546    53    69   15    39    18   15   102
ApproachDel:    xxxxxx           xxxxxx            109.7             27.9
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=123]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1543]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=135]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1543]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-59 / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  0  1  0    1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   22  622    24    18  546    53    69   15    39    18   15   102
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1285
Minor Approach Volume:           135
Minor Approach Volume Threshold: 198
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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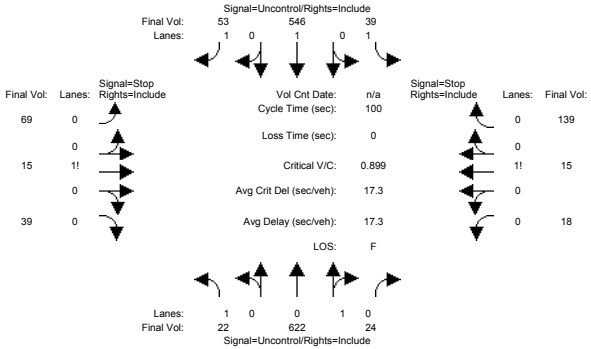
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1: SR-59 / Sandy Mush Rd




```
Street Name:              SR-59                          Sandy Mush Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      22  622    24    18  546    53    69   15    39    18   15   102
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   22  622    24    18  546    53    69   15    39    18   15   102
Added Vol:      0    0     0    21    0     0     0    0     0     0    0    37
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   22  622    24    39  546    53    69   15    39    18   15   139
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    22  622    24    39  546    53    69   15    39    18   15   139
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   22  622    24    39  546    53    69   15    39    18   15   139
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  599 xxxx xxxxx   646 xxxx xxxxx  1379 1314   546  1356 1355   634
Potent Cap.:  988 xxxx xxxxx   949 xxxx xxxxx   123  160   541   128  151   483
Move Cap.:    988 xxxx xxxxx   949 xxxx xxxxx    77  150   541   104  141   483
Volume/Cap:  0.02 xxxx  xxxx  0.04 xxxx  xxxx  0.90 0.10  0.07  0.17 0.11  0.29
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.7 xxxx xxxxx   9.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  115 xxxxx  xxxx  304 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  7.3 xxxxx xxxxx  3.3 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  176 xxxxx xxxxx 31.3 xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    D     *
ApproachDel:    xxxxxx           xxxxxx            176.4            31.3
ApproachLOS:         *                  *              F               D
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-59 / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



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------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  0  1  0    1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   22  622    24    39  546    53    69   15    39    18   15   139
ApproachDel:    xxxxxx           xxxxxx            176.4            31.3
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=6.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=123]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1601]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=172]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1601]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-59 / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  0  1  0    1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   22  622    24    39  546    53    69   15    39    18   15   139
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1306
Minor Approach Volume:           172
Minor Approach Volume Threshold: 193
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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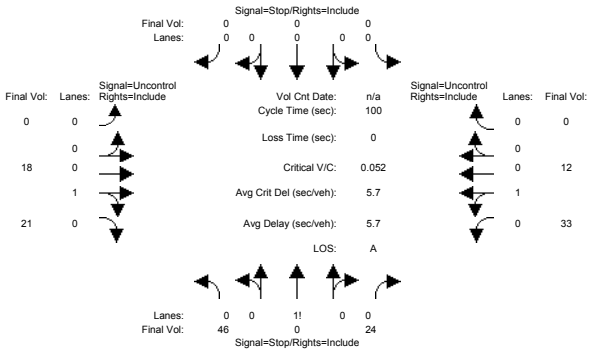
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #2: Bliss Rd / Sandy Mush Rd




```
Street Name:             Bliss Road                    Sandy Mush Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      46    0    24     0    0     0     0   18    21    33   12     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   46    0    24     0    0     0     0   18    21    33   12     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   46    0    24     0    0     0     0   18    21    33   12     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    46    0    24     0    0     0     0   18    21    33   12     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   46    0    24     0    0     0     0   18    21    33   12     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  107  107    29  xxxx xxxx xxxxx  xxxx xxxx xxxxx    39 xxxx xxxxx
Potent Cap.:  896  787  1052  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1584 xxxx xxxxx
Move Cap.:    881  771  1052  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1584 xxxx xxxxx
Volume/Cap:  0.05 0.00  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  933 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx  9.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx
Shared LOS:     *    A     *     *    *     *     *    *     *     A    *     *
ApproachDel:       9.2           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         A                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 Bliss Rd / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:   46    0    24     0    0     0     0   18    21    33   12     0
ApproachDel:       9.2           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=70]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=154]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 Bliss Rd / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:   46    0    24     0    0     0     0   18    21    33   12     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             84
Minor Approach Volume:           70
Minor Approach Volume Threshold: 880
-------------------------------------------------------------------------------
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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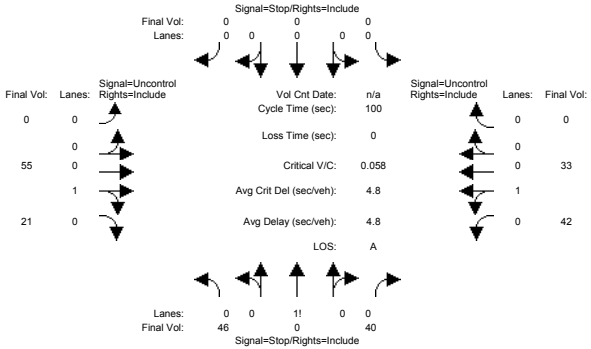
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #2: Bliss Rd / Sandy Mush Rd




```
Street Name:             Bliss Road                    Sandy Mush Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      46    0    24     0    0     0     0   18    21    33   12     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   46    0    24     0    0     0     0   18    21    33   12     0
Added Vol:      0    0    16     0    0     0     0   37     0     9   21     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   46    0    40     0    0     0     0   55    21    42   33     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    46    0    40     0    0     0     0   55    21    42   33     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   46    0    40     0    0     0     0   55    21    42   33     0
------------||---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------||---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  183  183    66  xxxx xxxx xxxxx  xxxx xxxx xxxxx    76 xxxx xxxxx
Potent Cap.:  812  715  1004  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1536 xxxx xxxxx
Move Cap.:    794  695  1004  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1536 xxxx xxxxx
Volume/Cap:  0.06 0.00  0.04  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.03 xxxx  xxxx
------------||---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  880 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx  9.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
Shared LOS:     *    A     *     *    *     *     *    *     *     A    *     *
ApproachDel:       9.5           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         A                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 Bliss Rd / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:   46    0    40     0    0     0     0   55    21    42   33     0
ApproachDel:       9.5           xxxxxx            xxxxxx           xxxxxx
------------||---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=86]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=237]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 Bliss Rd / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:   46    0    40     0    0     0     0   55    21    42   33     0
------------||---------------||---------------||---------------||---------------|
Major Street Volume:             151
Minor Approach Volume:           86
Minor Approach Volume Threshold: 724
-------------------------------------------------------------------------------
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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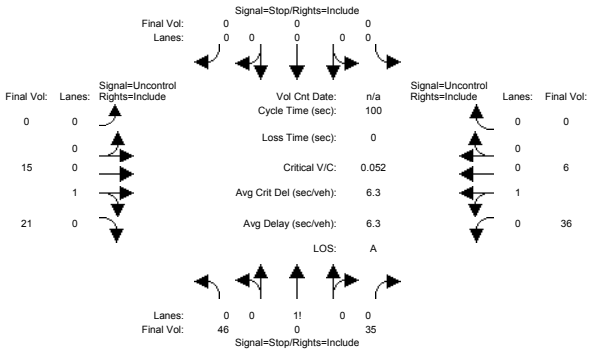
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #2: Bliss Rd / Sandy Mush Rd




```
Street Name:             Bliss Road                    Sandy Mush Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      46    0    35     0    0     0     0   15    21    36    6     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   46    0    35     0    0     0     0   15    21    36    6     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   46    0    35     0    0     0     0   15    21    36    6     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    46    0    35     0    0     0     0   15    21    36    6     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   46    0    35     0    0     0     0   15    21    36    6     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  104  104    26  xxxx xxxx xxxxx  xxxx xxxx xxxxx    36 xxxx xxxxx
Potent Cap.:  899  790  1056  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1588 xxxx xxxxx
Move Cap.:    884  772  1056  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1588 xxxx xxxxx
Volume/Cap:  0.05 0.00  0.03  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  951 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx  9.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx
Shared LOS:     *    A     *     *    *     *     *    *     *     A    *     *
ApproachDel:       9.1           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         A                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 Bliss Rd / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:   46    0    35     0    0     0     0   15    21    36    6     0
ApproachDel:       9.1           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=81]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=159]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

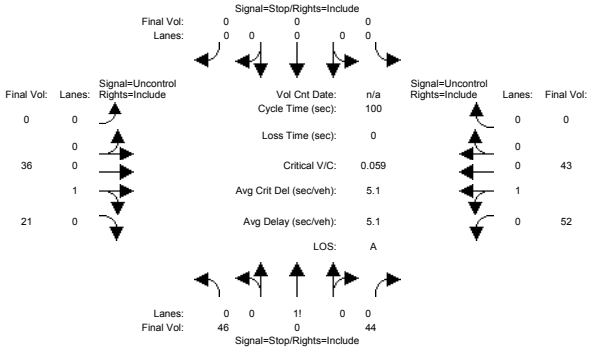
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 Bliss Rd / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:   46    0    35     0    0     0     0   15    21    36    6     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             78
Minor Approach Volume:           81
Minor Approach Volume Threshold: 900
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #2: Bliss Rd / Sandy Mush Rd




```
Street Name:             Bliss Road                    Sandy Mush Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      46    0    35     0    0     0     0   15    21    36    6     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   46    0    35     0    0     0     0   15    21    36    6     0
Added Vol:      0    0     9     0    0     0     0   21     0    16   37     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   46    0    44     0    0     0     0   36    21    52   43     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    46    0    44     0    0     0     0   36    21    52   43     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   46    0    44     0    0     0     0   36    21    52   43     0
------------||---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------||---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  194  194    47  xxxx xxxx xxxxx  xxxx xxxx xxxxx    57 xxxx xxxxx
Potent Cap.:  800  705  1029  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1560 xxxx xxxxx
Move Cap.:    779  681  1029  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1560 xxxx xxxxx
Volume/Cap:  0.06 0.00  0.04  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.03 xxxx  xxxx
------------||---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  884 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx  9.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
Shared LOS:     *    A     *     *    *     *     *    *     *     A    *     *
ApproachDel:       9.5           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         A                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 Bliss Rd / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:   46    0    44     0    0     0     0   36    21    52   43     0
ApproachDel:       9.5           xxxxxx            xxxxxx           xxxxxx
------------||---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=90]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=242]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

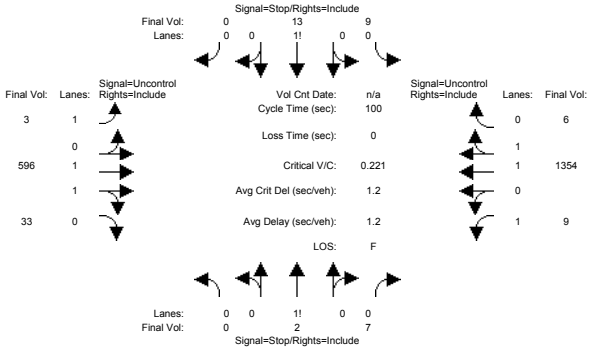
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 Bliss Rd / Sandy Mush Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:   46    0    44     0    0     0     0   36    21    52   43     0
------------||---------------||---------------||---------------||---------------|
Major Street Volume:             152
Minor Approach Volume:           90
Minor Approach Volume Threshold: 722
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #4: Hemlock Rd/SR 152




```
Street Name:             Hemlock Rd                          SR 152
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    2     7     9   13     0     3  596    33     9 1354     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    2     7     9   13     0     3  596    33     9 1354     6
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    2     7     9   13     0     3  596    33     9 1354     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    2     7     9   13     0     3  596    33     9 1354     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    2     7     9   13     0     3  596    33     9 1354     6
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  6.5   6.9   7.5  6.5 xxxxx   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx  4.0   3.3   3.5  4.0 xxxxx   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx 1997   315  1680 2010 xxxxx  1360 xxxx xxxxx   629 xxxx xxxxx
Potent Cap.: xxxx   61   687    63   60 xxxxx   512 xxxx xxxxx   963 xxxx xxxxx
Move Cap.:   xxxx   60   687    60   59 xxxxx   512 xxxx xxxxx   963 xxxx xxxxx
Volume/Cap:  xxxx 0.03  0.01  0.15 0.22  xxxx  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  12.1 xxxx xxxxx   8.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx   207    59 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx   0.1   1.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx  23.2  97.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     C     F    *     *     *    *     *     *    *     *
ApproachDel:      23.2             97.7            xxxxxx           xxxxxx
ApproachLOS:         C                F                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Hemlock Rd/SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    0    2     7     9   13     0     3  596    33     9 1354     6
ApproachDel:      23.2             97.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2032]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=22]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2032]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Hemlock Rd/SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  1  0  0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    0    2     7     9   13     0     3  596    33     9 1354     6
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2001
Minor Approach Volume:           22
Minor Approach Volume Threshold: 46 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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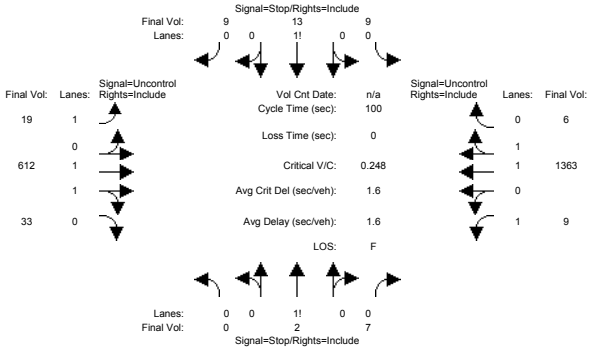
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #4: Hemlock Rd/SR 152




```
Street Name:             Hemlock Rd                          SR 152
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    2     7     9   13     0     3  596    33     9 1354     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    2     7     9   13     0     3  596    33     9 1354     6
Added Vol:      0    0     0     0    0     9    16   16     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    2     7     9   13     9    19  612    33     9 1363     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    2     7     9   13     9    19  612    33     9 1363     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    2     7     9   13     9    19  612    33     9 1363     6
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx 2054   323  1729 2067   685  1369 xxxx xxxxx   645 xxxx xxxxx
Potent Cap.: xxxx   56   679    58   55   396   508 xxxx xxxxx   950 xxxx xxxxx
Move Cap.:   xxxx   53   679    54   52   396   508 xxxx xxxxx   950 xxxx xxxxx
Volume/Cap:  xxxx 0.04  0.01  0.17 0.25  0.02  0.04 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  12.4 xxxx xxxxx   8.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx   189  xxxx   71 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx   0.1 xxxxx  1.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx  25.0 xxxxx 90.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     D     *    F     *     *    *     *     *    *     *
ApproachDel:      25.0             90.7            xxxxxx           xxxxxx
ApproachLOS:         D                F                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Hemlock Rd/SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    0    2     7     9   13     9    19  612    33     9 1363     6
ApproachDel:      25.0             90.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2082]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2082]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

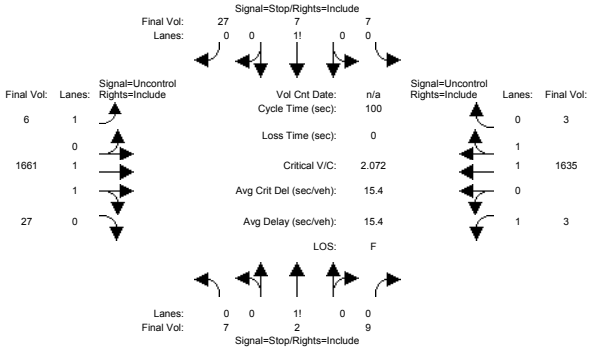
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Hemlock Rd/SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    0    2     7     9   13     9    19  612    33     9 1363     6
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2042
Minor Approach Volume:           31
Minor Approach Volume Threshold: 39 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #4: Hemlock Rd/SR 152




```
Street Name:            Hemlock Rd                          SR 152
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7    2     9     7    7    27     6 1661    27     3 1635     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7    2     9     7    7    27     6 1661    27     3 1635     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7    2     9     7    7    27     6 1661    27     3 1635     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7    2     9     7    7    27     6 1661    27     3 1635     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7    2     9     7    7    27     6 1661    27     3 1635     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2514 3331   844  2486 3343   819  1638 xxxx xxxxx  1688 xxxx xxxxx
Potent Cap.:   15    8   311    15    8   323   401 xxxx xxxxx   384 xxxx xxxxx
Move Cap.:      3    8   311    12    8   323   401 xxxx xxxxx   384 xxxx xxxxx
Volume/Cap:  2.07 0.25  0.03  0.59 0.87  0.08  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.1 xxxx xxxxx  14.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx    8 xxxxx  xxxx   27 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.3 xxxxx xxxxx  4.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 1544 xxxxx xxxxx  594 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     *    *     *     *    *     *
ApproachDel:    1543.6            594.0           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Hemlock Rd/SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    7    2     9     7    7    27     6 1661    27     3 1635     3
ApproachDel:    1543.6            594.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=7.7]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3394]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=6.8]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=41]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3394]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

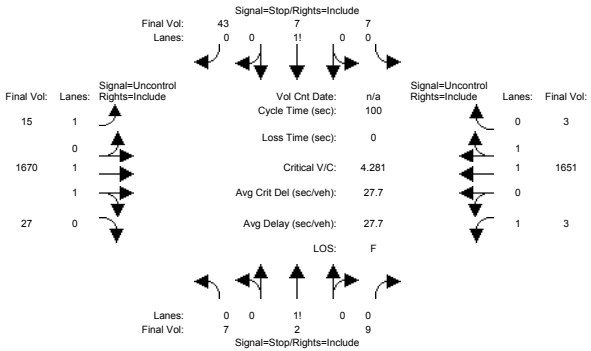
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Hemlock Rd/SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    7    2     9     7    7    27     6 1661    27     3 1635     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3335
Minor Approach Volume:           41
Minor Approach Volume Threshold: -130 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #4: Hemlock Rd/SR 152




```
Street Name:            Hemlock Rd                          SR 152
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7    2     9     7    7    27     6 1661    27     3 1635     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7    2     9     7    7    27     6 1661    27     3 1635     3
Added Vol:      0    0     0     0    0    16     9    9     0     0   16     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7    2     9     7    7    43    15 1670    27     3 1651     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7    2     9     7    7    43    15 1670    27     3 1651     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7    2     9     7    7    43    15 1670    27     3 1651     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2549 3374   849  2525 3386   827  1654 xxxx xxxxx  1697 xxxx xxxxx
Potent Cap.:   14    8   309    14    8   319   395 xxxx xxxxx   381 xxxx xxxxx
Move Cap.:      2    7   309    11    7   319   395 xxxx xxxxx   381 xxxx xxxxx
Volume/Cap:  4.28 0.27  0.03  0.65 0.96  0.13  0.04 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.5 xxxx xxxxx  14.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx    4 xxxxx  xxxx   33 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.6 xxxxx xxxxx  6.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 3318 xxxxx xxxxx  622 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     *    *     *     *    *     *
ApproachDel:    3318.1            621.6           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Hemlock Rd/SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    7    2     9     7    7    43    15 1670    27     3 1651     3
ApproachDel:    3318.1            621.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=16.6]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3444]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=9.8]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=57]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3444]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

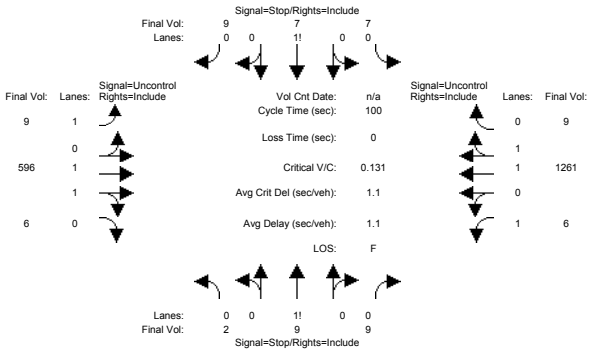
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Hemlock Rd/SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    7    2     9     7    7    43    15 1670    27     3 1651     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3369
Minor Approach Volume:           57
Minor Approach Volume Threshold: -134 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #5: Road 13/ SR 152




```
Street Name:              Road 13                          SR 152
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    9     9     7    7     9     9  596     6     6 1261     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    9     9     7    7     9     9  596     6     6 1261     9
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    9     9     7    7     9     9  596     6     6 1261     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    9     9     7    7     9     9  596     6     6 1261     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    9     9     7    7     9     9  596     6     6 1261     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1263 1899   301  1598 1898   635  1270 xxxx xxxxx   602 xxxx xxxxx
Potent Cap.:  129   70   701    73   70   426   554 xxxx xxxxx   985 xxxx xxxxx
Move Cap.:    114   69   701    63   69   426   554 xxxx xxxxx   985 xxxx xxxxx
Volume/Cap:  0.02 0.13  0.01  0.11 0.10  0.02  0.02 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.6 xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  124 xxxxx  xxxx   98 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  0.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 39.6 xxxxx xxxxx 52.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *     *    F     *     *    *     *     *    *     *
ApproachDel:      39.6             52.3            xxxxxx           xxxxxx
ApproachLOS:         E                F                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Road 13/ SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    9     9     7    7     9     9  596     6     6 1261     9
ApproachDel:      39.6             52.3            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=20]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1930]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1930]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

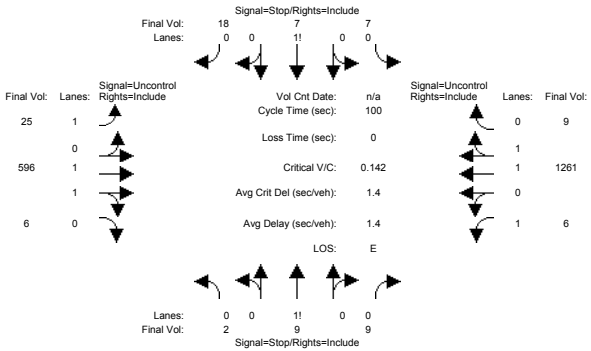
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Road 13/ SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    9     9     7    7     9     9  596     6     6 1261     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1887
Minor Approach Volume:           23
Minor Approach Volume Threshold: 66 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #5: Road 13/ SR 152




```
Street Name:              Road 13                          SR 152
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    9     9     7    7     9     9  596     6     6 1261     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    9     9     7    7     9     9  596     6     6 1261     9
Added Vol:      0    0     0     0    0     9    16    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    9     9     7    7    18    25  596     6     6 1261     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    9     9     7    7    18    25  596     6     6 1261     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    9     9     7    7    18    25  596     6     6 1261     9
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1295 1931   301  1630 1930   635  1270 xxxx xxxxx   602 xxxx xxxxx
Potent Cap.:  122   67   701    69   67   426   554 xxxx xxxxx   985 xxxx xxxxx
Move Cap.:    103   64   701    58   64   426   554 xxxx xxxxx   985 xxxx xxxxx
Volume/Cap:  0.02 0.14  0.01  0.12 0.11  0.04  0.05 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.8 xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  115 xxxxx  xxxx  117 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  1.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 42.8 xxxxx xxxxx 46.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *     *    E     *     *    *     *     *    *     *
ApproachDel:      42.8             46.8           xxxxxx           xxxxxx
ApproachLOS:         E                E                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Road 13/ SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    9     9     7    7    18    25  596     6     6 1261     9
ApproachDel:      42.8             46.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=20]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1955]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1955]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

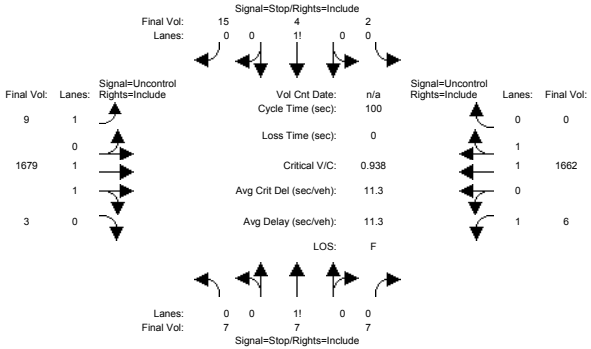
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Road 13/ SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    9     9     7    7    18    25  596     6     6 1261     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1903
Minor Approach Volume:           32
Minor Approach Volume Threshold: 63 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #5: Road 13/ SR 152




```
Street Name:              Road 13                          SR 152
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7    7     7     2    4    15     9 1679     3     6 1662     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7    7     7     2    4    15     9 1679     3     6 1662     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7    7     7     2    4    15     9 1679     3     6 1662     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7    7     7     2    4    15     9 1679     3     6 1662     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7    7     7     2    4    15     9 1679     3     6 1662     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2544 3373   841  2535 3374   831  1662 xxxx xxxxx  1682 xxxx xxxxx
Potent Cap.:   14    8   312    14    8   317   393 xxxx xxxxx   386 xxxx xxxxx
Move Cap.:      7    8   312     2    8   317   393 xxxx xxxxx   386 xxxx xxxxx
Volume/Cap:  0.94 0.93  0.02  0.81 0.53  0.05  0.02 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.4 xxxx xxxxx  14.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   11 xxxxx  xxxx   15 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.5 xxxxx xxxxx  3.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 1091 xxxxx xxxxx  729 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     *    *     *     *    *     *
ApproachDel:    1090.8            729.4           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Road 13/ SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    7    7     7     2    4    15     9 1679     3     6 1662     0
ApproachDel:    1090.8            729.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=6.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=21]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3401]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=21]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3401]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Road 13/ SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    7    7     7     2    4    15     9 1679     3     6 1662     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3359
Minor Approach Volume:           21
Minor Approach Volume Threshold: -133 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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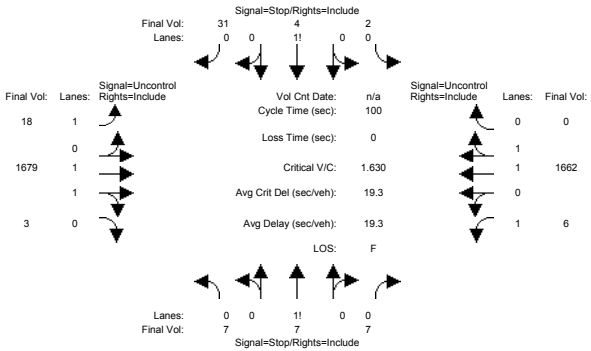
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #5: Road 13/ SR 152




```
Street Name:              Road 13                          SR 152
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7    7     7     2    4    15     9 1679     3     6 1662     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7    7     7     2    4    15     9 1679     3     6 1662     0
Added Vol:      0    0     0     0    0    16     9    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7    7     7     2    4    31    18 1679     3     6 1662     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7    7     7     2    4    31    18 1679     3     6 1662     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7    7     7     2    4    31    18 1679     3     6 1662     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2562 3391   841  2553 3392   831  1662 xxxx xxxxx  1682 xxxx xxxxx
Potent Cap.:   13    8   312    14    8   317   393 xxxx xxxxx   386 xxxx xxxxx
Move Cap.:      6    7   312     1    7   317   393 xxxx xxxxx   386 xxxx xxxxx
Volume/Cap:  1.08 0.98  0.02  1.63 0.56  0.10  0.05 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.6 xxxx xxxxx  14.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   10 xxxxx  xxxx   16 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.6 xxxxx xxxxx  5.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 1234 xxxxx xxxxx 1077 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     *    *     *     *    *     *
ApproachDel:    1234.1           1077.2           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Road 13/ SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    7    7     7     2    4    31    18 1679     3     6 1662     0
ApproachDel:    1234.1           1077.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=7.2]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=21]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3426]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=11.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=37]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3426]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

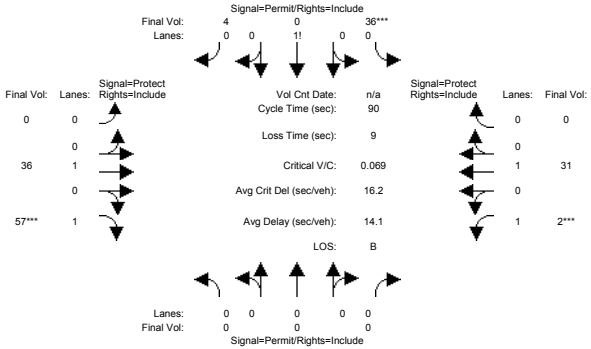
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Road 13/ SR 152
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    7    7     7     2    4    31    18 1679     3     6 1662     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3368
Minor Approach Volume:           37
Minor Approach Volume Threshold: -134 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #6: SR-99 SB Ramps/Sandy Mush Rd



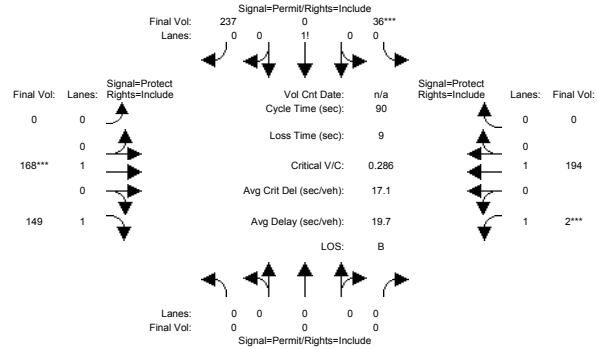
Street Name:	SR-99 SB Ramps									Sandy Mush Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	36	0	4	0	36	57	2	31	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	36	0	4	0	36	57	2	31	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	36	0	4	0	36	57	2	31	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	36	0	4	0	36	57	2	31	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	36	0	4	0	36	57	2	31	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	36	0	4	0	36	57	2	31	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.81	1.00	0.81	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.90	0.00	0.10	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	1392	0	155	0	1900	1615	1805	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.02	0.04	0.00	0.02	0.00
Crit Moves:				****					****	****		
Green/Cycle:	0.00	0.00	0.00	0.35	0.00	0.35	0.00	0.47	0.47	0.08	0.55	0.00
Volume/Cap:	0.00	0.00	0.00	0.07	0.00	0.07	0.00	0.04	0.07	0.01	0.03	0.00
Delay/Veh:	0.0	0.0	0.0	19.7	0.0	19.7	0.0	12.7	12.9	38.4	9.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	19.7	0.0	19.7	0.0	12.7	12.9	38.4	9.2	0.0
LOS by Move:	A	A	A	B	A	B	A	B	B	D	A	A
HCM2kAvgQ:	0	0	0	1	0	1	0	1	1	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #6: SR-99 SB Ramps/Sandy Mush Rd



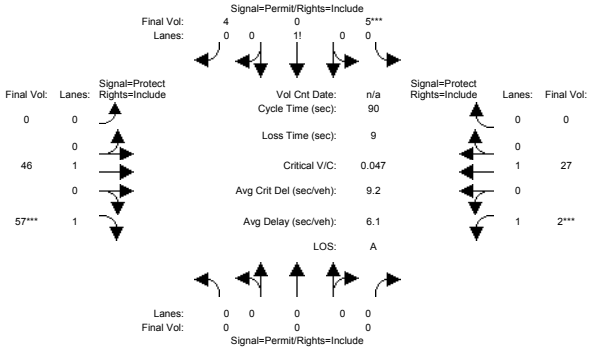
Street Name:	SR-99 SB Ramps									Sandy Mush Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	36	0	4	0	36	57	2	31	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	36	0	4	0	36	57	2	31	0
Added Vol:	0	0	0	0	0	233	0	132	92	0	163	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	36	0	237	0	168	149	2	194	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	36	0	237	0	168	149	2	194	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	36	0	237	0	168	149	2	194	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	36	0	237	0	168	149	2	194	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.86	1.00	0.86	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.13	0.00	0.87	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	214	0	1411	0	1900	1615	1805	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.17	0.00	0.17	0.00	0.09	0.09	0.00	0.10	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.54	0.00	0.54	0.00	0.28	0.28	0.08	0.36	0.00
Volume/Cap:	0.00	0.00	0.00	0.31	0.00	0.31	0.00	0.31	0.33	0.01	0.28	0.00
Delay/Veh:	0.0	0.0	0.0	11.7	0.0	11.7	0.0	25.7	25.9	38.4	20.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	11.7	0.0	11.7	0.0	25.7	25.9	38.4	20.7	0.0
LOS by Move:	A	A	A	B	A	B	A	C	C	D	C	A
HCM2kAvgQ:	0	0	0	4	0	4	0	4	3	0	4	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #6: SR-99 SB Ramps/Sandy Mush Rd



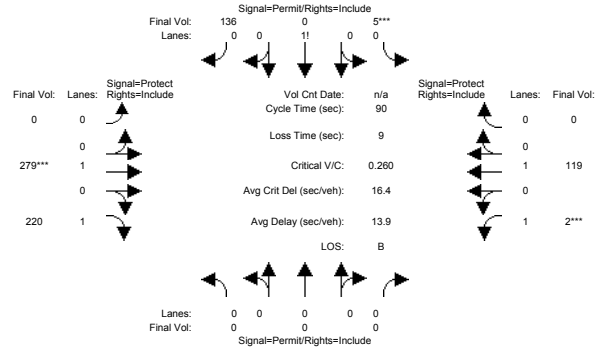
Street Name:	SR-99 SB Ramps									Sandy Mush Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	5	0	4	0	46	57	2	27	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	4	0	46	57	2	27	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	5	0	4	0	46	57	2	27	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	5	0	4	0	46	57	2	27	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	5	0	4	0	46	57	2	27	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	5	0	4	0	46	57	2	27	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.84	1.00	0.84	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.56	0.00	0.44	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	888	0	710	0	1900	1615	1805	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.04	0.00	0.01	0.00
Crit Moves:				****					****	****		
Green/Cycle:	0.00	0.00	0.00	0.11	0.00	0.11	0.00	0.71	0.71	0.08	0.79	0.00
Volume/Cap:	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.03	0.05	0.01	0.02	0.00
Delay/Veh:	0.0	0.0	0.0	35.7	0.0	35.7	0.0	3.9	4.0	38.4	2.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	35.7	0.0	35.7	0.0	3.9	4.0	38.4	2.1	0.0
LOS by Move:	A	A	A	D	A	D	A	A	A	D	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #6: SR-99 SB Ramps/Sandy Mush Rd



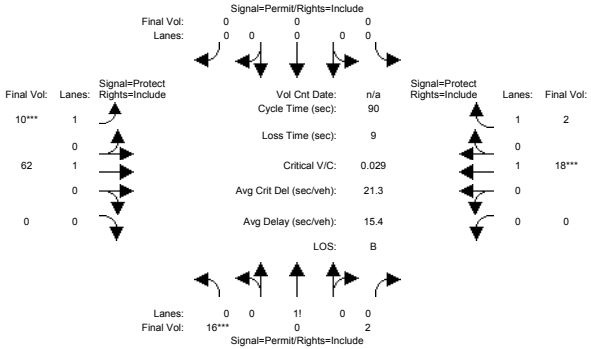
Street Name:	SR-99 SB Ramps									Sandy Mush Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	5	0	4	0	46	57	2	27	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	4	0	46	57	2	27	0
Added Vol:	0	0	0	0	0	132	0	233	163	0	92	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	5	0	136	0	279	220	2	119	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	5	0	136	0	279	220	2	119	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	5	0	136	0	279	220	2	119	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	5	0	136	0	279	220	2	119	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.87	1.00	0.87	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.04	0.00	0.96	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	58	0	1586	0	1900	1615	1805	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.09	0.00	0.09	0.00	0.15	0.14	0.00	0.06	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.30	0.00	0.30	0.00	0.52	0.52	0.08	0.60	0.00
Volume/Cap:	0.00	0.00	0.00	0.28	0.00	0.28	0.00	0.28	0.26	0.01	0.10	0.00
Delay/Veh:	0.0	0.0	0.0	24.2	0.0	24.2	0.0	12.4	12.2	38.4	7.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	24.2	0.0	24.2	0.0	12.4	12.2	38.4	7.8	0.0
LOS by Move:	A	A	A	C	A	C	A	B	B	D	A	A
HCM2kAvgQ:	0	0	0	3	0	3	0	4	3	0	1	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #7: SR-99 NB Ramps/Sandy Mush Rd



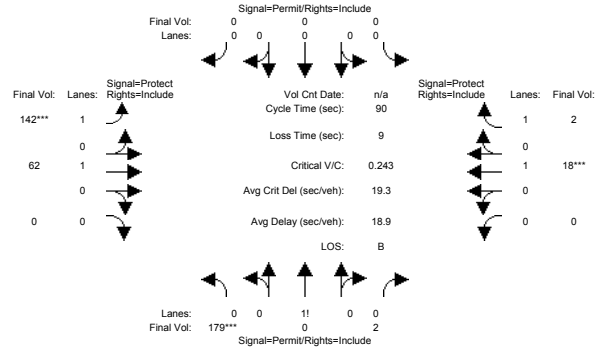
Street Name:	SR-99 NB Ramps												Sandy Mush Rd											
Approach:	North Bound				South Bound				East Bound				West Bound											
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	0		0		0	7		10		0	0		10		10					
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0					
Volume Module:																									
Base Vol:	16		0		2	0		0		0	10		62		0	0		18		2					
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
Initial Bse:	16		0		2	0		0		0	10		62		0	0		18		2					
Added Vol:	0		0		0	0		0		0	0		0		0	0		0		0					
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0					
Initial Fut:	16		0		2	0		0		0	10		62		0	0		18		2					
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Volume:	16		0		2	0		0		0	10		62		0	0		18		2					
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0					
Reduced Vol:	16		0		2	0		0		0	10		62		0	0		18		2					
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
FinalVolume:	16		0		2	0		0		0	10		62		0	0		18		2					
Saturation Flow Module:																									
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900					
Adjustment:	0.86		1.00		0.86	1.00		1.00		1.00	0.95		1.00		1.00	1.00		1.00		0.85					
Lanes:	0.89		0.00		0.11	0.00		0.00		0.00	1.00		1.00		0.00	0.00		1.00		1.00					
Final Sat.:	1451		0		181	0		0		0	1805		1900		0	0		1900		1615					
Capacity Analysis Module:																									
Vol/Sat:	0.01		0.00		0.01	0.00		0.00		0.00	0.01		0.03		0.00	0.00		0.01		0.00					
Crit Moves:	****										****							****							
Green/Cycle:	0.38		0.00		0.38	0.00		0.00		0.00	0.19		0.52		0.00	0.00		0.33		0.33					
Volume/Cap:	0.03		0.00		0.03	0.00		0.00		0.00	0.03		0.06		0.00	0.00		0.03		0.00					
Delay/Veh:	17.4		0.0		17.4	0.0		0.0		0.0	29.6		10.8		0.0	0.0		20.6		20.4					
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
AdjDel/Veh:	17.4		0.0		17.4	0.0		0.0		0.0	29.6		10.8		0.0	0.0		20.6		20.4					
LOS by Move:	B		A		B	A		A		A	C		B		A	A		C		C					
HCM2kAvgQ:	0		0		0	0		0		0	0		1		0	0		0		0					

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #7: SR-99 NB Ramps/Sandy Mush Rd



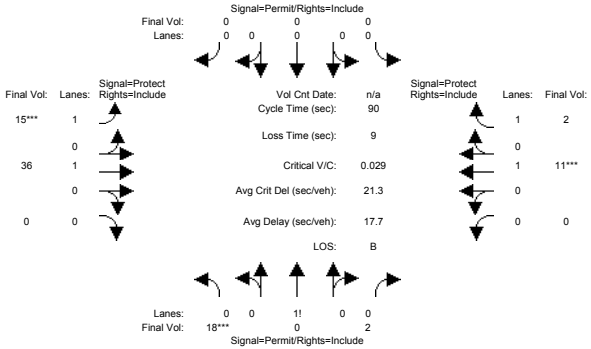
Street Name:	SR-99 NB Ramps												Sandy Mush Rd											
Approach:	North Bound				South Bound				East Bound				West Bound											
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		10		10	0		0		0	7		10		0	0		10		10					
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0					
Volume Module:																									
Base Vol:	16		0		2	0		0		0	10		62		0	0		18		2					
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
Initial Bse:	16		0		2	0		0		0	10		62		0	0		18		2					
Added Vol:	163		0		0	0		0		0	132		0		0	0		0		0					
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0					
Initial Fut:	179		0		2	0		0		0	142		62		0	0		18		2					
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
PHF Volume:	179		0		2	0		0		0	142		62		0	0		18		2					
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0					
Reduced Vol:	179		0		2	0		0		0	142		62		0	0		18		2					
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
FinalVolume:	179		0		2	0		0		0	142		62		0	0		18		2					
Saturation Flow Module:																									
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900					
Adjustment:	0.73		1.00		0.73	1.00		1.00		1.00	0.95		1.00		1.00	1.00		1.00		0.85					
Lanes:	0.99		0.00		0.01	0.00		0.00		0.00	1.00		1.00		0.00	0.00		1.00		1.00					
Final Sat.:	1367		0		15	0		0		0	1805		1900		0	0		1900		1615					
Capacity Analysis Module:																									
Vol/Sat:	0.13		0.00		0.13	0.00		0.00		0.00	0.08		0.03		0.00	0.00		0.01		0.00					
Crit Moves:	****										****							****							
Green/Cycle:	0.49		0.00		0.49	0.00		0.00		0.00	0.30		0.41		0.00	0.00		0.11		0.11					
Volume/Cap:	0.27		0.00		0.27	0.00		0.00		0.00	0.27		0.08		0.00	0.00		0.09		0.01					
Delay/Veh:	13.5		0.0		13.5	0.0		0.0		0.0	24.5		16.4		0.0	0.0		36.1		35.6					
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00					
AdjDel/Veh:	13.5		0.0		13.5	0.0		0.0		0.0	24.5		16.4		0.0	0.0		36.1		35.6					
LOS by Move:	B		A		B	A		A		A	C		B		A	A		D		D					
HCM2kAvgQ:	3		0		3	0		0		0	3		1		0	0		0		0					

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #7: SR-99 NB Ramps/Sandy Mush Rd



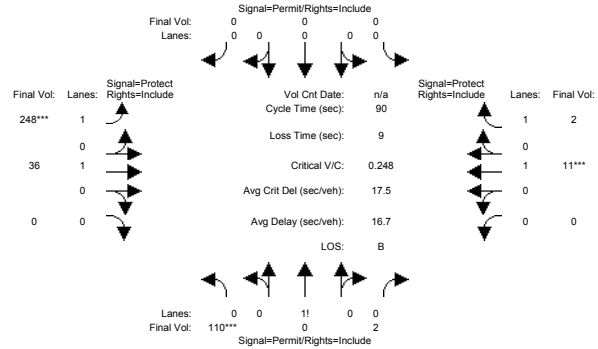
Street Name:	SR-99 NB Ramps									Sandy Mush Rd								
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10	10	10			0	0	0			7	10	0			0	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	18	0	2			0	0	0			15	36	0			0	11	2		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	18	0	2			0	0	0			15	36	0			0	11	2		
Added Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	18	0	2			0	0	0			15	36	0			0	11	2		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	18	0	2			0	0	0			15	36	0			0	11	2		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	18	0	2			0	0	0			15	36	0			0	11	2		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	18	0	2			0	0	0			15	36	0			0	11	2		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.86	1.00	0.86			1.00	1.00	1.00			0.95	1.00	1.00			1.00	1.00	0.85		
Lanes:	0.90	0.00	0.10			0.00	0.00	0.00			1.00	1.00	0.00			0.00	1.00	1.00		
Final Sat.:	1463	0	163			0	0	0			1805	1900	0			0	1900	1615		
Capacity Analysis Module:																				
Vol/Sat:	0.01	0.00	0.01			0.00	0.00	0.00			0.01	0.02	0.00			0.00	0.01	0.00		
Crit Moves:	****										****						****			
Green/Cycle:	0.42	0.00	0.42			0.00	0.00	0.00			0.28	0.48	0.00			0.00	0.20	0.20		
Volume/Cap:	0.03	0.00	0.03			0.00	0.00	0.00			0.03	0.04	0.00			0.00	0.03	0.01		
Delay/Veh:	15.4	0.0	15.4			0.0	0.0	0.0			23.3	12.4	0.0			0.0	29.2	29.0		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	15.4	0.0	15.4			0.0	0.0	0.0			23.3	12.4	0.0			0.0	29.2	29.0		
LOS by Move:	B	A	B			A	A	A			C	B	A			A	C	C		
HCM2kAvgQ:	0	0	0			0	0	0			0	1	0			0	0	0		

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #7: SR-99 NB Ramps/Sandy Mush Rd



Street Name:	SR-99 NB Ramps									Sandy Mush Rd								
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10	10	10			0	0	0			7	10	0			0	10	10		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Volume Module:																				
Base Vol:	18	0	2			0	0	0			15	36	0			0	11	2		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	18	0	2			0	0	0			15	36	0			0	11	2		
Added Vol:	92	0	0			0	0	0			233	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	110	0	2			0	0	0			248	36	0			0	11	2		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	110	0	2			0	0	0			248	36	0			0	11	2		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	110	0	2			0	0	0			248	36	0			0	11	2		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	110	0	2			0	0	0			248	36	0			0	11	2		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.74	1.00	0.74			1.00	1.00	1.00			0.95	1.00	1.00			1.00	1.00	0.85		
Lanes:	0.98	0.00	0.02			0.00	0.00	0.00			1.00	1.00	0.00			0.00	1.00	1.00		
Final Sat.:	1376	0	25			0	0	0			1805	1900	0			0	1900	1615		
Capacity Analysis Module:																				
Vol/Sat:	0.08	0.00	0.08			0.00	0.00	0.00			0.14	0.02	0.00			0.00	0.01	0.00		
Crit Moves:	****										****						****			
Green/Cycle:	0.29	0.00	0.29			0.00	0.00	0.00			0.50	0.61	0.00			0.00	0.11	0.11		
Volume/Cap:	0.28	0.00	0.28			0.00	0.00	0.00			0.28	0.03	0.00			0.00	0.05	0.01		
Delay/Veh:	25.0	0.0	25.0			0.0	0.0	0.0			13.3	7.0	0.0			0.0	35.9	35.6		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	25.0	0.0	25.0			0.0	0.0	0.0			13.3	7.0	0.0			0.0	35.9	35.6		
LOS by Move:	C	A	C			A	A	A			B	A	A			A	D	D		
HCM2kAvgQ:	3	0	3			0	0	0			4	0	0			0	0	0		

Note: Queue reported is the number of cars per lane.

HEAVY MANTENANCE FACILITY ANALYSIS – HARRIS DEJAGER

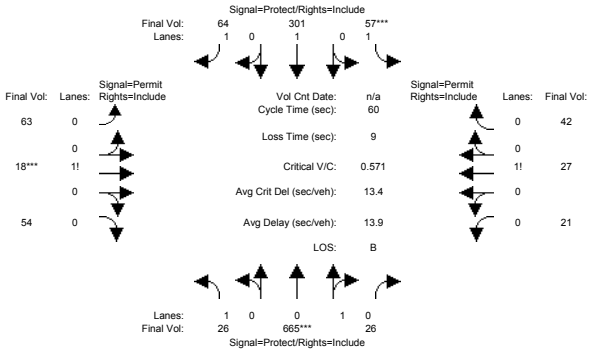
2035 WITH MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #1: SR-59 / Sandy Mush Rd



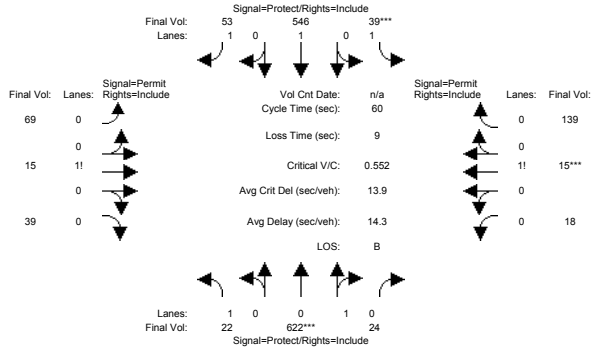
Street Name:	SR-59						Sandy Mush Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	26	665	26	20	301	64	63	18	54	21	27	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	665	26	20	301	64	63	18	54	21	27	21
Added Vol:	0	0	0	37	0	0	0	0	0	0	0	21
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	665	26	57	301	64	63	18	54	21	27	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	665	26	57	301	64	63	18	54	21	27	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	665	26	57	301	64	63	18	54	21	27	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	665	26	57	301	64	63	18	54	21	27	42
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.99	0.99	0.95	1.00	0.85	0.81	0.81	0.81	0.87	0.87	0.87
Lanes:	1.00	0.96	0.04	1.00	1.00	1.00	0.47	0.13	0.40	0.23	0.30	0.47
Final Sat.:	1805	1818	71	1805	1900	1615	714	204	612	388	498	775
Capacity Analysis Module:												
Vol/Sat:	0.01	0.37	0.37	0.03	0.16	0.04	0.09	0.09	0.09	0.05	0.05	0.05
Crit Moves:		****		****				****				
Green/Cycle:	0.28	0.57	0.57	0.12	0.40	0.40	0.17	0.17	0.17	0.17	0.17	0.17
Volume/Cap:	0.05	0.65	0.65	0.27	0.39	0.10	0.53	0.53	0.53	0.33	0.33	0.33
Delay/Veh:	15.8	10.3	10.3	24.9	13.1	11.2	25.0	25.0	25.0	22.7	22.7	22.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.8	10.3	10.3	24.9	13.1	11.2	25.0	25.0	25.0	22.7	22.7	22.7
LOS by Move:	B	B	B	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	0	10	10	1	4	1	3	3	3	2	2	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 3 - HARRIS DEJAGER_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #1: SR-59 / Sandy Mush Rd



Street Name:	SR-59						Sandy Mush Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	22	622	24	18	546	53	69	15	39	18	15	102
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	622	24	18	546	53	69	15	39	18	15	102
Added Vol:	0	0	0	21	0	0	0	0	0	0	0	37
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	622	24	39	546	53	69	15	39	18	15	139
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	622	24	39	546	53	69	15	39	18	15	139
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	622	24	39	546	53	69	15	39	18	15	139
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	622	24	39	546	53	69	15	39	18	15	139
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.99	0.99	0.95	1.00	0.85	0.63	0.63	0.63	0.86	0.86	0.86
Lanes:	1.00	0.96	0.04	1.00	1.00	1.00	0.56	0.12	0.32	0.10	0.09	0.81
Final Sat.:	1805	1818	70	1805	1900	1615	668	145	378	171	142	1319
Capacity Analysis Module:												
Vol/Sat:	0.01	0.34	0.34	0.02	0.29	0.03	0.10	0.10	0.10	0.11	0.11	0.11
Crit Moves:		****		****							****	
Green/Cycle:	0.20	0.56	0.56	0.12	0.48	0.48	0.17	0.17	0.17	0.17	0.17	0.17
Volume/Cap:	0.06	0.61	0.61	0.19	0.60	0.07	0.60	0.60	0.60	0.61	0.61	0.61
Delay/Veh:	19.7	9.9	9.9	24.4	12.4	8.4	27.7	27.7	27.7	26.8	26.8	26.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.7	9.9	9.9	24.4	12.4	8.4	27.7	27.7	27.7	26.8	26.8	26.8
LOS by Move:	B	A	A	C	B	A	C	C	C	C	C	C
HCM2kAvgQ:	0	9	9	1	8	1	3	3	3	4	4	4

Note: Queue reported is the number of cars per lane.

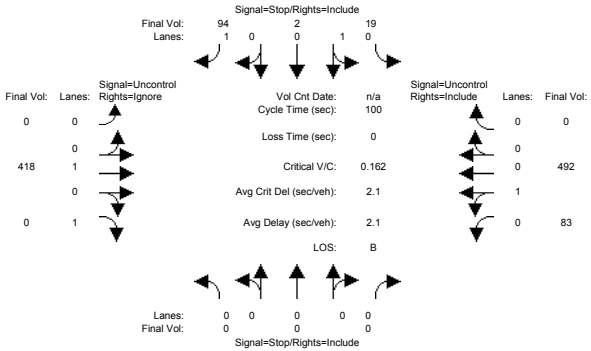
HEAVY MANTENANCE FACILITY ANALYSIS – KOJIMA DEVELOPMENT

EXISTING CONDITIONS – LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1: SR-99 SB Ramps / Robertson Blvd

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Street Name:          SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    19    2    94     0  418   286    83  492     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    19    2    94     0  418   286    83  492     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    19    2    94     0  418   286    83  492     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Volume:     0    0     0    19    2    94     0  418     0    83  492     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    19    2    94     0  418     0    83  492     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1076 1076   492  xxxx xxxx xxxxx   418 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   245  221   581  xxxx xxxx xxxxx  1152 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   231  204   581  xxxx xxxx xxxxx  1152 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.08 0.01  0.16  xxxx xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.6  xxxx xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  12.4 xxxxx xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   228 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.3 xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  22.4 xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx
Shared LOS:     *    *     *     C     *     *     *    *     *     A     *     *
ApproachDel:    xxxxxx             14.2           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



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------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0    19    2    94     0  418   286    83  492     0
ApproachDel:    xxxxxx              14.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=115]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1394]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

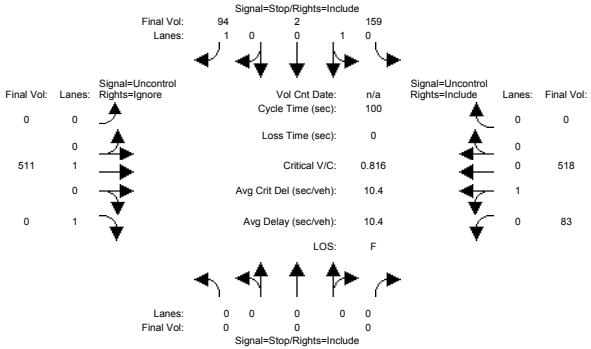
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0    19    2    94     0  418   286    83  492     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1279
Minor Approach Volume:           115
Minor Approach Volume Threshold: 268
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #1: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    19    2    94     0  418   286    83  492     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    19    2    94     0  418   286    83  492     0
Added Vol:      0    0     0   140    0     0     0   93     0     0   26     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   159    2    94     0  511   286    83  518     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Volume:     0    0     0   159    2    94     0  511     0    83  518     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   159    2    94     0  511     0    83  518     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1195 1195   518  xxxx xxxx xxxxx   511 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   208  188   562  xxxx xxxx xxxxx  1065 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   195  173   562  xxxx xxxx xxxxx  1065 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.82 0.01  0.17  xxxx xxxx  xxxx  0.08 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.6  xxxx xxxx xxxxx   0.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  12.7 xxxxx xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   195 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   6.0 xxxx xxxxx xxxxx xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  76.4 xxxx xxxxx xxxxx xxxx xxxxx   8.7 xxxx xxxxx
Shared LOS:     *    *     *     F    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx             52.9           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0   159    2    94     0  511   286    83  518     0
ApproachDel:    xxxxxx             52.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=255]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1653]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

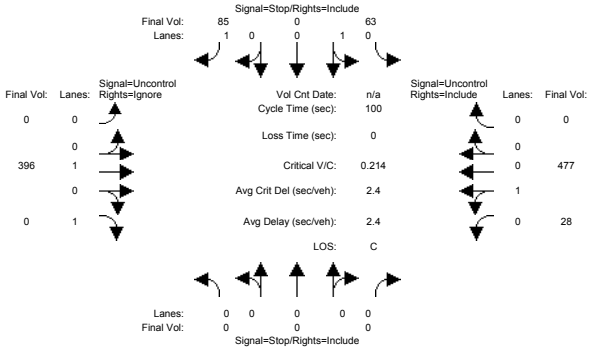
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0   159    2    94     0  511   286    83  518     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1398
Minor Approach Volume:           255
Minor Approach Volume Threshold: 230
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    63    0    85     0  396   198    28  477     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    63    0    85     0  396   198    28  477     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    63    0    85     0  396   198    28  477     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Volume:     0    0     0    63    0    85     0  396     0    28  477     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    63    0    85     0  396     0    28  477     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   929  929   477  xxxx xxxx xxxxx   396 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   300  270   592  xxxx xxxx xxxxx  1174 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   294  263   592  xxxx xxxx xxxxx  1174 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.21 0.00  0.14  xxxx xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.5  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  12.1 xxxxx xxxx xxxxx   8.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   294 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.8 xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  20.6 xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx
Shared LOS:     *    *     *     C    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx             15.7           xxxxxx           xxxxxx
ApproachLOS:         *                C                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0    63    0    85     0  396   198    28  477     0
ApproachDel:    xxxxxx             15.7           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=148]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1247]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

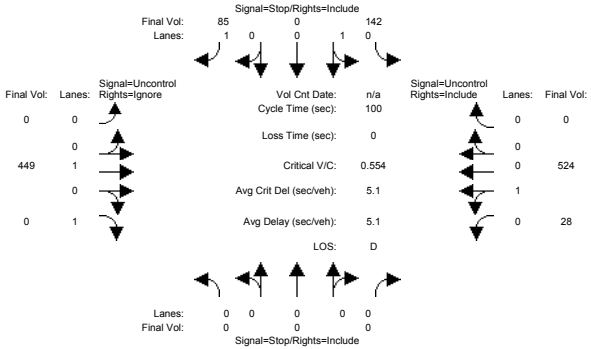
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0    63    0    85     0  396   198    28  477     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1099
Minor Approach Volume:           148
Minor Approach Volume Threshold: 333
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #1: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    63    0   85     0  396  198    28  477     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    63    0   85     0  396  198    28  477     0
Added Vol:      0    0     0    79    0    0     0   53    0     0   47     0
PasserByVol:    0    0     0     0    0    0     0    0    0     0    0     0
Initial Fut:    0    0     0   142    0   85     0  449  198    28  524     0
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 0.00  1.00 1.00  1.00
PHF Volume:     0    0     0   142    0   85     0  449    0    28  524     0
Reduct Vol:     0    0     0     0    0    0     0    0    0     0    0     0
FinalVolume:    0    0     0   142    0   85     0  449    0    28  524     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1029 1029   524  xxxx xxxx xxxxx   449 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   261  236   557  xxxx xxxx xxxxx  1122 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   256  230   557  xxxx xxxx xxxxx  1122 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.55 0.00  0.15  xxxx xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.5  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  12.6 xxxxx xxxx xxxxx   8.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   256 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   3.1 xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  35.2 xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx
Shared LOS:     *    *     *     E    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx             26.8           xxxxxx           xxxxxx
ApproachLOS:         *                D                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0   142    0   85     0  449  198    28  524     0
ApproachDel:    xxxxxx             26.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=227]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1426]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

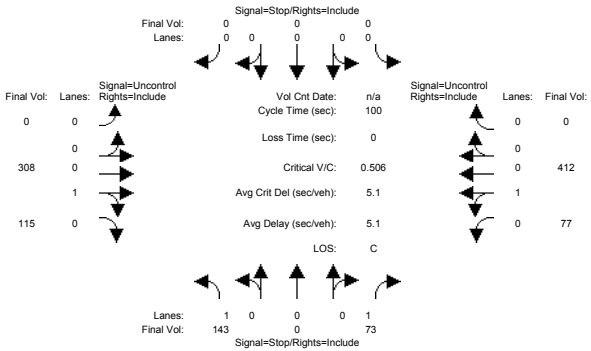
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0   142    0   85     0  449  198    28  524     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1199
Minor Approach Volume:           227
Minor Approach Volume Threshold: 296
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #2: SR-99 NB Ramps / Robertson-Ave 26




```
Street Name:          SR-99 NB Ramps                    Robertson Ave 26
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     143    0    73     0    0     0     0  308   115    77  412     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  143    0    73     0    0     0     0  308   115    77  412     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  143    0    73     0    0     0     0  308   115    77  412     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   143    0    73     0    0     0     0  308   115    77  412     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  143    0    73     0    0     0     0  308   115    77  412     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  932 xxxx   366  xxxx xxxx xxxxx  xxxx xxxx xxxxx   423 xxxx xxxxx
Potent Cap.:  299 xxxx   684  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1147 xxxx xxxxx
Move Cap.:    283 xxxx   684  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1147 xxxx xxxxx
Volume/Cap:  0.51 xxxx  0.11  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.7 xxxx   0.4  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx
Control Del: 30.1 xxxx  10.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    D    *     B     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     A    *     *
ApproachDel:      23.6           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         C                  *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  143    0    73     0    0     0     0  308   115    77  412     0
ApproachDel:      23.6           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=216]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1128]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

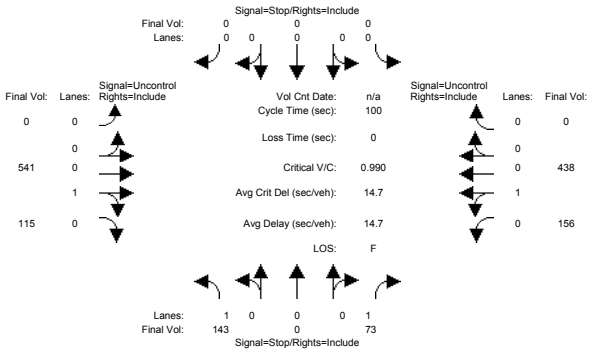
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  143    0    73     0    0     0     0  308   115    77  412     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             912
Minor Approach Volume:           216
Minor Approach Volume Threshold: 321
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #2: SR-99 NB Ramps / Robertson-Ave 26




```
Street Name:         SR-99 NB Ramps                    Robertson Ave 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     143    0    73     0    0     0     0  308   115    77  412     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  143    0    73     0    0     0     0  308   115    77  412     0
Added Vol:      0    0     0     0    0     0     0  233     0    79   26     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  143    0    73     0    0     0     0  541   115   156  438     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   143    0    73     0    0     0     0  541   115   156  438     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  143    0    73     0    0     0     0  541   115   156  438     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1349 xxxx   599  xxxx xxxx xxxxx  xxxx xxxx xxxxx   656 xxxx xxxxx
Potent Cap.:  168 xxxx   506  xxxx xxxx xxxxx  xxxx xxxx xxxxx   941 xxxx xxxxx
Move Cap.:    144 xxxx   506  xxxx xxxx xxxxx  xxxx xxxx xxxxx   941 xxxx xxxxx
Volume/Cap:  0.99 xxxx  0.14  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.17 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    7.2 xxxx   0.5  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx
Control Del:133.0 xxxx  13.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.6 xxxx xxxxx
LOS by Move:    F    *     B     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.6 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.6 xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     A    *     *
ApproachDel:      92.5           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  143    0    73     0    0     0     0  541   115   156  438     0
ApproachDel:      92.5           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.6]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=216]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1466]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

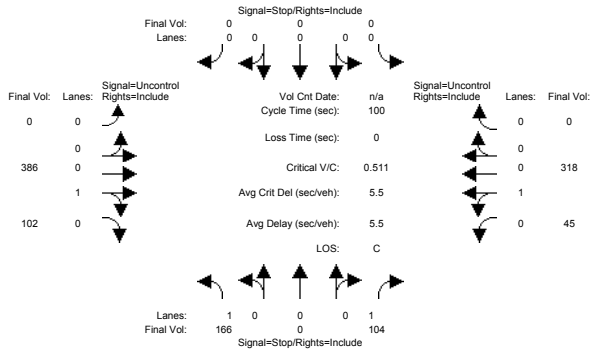
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  143    0    73     0    0     0     0  541   115   156  438     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1250
Minor Approach Volume:           216
Minor Approach Volume Threshold: 222
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #2: SR-99 NB Ramps / Robertson-Ave 26




```
Street Name:          SR-99 NB Ramps                    Robertson Ave 26
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     166    0   104     0    0     0     0  386   102    45  318     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  166    0   104     0    0     0     0  386   102    45  318     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  166    0   104     0    0     0     0  386   102    45  318     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   166    0   104     0    0     0     0  386   102    45  318     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  166    0   104     0    0     0     0  386   102    45  318     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  845 xxxx   437  xxxx xxxx xxxxx  xxxx xxxx xxxxx   488 xxxx xxxxx
Potent Cap.:  336 xxxx   624  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1086 xxxx xxxxx
Move Cap.:    325 xxxx   624  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1086 xxxx xxxxx
Volume/Cap:  0.51 xxxx  0.17  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.8 xxxx   0.6  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del: 27.1 xxxx  11.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    D    *     B     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     A    *     *
ApproachDel:      21.3           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  166    0   104     0    0     0     0  386   102    45  318     0
ApproachDel:      21.3           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=270]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1121]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

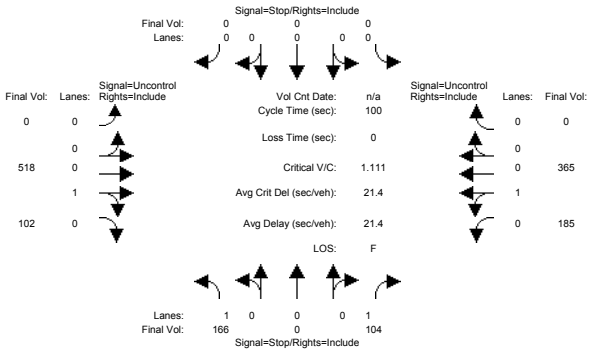
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  166    0   104     0    0     0     0  386   102    45  318     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             851
Minor Approach Volume:           270
Minor Approach Volume Threshold: 343
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #2: SR-99 NB Ramps / Robertson-Ave 26




```
Street Name:         SR-99 NB Ramps                    Robertson Ave 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     166    0   104     0    0     0     0  386   102    45  318     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  166    0   104     0    0     0     0  386   102    45  318     0
Added Vol:      0    0     0     0    0     0     0  132     0   140   47     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  166    0   104     0    0     0     0  518   102   185  365     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   166    0   104     0    0     0     0  518   102   185  365     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  166    0   104     0    0     0     0  518   102   185  365     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1304 xxxx   569  xxxx xxxx xxxxx  xxxx xxxx xxxxx   620 xxxx xxxxx
Potent Cap.:  179 xxxx   525  xxxx xxxx xxxxx  xxxx xxxx xxxxx   970 xxxx xxxxx
Move Cap.:    149 xxxx   525  xxxx xxxx xxxxx  xxxx xxxx xxxxx   970 xxxx xxxxx
Volume/Cap:  1.11 xxxx  0.20  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.19 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    9.0 xxxx   0.7  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.7 xxxx xxxxx
Control Del:166.6 xxxx  13.5 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.6 xxxx xxxxx
LOS by Move:    F    *     B     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.7 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.6 xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     A    *     *
ApproachDel:     107.6           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  166    0   104     0    0     0     0  518   102   185  365     0
ApproachDel:     107.6           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=8.1]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=270]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1440]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

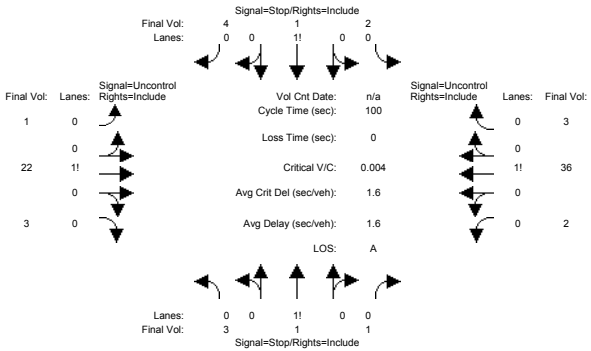
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  166    0   104     0    0     0     0  518   102   185  365     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1170
Minor Approach Volume:           270
Minor Approach Volume Threshold: 243
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #3: Road 19 / Avenue 26




```
Street Name:              Road 19                          Avenue 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3    1     1     2    1     4     1   22     3     2   36     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3    1     1     2    1     4     1   22     3     2   36     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    3    1     1     2    1     4     1   22     3     2   36     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3    1     1     2    1     4     1   22     3     2   36     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    3    1     1     2    1     4     1   22     3     2   36     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   70   69    24    68   69    38    39 xxxx xxxxx    25 xxxx xxxxx
Potent Cap.:  927  826  1059   930  826  1040  1584 xxxx xxxxx  1603 xxxx xxxxx
Move Cap.:    922  824  1059   926  824  1040  1584 xxxx xxxxx  1603 xxxx xxxxx
Volume/Cap:  0.00 0.00  0.00  0.00 0.00  0.00  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  924 xxxxx  xxxx  970 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.0 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  8.9 xxxxx xxxxx  8.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    A     *     *    A     *     *    *     *     *    *     *
ApproachDel:       8.9              8.7            xxxxxx           xxxxxx
ApproachLOS:         A                A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3    1     1     2    1     4     1   22     3     2   36     3
ApproachDel:       8.9              8.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=79]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=7]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=79]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

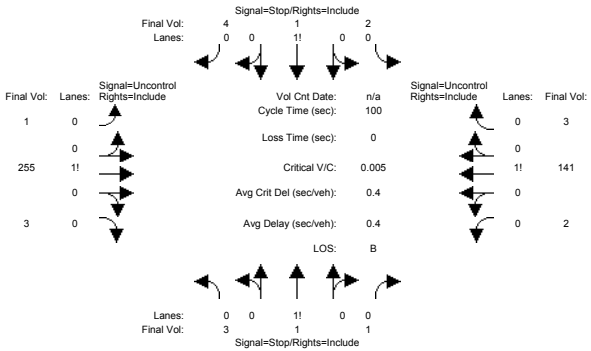
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3    1     1     2    1     4     1   22     3     2   36     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             67
Minor Approach Volume:           7
Minor Approach Volume Threshold: 940
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #3: Road 19 / Avenue 26




```
Street Name:              Road 19                          Avenue 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3    1     1     2    1     4     1   22     3     2   36     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3    1     1     2    1     4     1   22     3     2   36     3
Added Vol:      0    0     0     0    0     0     0  233     0     0  105     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    3    1     1     2    1     4     1  255     3     2  141     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3    1     1     2    1     4     1  255     3     2  141     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    3    1     1     2    1     4     1  255     3     2  141     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  408  407   257   406  407   143   144 xxxx xxxxx   258 xxxx xxxxx
Potent Cap.:  558  537   787   559  537   910  1451 xxxx xxxxx  1318 xxxx xxxxx
Move Cap.:    554  536   787   557  536   910  1451 xxxx xxxxx  1318 xxxx xxxxx
Volume/Cap:  0.01 0.00  0.00  0.00 0.00  0.00  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   7.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  584 xxxxx  xxxx  710 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.0 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 11.2 xxxxx xxxxx 10.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      11.2             10.1           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3    1     1     2    1     4     1  255     3     2  141     3
ApproachDel:      11.2             10.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=417]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=7]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=417]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

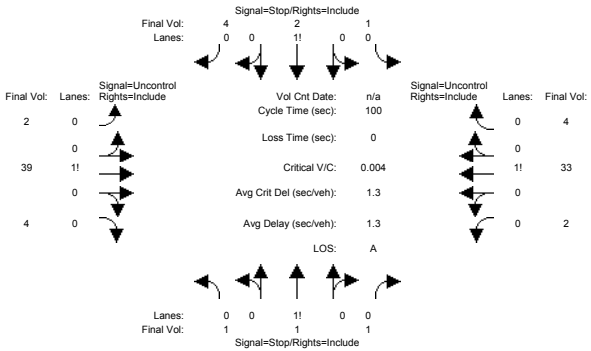
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    3    1     1     2    1     4     1  255     3     2  141     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             405
Minor Approach Volume:           7
Minor Approach Volume Threshold: 460
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #3: Road 19 / Avenue 26




```
Street Name:              Road 19                          Avenue 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1     1     1     1     2     4     2    39     4     2    33     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    1     1     1     1     2     4     2    39     4     2    33     4
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    1     1     1     1     2     4     2    39     4     2    33     4
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     1     1     1     1     2     4     2    39     4     2    33     4
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    1     1     1     1     2     4     2    39     4     2    33     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1   6.5   6.2   7.1   6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5   4.0   3.3   3.5   4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   87    86    41    85    86    35    37 xxxx xxxxx    43 xxxx xxxxx
Potent Cap.:  904   808  1036   906   808  1044  1587 xxxx xxxxx  1579 xxxx xxxxx
Move Cap.:    897   806  1036   903   806  1044  1587 xxxx xxxxx  1579 xxxx xxxxx
Volume/Cap:  0.00  0.00  0.00  0.00  0.00  0.00  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  903 xxxxx  xxxx  943 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.0 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  9.0 xxxxx xxxxx  8.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    A     *     *    A     *     *    *     *     *    *     *
ApproachDel:       9.0              8.8            xxxxxx           xxxxxx
ApproachLOS:         A                A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    1     1     1     1     2     4     2    39     4     2    33     4
ApproachDel:       9.0              8.8            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=3]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=94]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=7]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=94]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

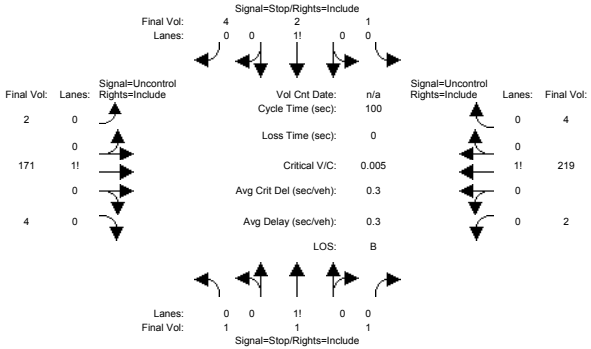
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    1     1     1     1     2     4     2    39     4     2    33     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             84
Minor Approach Volume:           7
Minor Approach Volume Threshold: 880
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #3: Road 19 / Avenue 26




```
Street Name:              Road 19                          Avenue 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1    1     1     1    2     4     2   39     4     2   33     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1    1     1     1    2     4     2   39     4     2   33     4
Added Vol:      0    0     0     0    0     0     0  132     0     0  186     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1    1     1     1    2     4     2  171     4     2  219     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1    1     1     1    2     4     2  171     4     2  219     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1    1     1     1    2     4     2  171     4     2  219     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  405  404   173   403  404   221   223 xxxx xxxxx   175 xxxx xxxxx
Potent Cap.:  560  539   876   562  539   824  1358 xxxx xxxxx  1414 xxxx xxxxx
Move Cap.:    554  537   876   559  537   824  1358 xxxx xxxxx  1414 xxxx xxxxx
Volume/Cap:  0.00 0.00  0.00  0.00 0.00  0.00  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx   7.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  624 xxxxx  xxxx  675 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.0 xxxxx xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.8 xxxxx xxxxx 10.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      10.8             10.4            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    1    1     1     1    2     4     2  171     4     2  219     4
ApproachDel:      10.8             10.4            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=3]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=412]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=7]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=412]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

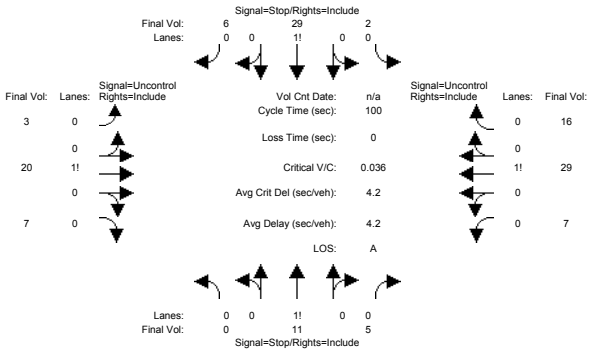
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    1    1     1     1    2     4     2  171     4     2  219     4
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             402
Minor Approach Volume:           7
Minor Approach Volume Threshold: 462
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #4: Santa Fe Dr / Ave 26




```
Street Name:           Santa Fe Drive                        Ave 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   11     5     2   29     6     3   20     7     7   29    16
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   11     5     2   29     6     3   20     7     7   29    16
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   11     5     2   29     6     3   20     7     7   29    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   11     5     2   29     6     3   20     7     7   29    16
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   11     5     2   29     6     3   20     7     7   29    16
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx   89    24    89   84    37    45 xxxx xxxxx    27 xxxx xxxxx
Potent Cap.: xxxx  805  1059   902  810  1041  1576 xxxx xxxxx  1600 xxxx xxxxx
Move Cap.:   xxxx  800  1059   884  805  1041  1576 xxxx xxxxx  1600 xxxx xxxxx
Volume/Cap:  xxxx 0.01  0.00  0.00 0.04  0.01  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx   866  xxxx  840 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx   0.1 xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx   9.2 xxxxx  9.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     A     *    A     *     *    *     *     *    *     *
ApproachDel:       9.2              9.5           xxxxxx           xxxxxx
ApproachLOS:         A                A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    0   11     5     2   29     6     3   20     7     7   29    16
ApproachDel:       9.2              9.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=16]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=135]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=37]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=135]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    0   11     5     2   29     6     3   20     7     7   29    16
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             82
Minor Approach Volume:           37
Minor Approach Volume Threshold: 886
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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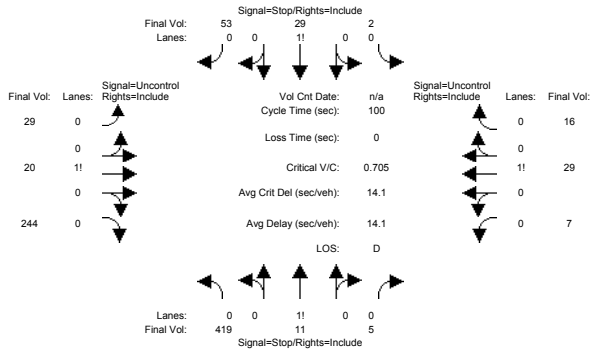
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #4: Santa Fe Dr / Ave 26




```
Street Name:           Santa Fe Drive                        Ave 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   11     5     2   29     6     3   20     7     7   29    16
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   11     5     2   29     6     3   20     7     7   29    16
Added Vol:    419    0     0     0    0    47    26    0   237     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  419   11     5     2   29    53    29   20   244     7   29    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   419   11     5     2   29    53    29   20   244     7   29    16
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  419   11     5     2   29    53    29   20   244     7   29    16
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  292  259   142   259  373    37    45 xxxx xxxxx   264 xxxx xxxxx
Potent Cap.:  664  649   911   698  561  1041  1576 xxxx xxxxx  1312 xxxx xxxxx
Move Cap.:    594  633   911   673  547  1041  1576 xxxx xxxxx  1312 xxxx xxxxx
Volume/Cap:  0.71 0.02  0.01  0.00 0.05  0.05  0.02 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  597 xxxxx  xxxx  786 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  6.2 xxxxx xxxxx  0.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 25.5 xxxxx xxxxx 10.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    B     *     *    *     *     *    *     *
ApproachDel:      25.5             10.1           xxxxxx           xxxxxx
ApproachLOS:         D                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  419   11     5     2   29    53    29   20   244     7   29    16
ApproachDel:      25.5             10.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=435]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=864]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=84]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=864]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

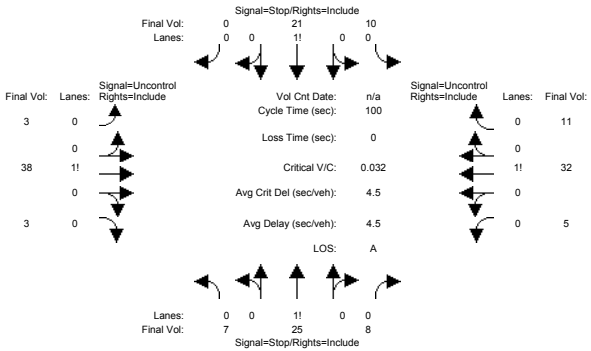
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  419   11     5     2   29    53    29   20   244     7   29    16
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             345
Minor Approach Volume:           435
Minor Approach Volume Threshold: 503
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #4: Santa Fe Dr / Ave 26




```
Street Name:           Santa Fe Drive                        Ave 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7   25     8    10   21     0     3   38     3     5   32    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7   25     8    10   21     0     3   38     3     5   32    11
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7   25     8    10   21     0     3   38     3     5   32    11
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7   25     8    10   21     0     3   38     3     5   32    11
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7   25     8    10   21     0     3   38     3     5   32    11
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5 xxxxx   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0 xxxxx   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  104   99    40   110   95 xxxxx    43 xxxx xxxxx    41 xxxx xxxxx
Potent Cap.:  882  795  1038   874  799 xxxxx  1579 xxxx xxxxx  1581 xxxx xxxxx
Move Cap.:    860  791  1038   843  795 xxxxx  1579 xxxx xxxxx  1581 xxxx xxxxx
Volume/Cap:  0.01 0.03  0.01  0.01 0.03  xxxx  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.3 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  843 xxxxx   810 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.1 xxxxx   0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  9.5 xxxxx   9.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    A     *     A    *     *     *    *     *     *    *     *
ApproachDel:       9.5              9.6           xxxxxx           xxxxxx
ApproachLOS:         A                A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  1  0  0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7   25     8    10   21     0     3   38     3     5   32    11
ApproachDel:       9.5              9.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=40]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=163]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=163]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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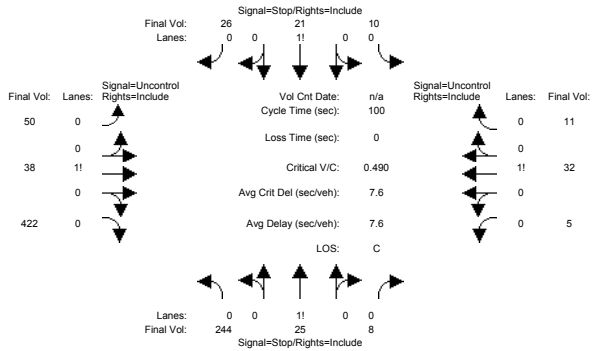
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  1  0  0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    7   25     8    10   21     0     3   38     3     5   32    11
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             92
Minor Approach Volume:           40
Minor Approach Volume Threshold: 856
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #4: Santa Fe Dr / Ave 26




```
Street Name:           Santa Fe Drive                        Ave 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7   25     8    10   21     0     3   38     3     5   32    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7   25     8    10   21     0     3   38     3     5   32    11
Added Vol:    237    0     0     0    0    26    47    0   419     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  244   25     8    10   21    26    50   38   422     5   32    11
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   244   25     8    10   21    26    50   38   422     5   32    11
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  244   25     8    10   21    26    50   38   422     5   32    11
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  420  402   249   413  608    38    43 xxxx xxxxx   460 xxxx xxxxx
Potent Cap.:  547  540   795   553  413  1040  1579 xxxx xxxxx  1112 xxxx xxxxx
Move Cap.:    498  520   795   513  398  1040  1579 xxxx xxxxx  1112 xxxx xxxxx
Volume/Cap:  0.49 0.05  0.01  0.02 0.05  0.02  0.03 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   8.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  505 xxxxx  xxxx  586 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.3 xxxxx xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 20.4 xxxxx xxxxx 11.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     *    *     *     *    *     *
ApproachDel:      20.4             11.8           xxxxxx           xxxxxx
ApproachLOS:         C                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  244   25     8    10   21    26    50   38   422     5   32    11
ApproachDel:      20.4             11.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=277]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=892]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=57]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=892]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

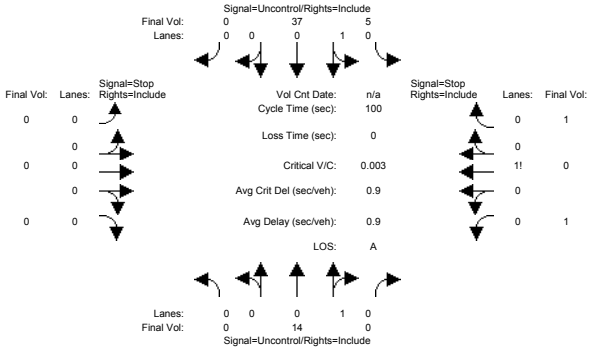
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  244   25     8    10   21    26    50   38   422     5   32    11
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             558
Minor Approach Volume:           277
Minor Approach Volume Threshold: 375
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #5: Route 22 / Santa Fe Dr




```
Street Name:         Route 22-Santa Fe                    Santa Fe Drive
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   14     0     5   37     0     0    0     0     1    0     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   14     0     5   37     0     0    0     0     1    0     1
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   14     0     5   37     0     0    0     0     1    0     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   14     0     5   37     0     0    0     0     1    0     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   14     0     5   37     0     0    0     0     1    0     1
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx    14 xxxx xxxxx  xxxx xxxx xxxxx    61   61    14
Potent Cap.: xxxx xxxx xxxxx  1617 xxxx xxxxx  xxxx xxxx xxxxx   950  834  1072
Move Cap.:   xxxx xxxx xxxxx  1617 xxxx xxxxx  xxxx xxxx xxxxx   948  831  1072
Volume/Cap:  xxxx xxxx  xxxx  0.00 xxxx  xxxx  xxxx xxxx  xxxx  0.00 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 1006 xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.0 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx   7.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  8.6 xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    A     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              8.6
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   14     0     5   37     0     0    0     0     1    0     1
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              8.6
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=2]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=58]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

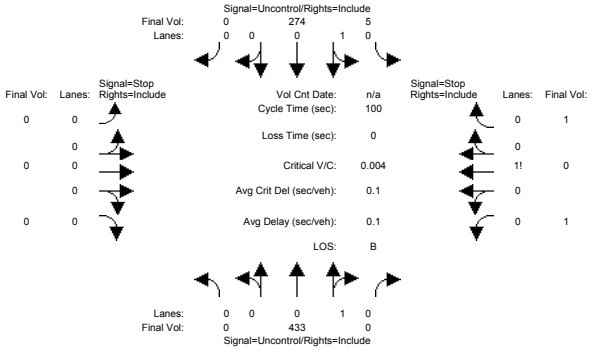
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   14     0     5   37     0     0    0     0     1    0     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             56
Minor Approach Volume:           2
Minor Approach Volume Threshold: 988
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #5: Route 22 / Santa Fe Dr




```
Street Name:         Route 22-Santa Fe                    Santa Fe Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   14     0     5   37     0     0    0     0     1    0     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   14     0     5   37     0     0    0     0     1    0     1
Added Vol:      0  419     0     0  237     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  433     0     5  274     0     0    0     0     1    0     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  433     0     5  274     0     0    0     0     1    0     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  433     0     5  274     0     0    0     0     1    0     1
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   433 xxxx xxxxx  xxxx xxxx xxxxx   717  717   433
Potent Cap.: xxxx xxxx xxxxx  1137 xxxx xxxxx  xxxx xxxx xxxxx   399  358   627
Move Cap.:   xxxx xxxx xxxxx  1137 xxxx xxxxx  xxxx xxxx xxxxx   398  356   627
Volume/Cap:  xxxx xxxx  xxxx  0.00 xxxx  xxxx  xxxx xxxx  xxxx  0.00 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   8.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  487 xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.0 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx   8.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 12.4 xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             12.4
ApproachLOS:         *                *                *                B
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  433     0     5  274     0     0    0     0     1    0     1
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             12.4
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=2]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=714]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

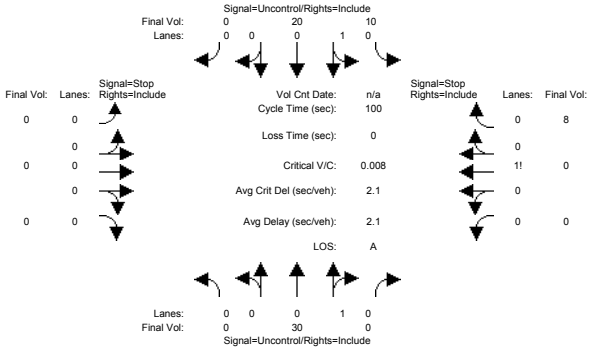
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  433     0     5  274     0     0    0     0     1    0     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             712
Minor Approach Volume:           2
Minor Approach Volume Threshold: 310
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #5: Route 22 / Santa Fe Dr




```
Street Name:         Route 22-Santa Fe                    Santa Fe Drive
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   30     0    10   20     0     0    0     0     0    0     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   30     0    10   20     0     0    0     0     0    0     8
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   30     0    10   20     0     0    0     0     0    0     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   30     0    10   20     0     0    0     0     0    0     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   30     0    10   20     0     0    0     0     0    0     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx    30 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx    30
Potent Cap.: xxxx xxxx xxxxx  1596 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  1050
Move Cap.:   xxxx xxxx xxxxx  1596 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  1050
Volume/Cap:  xxxx xxxx  xxxx  0.01 xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0
Control Del:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   8.5
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              8.5
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  0  0  1
Initial Vol:    0   30     0    10   20     0     0    0     0     0    0     8
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              8.5
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=8]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=68]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

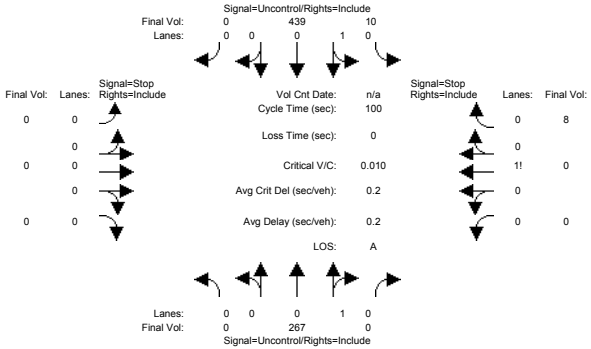
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  0  0  1
Initial Vol:    0   30     0    10   20     0     0    0     0     0    0     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             60
Minor Approach Volume:           8
Minor Approach Volume Threshold: 970
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #5: Route 22 / Santa Fe Dr




```
Street Name:         Route 22-Santa Fe                    Santa Fe Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   30     0    10   20     0     0    0     0     0    0     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   30     0    10   20     0     0    0     0     0    0     8
Added Vol:      0  237     0     0  419     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  267     0    10  439     0     0    0     0     0    0     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  267     0    10  439     0     0    0     0     0    0     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  267     0    10  439     0     0    0     0     0    0     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   267 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   267
Potent Cap.: xxxx xxxx xxxxx  1308 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   777
Move Cap.:   xxxx xxxx xxxxx  1308 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   777
Volume/Cap:  xxxx xxxx  xxxx  0.01 xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0
Control Del:xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   9.7
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.7
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  0  0  1
Initial Vol:    0  267     0    10  439     0     0    0     0     0    0     8
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.7
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=8]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=724]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

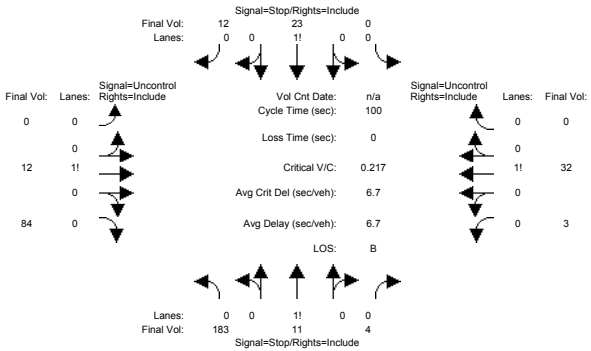
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  0  0  1
Initial Vol:    0  267     0    10  439     0     0    0     0     0    0     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             716
Minor Approach Volume:           8
Minor Approach Volume Threshold: 308
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #6: Road 22 / Avenue 24




```
Street Name:              Road 22                          Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     183   11     4     0   23    12     0   12    84     3   32     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  183   11     4     0   23    12     0   12    84     3   32     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  183   11     4     0   23    12     0   12    84     3   32     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   183   11     4     0   23    12     0   12    84     3   32     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  183   11     4     0   23    12     0   12    84     3   32     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2 xxxxx  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  110   92    54  xxxx  134    32  xxxx xxxx xxxxx    96 xxxx xxxxx
Potent Cap.:  874  802  1019  xxxx  760  1048  xxxx xxxx xxxxx  1510 xxxx xxxxx
Move Cap.:    842  800  1019  xxxx  759  1048  xxxx xxxx xxxxx  1510 xxxx xxxxx
Volume/Cap:  0.22 0.01  0.00  xxxx 0.03  0.01  xxxx xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  843 xxxxx  xxxx xxxx   838  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx xxxx   0.1 xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 10.6 xxxxx xxxxx xxxx   9.5 xxxxx xxxx xxxxx   7.4 xxxx xxxxx
Shared LOS:     *    B     *     *    *     A     *    *     *     A    *     *
ApproachDel:      10.6              9.5           xxxxxx           xxxxxx
ApproachLOS:         B                A                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  183   11     4     0   23    12     0   12    84     3   32     0
ApproachDel:      10.6              9.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=198]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=364]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=364]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

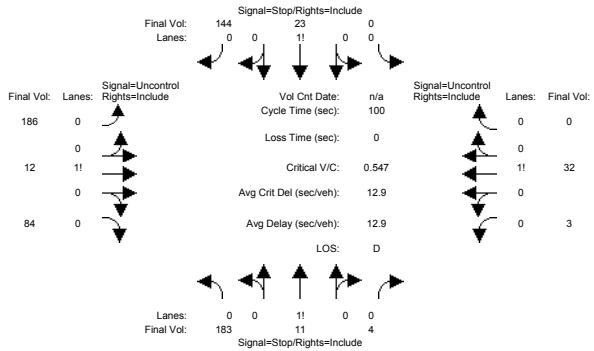
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  183   11     4     0   23    12     0   12    84     3   32     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             131
Minor Approach Volume:           198
Minor Approach Volume Threshold: 761
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #6: Road 22 / Avenue 24




```
Street Name:              Road 22                          Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     183   11     4     0   23    12     0   12    84     3   32     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  183   11     4     0   23    12     0   12    84     3   32     0
Added Vol:      0    0     0     0    0   132   186    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  183   11     4     0   23   144   186   12    84     3   32     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   183   11     4     0   23   144   186   12    84     3   32     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  183   11     4     0   23   144   186   12    84     3   32     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2 xxxxx  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  548  464    54  xxxx  506    32    32 xxxx xxxxx    96 xxxx xxxxx
Potent Cap.:  451  498  1019  xxxx  472  1048  1593 xxxx xxxxx  1510 xxxx xxxxx
Move Cap.:    335  433  1019  xxxx  410  1048  1593 xxxx xxxxx  1510 xxxx xxxxx
Volume/Cap:  0.55 0.03  0.00  xxxx 0.06  0.14  0.12 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.4 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  344 xxxxx  xxxx xxxx   863  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.4 xxxxx xxxxx xxxx   0.7 xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 28.8 xxxxx xxxxx xxxx  10.2 xxxxx xxxx xxxxx   7.4 xxxx xxxxx
Shared LOS:     *    D     *     *    *     B     *    *     *     A    *     *
ApproachDel:      28.8             10.2           xxxxxx           xxxxxx
ApproachLOS:         D                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  1  0  0  0
Initial Vol:  183   11     4     0   23   144   186   12    84     3   32     0
ApproachDel:      28.8             10.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=198]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=682]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=167]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=682]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  1  0  0  0
Initial Vol:  183   11     4     0   23   144   186   12    84     3   32     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             317
Minor Approach Volume:           198
Minor Approach Volume Threshold: 526
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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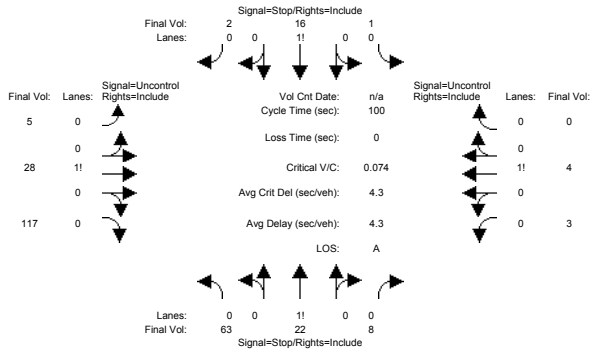
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #6: Road 22 / Avenue 24




```
Street Name:              Road 22                        Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63   22     8     1   16     2     5   28   117     3    4     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   63   22     8     1   16     2     5   28   117     3    4     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   63   22     8     1   16     2     5   28   117     3    4     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    63   22     8     1   16     2     5   28   117     3    4     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   63   22     8     1   16     2     5   28   117     3    4     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  116  107    87   122  165     4     4 xxxx xxxxx   145 xxxx xxxxx
Potent Cap.:  866  787   978   858  731  1085  1631 xxxx xxxxx  1450 xxxx xxxxx
Move Cap.:    846  783   978   830  727  1085  1631 xxxx xxxxx  1450 xxxx xxxxx
Volume/Cap:  0.07 0.03  0.01  0.00 0.02  0.00  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx   7.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  840 xxxxx  xxxx  759 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.4 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx  9.8 xxxxx xxxxx  9.9 xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx
Shared LOS:     *    A     *     *    A     *     *    *     *     A    *     *
ApproachDel:       9.8              9.9            xxxxxx           xxxxxx
ApproachLOS:         A                A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  0
Initial Vol:   63   22     8     1   16     2     5   28   117     3    4     0
ApproachDel:       9.8              9.9            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=93]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=269]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=19]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=269]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  0
Initial Vol:   63   22     8     1   16     2     5   28   117     3    4     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             157
Minor Approach Volume:           93
Minor Approach Volume Threshold: 713
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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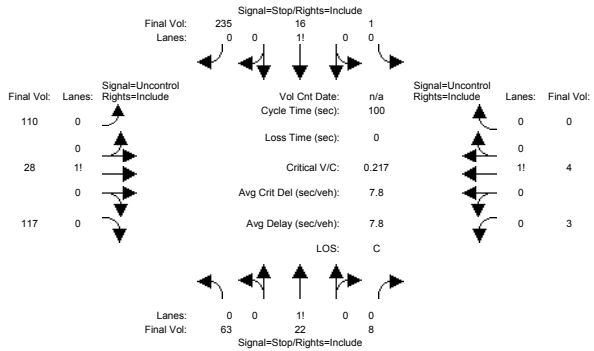
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #6: Road 22 / Avenue 24




```
Street Name:              Road 22                          Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      63   22     8     1   16     2     5   28   117     3    4     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   63   22     8     1   16     2     5   28   117     3    4     0
Added Vol:      0    0     0     0    0   233   105    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   63   22     8     1   16   235   110   28   117     3    4     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    63   22     8     1   16   235   110   28   117     3    4     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   63   22     8     1   16   235   110   28   117     3    4     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  442  317    87   332  375     4     4 xxxx xxxxx   145 xxxx xxxxx
Potent Cap.:  529  603   978   626  559  1085  1631 xxxx xxxxx  1450 xxxx xxxxx
Move Cap.:    382  558   978   568  518  1085  1631 xxxx xxxxx  1450 xxxx xxxxx
Volume/Cap:  0.16 0.04  0.01  0.00 0.03  0.22  0.07 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  438 xxxxx  xxxx 1011 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.8 xxxxx xxxxx  1.0 xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 15.4 xxxxx xxxxx  9.7 xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx
Shared LOS:     *    C     *     *    A     *     *    *     *     A    *     *
ApproachDel:      15.4              9.7            xxxxxx           xxxxxx
ApproachLOS:         C                A                 *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  0
Initial Vol:   63   22     8     1   16   235   110   28   117     3    4     0
ApproachDel:      15.4              9.7            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=93]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=607]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=252]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=607]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  0
Initial Vol:   63   22     8     1   16   235   110   28   117     3    4     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             262
Minor Approach Volume:           252
Minor Approach Volume Threshold: 577
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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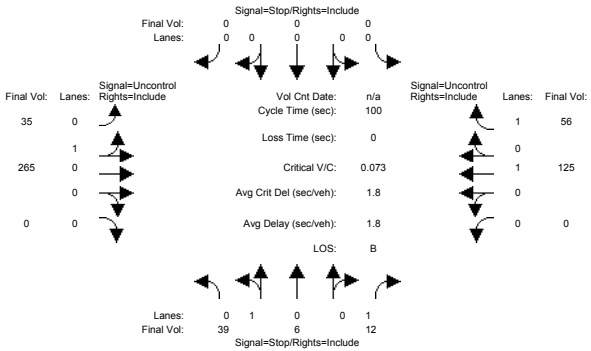
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #7: SR-99 NB Ramps / Avenue 24




```
Street Name:           SR-99 NB Ramps                      Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      39    6    12     0    0     0    35  265     0     0  125    56
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   39    6    12     0    0     0    35  265     0     0  125    56
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   39    6    12     0    0     0    35  265     0     0  125    56
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    39    6    12     0    0     0    35  265     0     0  125    56
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   39    6    12     0    0     0    35  265     0     0  125    56
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  488  516   265  xxxx xxxx xxxxx   181 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  543  466   779  xxxx xxxx xxxxx  1407 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    532  454   779  xxxx xxxx xxxxx  1407 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.07 0.01  0.02  xxxx xxxx  xxxx  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   0.0  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx   9.7 xxxxx xxxx xxxxx   7.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     A     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  520 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.3 xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 12.6 xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     *    *     *     A    *     *     *    *     *
ApproachDel:      12.0           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         B                  *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   39    6    12     0    0     0    35  265     0     0  125    56
ApproachDel:      12.0           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=57]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=538]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   39    6    12     0    0     0    35  265     0     0  125    56
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             481
Minor Approach Volume:           57
Minor Approach Volume Threshold: 689
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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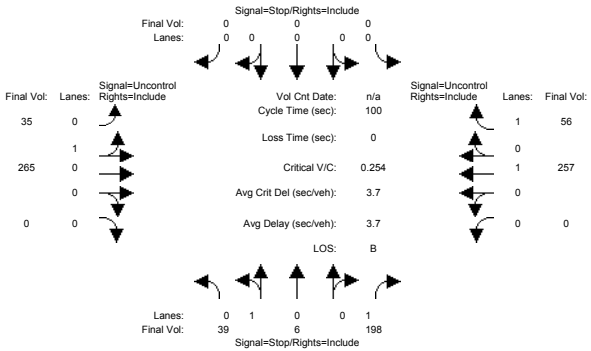
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #7: SR-99 NB Ramps / Avenue 24




```
Street Name:           SR-99 NB Ramps                      Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      39    6    12     0    0     0    35  265     0     0  125    56
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   39    6    12     0    0     0    35  265     0     0  125    56
Added Vol:      0    0   186     0    0     0     0    0     0     0  132     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   39    6   198     0    0     0    35  265     0     0  257    56
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    39    6   198     0    0     0    35  265     0     0  257    56
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   39    6   198     0    0     0    35  265     0     0  257    56
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  620  648   265  xxxx xxxx xxxxx   313 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  455  392   779  xxxx xxxx xxxxx  1259 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    445  381   779  xxxx xxxx xxxxx  1259 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.09 0.02  0.25  xxxx xxxx  xxxx  0.03 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   1.0  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  11.2 xxxxx xxxx xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  435 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.3 xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 14.2 xxxx xxxxx xxxxx xxxx xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     *    *     *     A    *     *     *    *     *
ApproachDel:      11.8           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         B                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   39    6   198     0    0     0    35  265     0     0  257    56
ApproachDel:      11.8           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=243]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=856]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

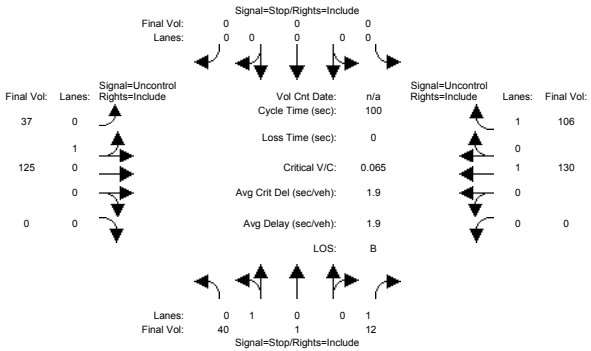
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   39    6   198     0    0     0    35  265     0     0  257    56
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             613
Minor Approach Volume:           243
Minor Approach Volume Threshold: 585
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #7: SR-99 NB Ramps / Avenue 24




```
Street Name:           SR-99 NB Ramps                      Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      40    1    12     0    0     0    37  125     0     0  130   106
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   40    1    12     0    0     0    37  125     0     0  130   106
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   40    1    12     0    0     0    37  125     0     0  130   106
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    40    1    12     0    0     0    37  125     0     0  130   106
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   40    1    12     0    0     0    37  125     0     0  130   106
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  382  435   125  xxxx xxxx xxxxx   236 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  624  517   931  xxxx xxxx xxxxx  1343 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    611  503   931  xxxx xxxx xxxxx  1343 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.07 0.00  0.01  xxxx xxxx  xxxx  0.03 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   0.0  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx   8.9 xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     A     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  608 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.2 xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 11.4 xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     *    *     *     A    *     *     *    *     *
ApproachDel:      10.8           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         B                  *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   40    1    12     0    0     0    37  125     0     0  130   106
ApproachDel:      10.8           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=53]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=451]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

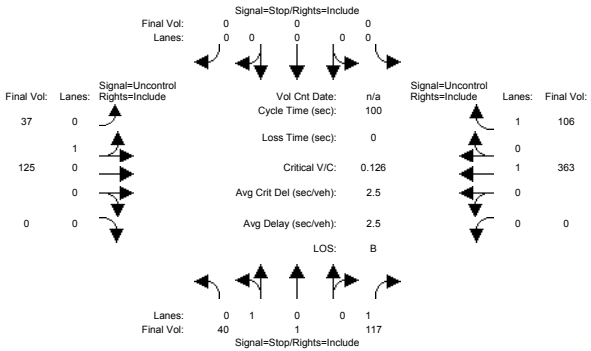
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   40    1    12     0    0     0    37  125     0     0  130   106
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             398
Minor Approach Volume:           53
Minor Approach Volume Threshold: 770
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #7: SR-99 NB Ramps / Avenue 24




```
Street Name:           SR-99 NB Ramps                      Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      40    1    12     0    0     0    37  125     0     0  130   106
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   40    1    12     0    0     0    37  125     0     0  130   106
Added Vol:      0    0   105     0    0     0     0    0     0     0  233     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   40    1   117     0    0     0    37  125     0     0  363   106
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    40    1   117     0    0     0    37  125     0     0  363   106
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   40    1   117     0    0     0    37  125     0     0  363   106
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  615  668   125  xxxx xxxx xxxxx   469 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  458  382   931  xxxx xxxx xxxxx  1103 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    446  369   931  xxxx xxxx xxxxx  1103 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.09 0.00  0.13  xxxx xxxx  xxxx  0.03 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   0.4  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx   9.4 xxxxx xxxx xxxxx   8.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     A     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  444 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.3 xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 13.9 xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     *    *     *     A    *     *     *    *     *
ApproachDel:      10.6           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         B                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   40    1   117     0    0     0    37  125     0     0  363   106
ApproachDel:      10.6           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=158]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=789]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

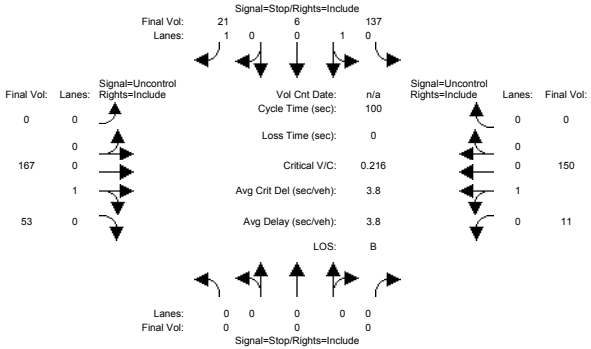
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   40    1   117     0    0     0    37  125     0     0  363   106
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             631
Minor Approach Volume:           158
Minor Approach Volume Threshold: 572
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #8: SR-99 SB Ramps / Avenue 24




```
Street Name:           SR-99 SB Ramps                     Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   137    6    21     0  167    53    11  150     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   137    6    21     0  167    53    11  150     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   137    6    21     0  167    53    11  150     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   137    6    21     0  167    53    11  150     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   137    6    21     0  167    53    11  150     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   366  392   150  xxxx xxxx xxxxx   220 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   638  547   902  xxxx xxxx xxxxx  1361 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   634  543   902  xxxx xxxx xxxxx  1361 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.22 0.01  0.02  xxxx xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx   9.1 xxxxx xxxx xxxxx   7.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     A     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   630 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.9 xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  12.4 xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx
Shared LOS:     *    *     *     B    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx             12.0           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0   137    6    21     0  167    53    11  150     0
ApproachDel:    xxxxxx             12.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=164]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=545]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

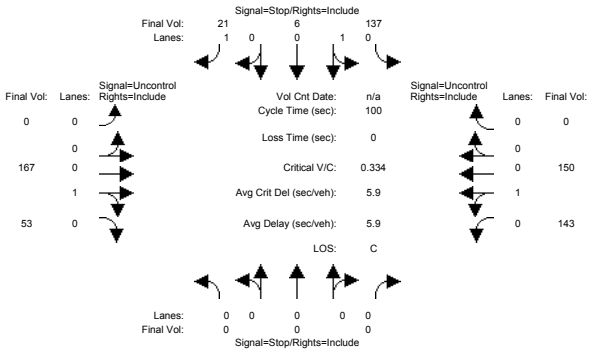
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0   137    6    21     0  167    53    11  150     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             381
Minor Approach Volume:           164
Minor Approach Volume Threshold: 596
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #8: SR-99 SB Ramps / Avenue 24




```
Street Name:           SR-99 SB Ramps                     Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   137    6    21     0  167    53    11  150     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   137    6    21     0  167    53    11  150     0
Added Vol:      0    0     0     0    0     0     0    0     0   132    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   137    6    21     0  167    53   143  150     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   137    6    21     0  167    53   143  150     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   137    6    21     0  167    53   143  150     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   630  656   150  xxxx xxxx xxxxx   220 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   449  388   902  xxxx xxxx xxxxx  1361 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   410  343   902  xxxx xxxx xxxxx  1361 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.33 0.02  0.02  xxxx xxxx  xxxx  0.11 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx   9.1 xxxxx xxxx xxxxx   8.0 xxxx xxxxx
LOS by Move:    *    *     *     *    *     A     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   407 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   1.6 xxxx xxxxx xxxxx xxxx xxxxx   0.4 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  18.6 xxxx xxxxx xxxxx xxxx xxxxx   8.0 xxxx xxxxx
Shared LOS:     *    *     *     C    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx             17.4           xxxxxx           xxxxxx
ApproachLOS:         *                C                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0   137    6    21     0  167    53   143  150     0
ApproachDel:    xxxxxx             17.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=164]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=677]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

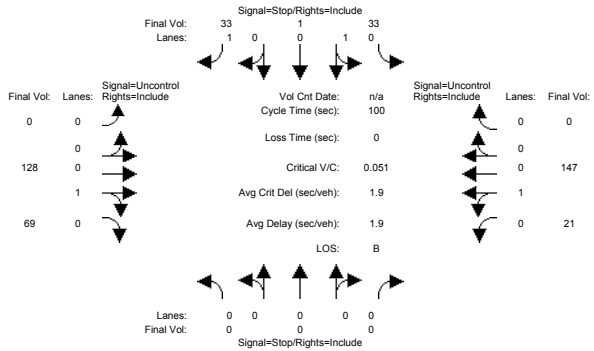
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0   137    6    21     0  167    53   143  150     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             513
Minor Approach Volume:           164
Minor Approach Volume Threshold: 502
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #8: SR-99 SB Ramps / Avenue 24




```
Street Name:           SR-99 SB Ramps                     Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    33    1    33     0  128    69    21  147     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    33    1    33     0  128    69    21  147     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    33    1    33     0  128    69    21  147     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    33    1    33     0  128    69    21  147     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    33    1    33     0  128    69    21  147     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   352  386   147  xxxx xxxx xxxxx   197 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   650  551   905  xxxx xxxx xxxxx  1388 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   642  543   905  xxxx xxxx xxxxx  1388 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.05 0.00  0.04  xxxx xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx   9.1 xxxxx xxxx xxxxx   7.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     A     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   639 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.2 xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  11.0 xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx
Shared LOS:     *    *     *     B    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx             10.1           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0    33    1    33     0  128    69    21  147     0
ApproachDel:    xxxxxx             10.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=67]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=432]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

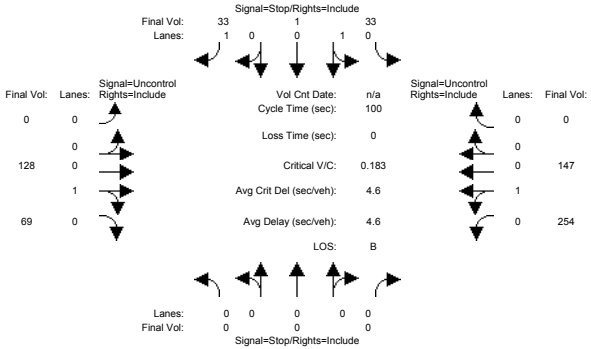
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0    33    1    33     0  128    69    21  147     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             365
Minor Approach Volume:           67
Minor Approach Volume Threshold: 610
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #8: SR-99 SB Ramps / Avenue 24




```
Street Name:           SR-99 SB Ramps                     Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    33    1    33     0  128    69    21  147     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    33    1    33     0  128    69    21  147     0
Added Vol:      0    0     0     0    0     0     0    0     0   233    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    33    1    33     0  128    69   254  147     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    33    1    33     0  128    69   254  147     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    33    1    33     0  128    69   254  147     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   818  852   147  xxxx xxxx xxxxx   197 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   349  299   905  xxxx xxxx xxxxx  1388 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   291  235   905  xxxx xxxx xxxxx  1388 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.11 0.00  0.04  xxxx xxxx  xxxx  0.18 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx   0.7 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx   9.1 xxxxx xxxx xxxxx   8.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     A     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   289 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.4 xxxx xxxxx xxxxx xxxx xxxxx   0.7 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  19.1 xxxx xxxxx xxxxx xxxx xxxxx   8.2 xxxx xxxxx
Shared LOS:     *    *     *     C    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx             14.2           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0    33    1    33     0  128    69   254  147     0
ApproachDel:    xxxxxx             14.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=67]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=665]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0    33    1    33     0  128    69   254  147     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             598
Minor Approach Volume:           67
Minor Approach Volume Threshold: 454
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

HEAVY MANTENANCE FACILITY ANALYSIS – KOJIMA DEVELOPMENT

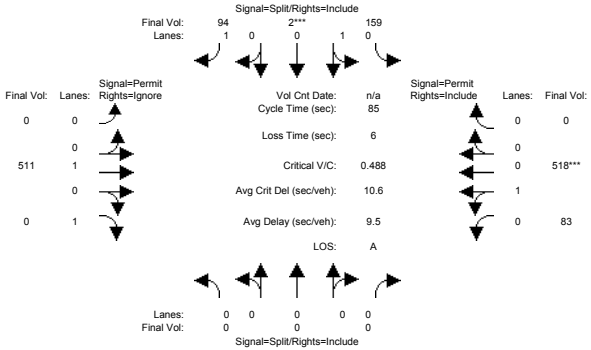
EXISTING WITH MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM Mit

Intersection #1: SR-99 SB Ramps / Robertson Blvd



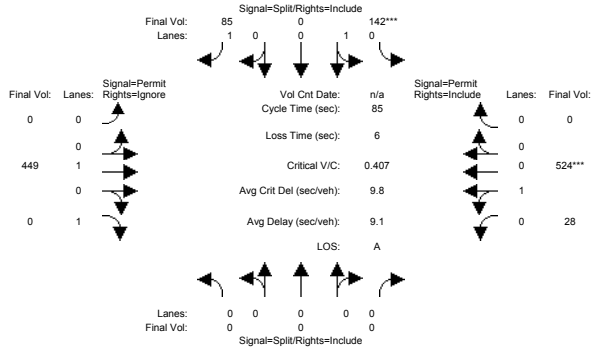
Street Name:	SR-99 SB Ramps						Robertson Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	10	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	19	2	94	0	418	286	83	492	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	19	2	94	0	418	286	83	492	0
Added Vol:	0	0	0	140	0	0	0	93	0	0	26	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	159	2	94	0	511	286	83	518	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	159	2	94	0	511	0	83	518	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	159	2	94	0	511	0	83	518	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	159	2	94	0	511	0	83	518	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.91	0.91	0.85	1.00	1.00	1.00	0.88	0.88	1.00
Lanes:	0.00	0.00	0.00	0.99	0.01	1.00	0.00	1.00	1.00	0.14	0.86	0.00
Final Sat.:	0	0	0	1700	21	1615	0	1900	1900	230	1438	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.09	0.09	0.06	0.00	0.27	0.00	0.36	0.36	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.19	0.19	0.19	0.00	0.74	0.00	0.74	0.74	0.00
Volume/Cap:	0.00	0.00	0.00	0.49	0.49	0.30	0.00	0.36	0.00	0.49	0.49	0.00
Delay/Veh:	0.0	0.0	0.0	31.8	31.8	30.1	0.0	4.2	0.0	4.9	4.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	31.8	31.8	30.1	0.0	4.2	0.0	4.9	4.9	0.0
LOS by Move:	A	A	A	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	0	0	0	4	4	2	0	5	0	6	6	0

Note: Queue reported the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM Mit

Intersection #1: SR-99 SB Ramps / Robertson Blvd



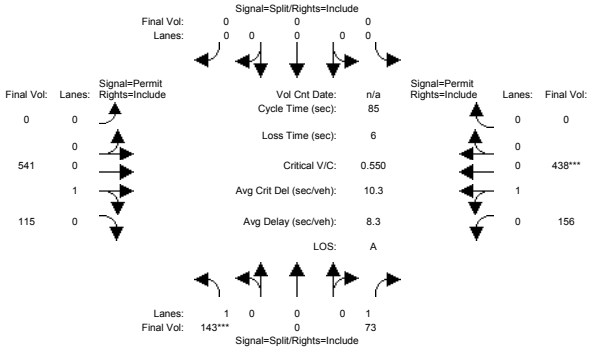
Street Name:	SR-99 SB Ramps						Robertson Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	10	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	63	0	85	0	396	198	28	477	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	63	0	85	0	396	198	28	477	0
Added Vol:	0	0	0	79	0	0	0	53	0	0	47	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	142	0	85	0	449	198	28	524	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	142	0	85	0	449	0	28	524	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	142	0	85	0	449	0	28	524	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	142	0	85	0	449	0	28	524	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	1.00	1.00	1.00	0.97	0.97	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.05	0.95	0.00
Final Sat.:	0	0	0	1809	0	1615	0	1900	1900	93	1748	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.08	0.00	0.05	0.00	0.24	0.00	0.30	0.30	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.19	0.00	0.19	0.00	0.74	0.00	0.74	0.74	0.00
Volume/Cap:	0.00	0.00	0.00	0.41	0.00	0.27	0.00	0.32	0.00	0.41	0.41	0.00
Delay/Veh:	0.0	0.0	0.0	30.8	0.0	29.7	0.0	4.0	0.0	4.4	4.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	30.8	0.0	29.7	0.0	4.0	0.0	4.4	4.4	0.0
LOS by Move:	A	A	A	C	A	C	A	A	A	A	A	A
HCM2kAvgQ:	0	0	0	4	0	2	0	4	0	5	5	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM Mit

Intersection #2: SR-99 NB Ramps / Robertson-Ave 26



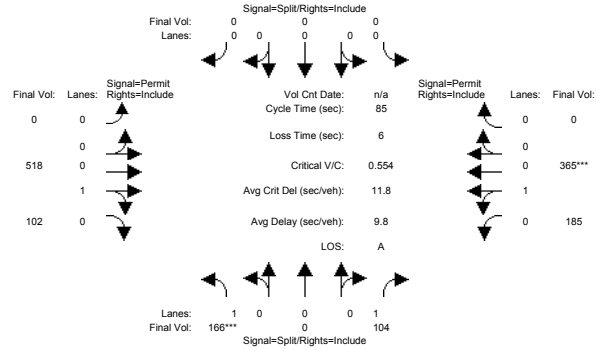
Street Name:	SR-99 NB Ramps									Robertson Ave 26						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		0		10	0		0		0	0		10		10	10		10		0
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	143		0		73	0		0		0	0		308		115	77		412		0
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	143		0		73	0		0		0	0		308		115	77		412		0
Added Vol:	0		0		0	0		0		0	0		233		0	79		26		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	143		0		73	0		0		0	0		541		115	156		438		0
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	143		0		73	0		0		0	0		541		115	156		438		0
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	143		0		73	0		0		0	0		541		115	156		438		0
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	143		0		73	0		0		0	0		541		115	156		438		0
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	1.00		1.00		1.00	1.00		0.98		0.98	0.72		0.72		1.00
Lanes:	1.00		0.00		1.00	0.00		0.00		0.00	0.00		0.82		0.18	0.26		0.74		0.00
Final Sat.:	1805		0		1615	0		0		0	0		1529		325	361		1014		0
Capacity Analysis Module:																				
Vol/Sat:	0.08		0.00		0.05	0.00		0.00		0.00	0.00		0.35		0.35	0.43		0.43		0.00
Crit Moves:	****																	****		
Green/Cycle:	0.14		0.00		0.14	0.00		0.00		0.00	0.00		0.79		0.79	0.79		0.79		0.00
Volume/Cap:	0.55		0.00		0.31	0.00		0.00		0.00	0.00		0.45		0.45	0.55		0.55		0.00
Delay/Veh:	36.3		0.0		33.4	0.0		0.0		0.0	0.0		3.3		3.3	4.1		4.1		0.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	36.3		0.0		33.4	0.0		0.0		0.0	0.0		3.3		3.3	4.1		4.1		0.0
LOS by Move:	D		A		C	A		A		A	A		A		A	A		A		A
HCM2kAvgQ:	4		0		2	0		0		0	0		6		6	6		6		0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM Mit

Intersection #2: SR-99 NB Ramps / Robertson-Ave 26



Street Name:	SR-99 NB Ramps									Robertson Ave 26						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	10		0		10	0		0		0	0		10		10	10		10		0
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module:																				
Base Vol:	166		0		104	0		0		0	0		386		102	45		318		0
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	166		0		104	0		0		0	0		386		102	45		318		0
Added Vol:	0		0		0	0		0		0	0		132		0	140		47		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	166		0		104	0		0		0	0		518		102	185		365		0
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	166		0		104	0		0		0	0		518		102	185		365		0
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	166		0		104	0		0		0	0		518		102	185		365		0
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	166		0		104	0		0		0	0		518		102	185		365		0
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	1.00		1.00		1.00	1.00		0.98		0.98	0.68		0.68		1.00
Lanes:	1.00		0.00		1.00	0.00		0.00		0.00	0.00		0.84		0.16	0.34		0.66		0.00
Final Sat.:	1805		0		1615	0		0		0	0		1552		306	437		862		0
Capacity Analysis Module:																				
Vol/Sat:	0.09		0.00		0.06	0.00		0.00		0.00	0.00		0.33		0.33	0.42		0.42		0.00
Crit Moves:	****																	****		
Green/Cycle:	0.17		0.00		0.17	0.00		0.00		0.00	0.00		0.76		0.76	0.76		0.76		0.00
Volume/Cap:	0.55		0.00		0.39	0.00		0.00		0.00	0.00		0.44		0.44	0.55		0.55		0.00
Delay/Veh:	34.8		0.0		32.5	0.0		0.0		0.0	0.0		3.8		3.8	4.8		4.8		0.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	34.8		0.0		32.5	0.0		0.0		0.0	0.0		3.8		3.8	4.8		4.8		0.0
LOS by Move:	C		A		C	A		A		A	A		A		A	A		A		A
HCM2kAvgQ:	5		0		3	0		0		0	0		6		6	7		7		0

Note: Queue reported is the number of cars per lane.

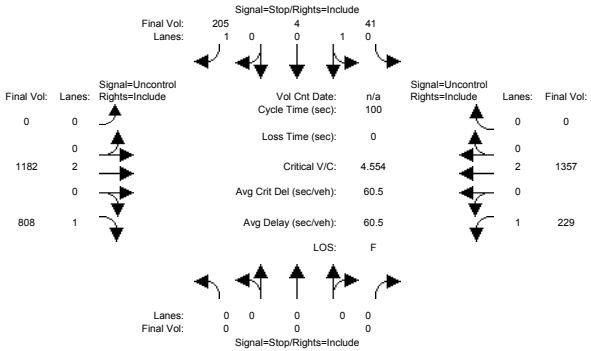
HEAVY MANTENANCE FACILITY ANALYSIS – KOJIMA DEVELOPMENT

2035 CONDITIONS – LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #1: SR-99 SB Ramps / Robertson Blvd




```
Street Name:          SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    41    4   205     0 1182   808   229 1357     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    41    4   205     0 1182   808   229 1357     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    41    4   205     0 1182   808   229 1357     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    41    4   205     0 1182   808   229 1357     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    41    4   205     0 1182   808   229 1357     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  2406 3805   679  xxxx xxxx xxxxx  1990 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    28    4   399  xxxx xxxx xxxxx   293 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    10    1   399  xxxx xxxx xxxxx   293 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  4.08 4.55  0.51  xxxx xxxx  xxxx  0.78 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   2.8  xxxx xxxx xxxxx   6.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  23.2 xxxxx xxxx xxxxx  50.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     C     *    *     *     F    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx     5 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  4787 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     F    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            880.7           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0    41    4   205     0 1182   808   229 1357     0
ApproachDel:    xxxxxx            880.7           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=61.2]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=250]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3826]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

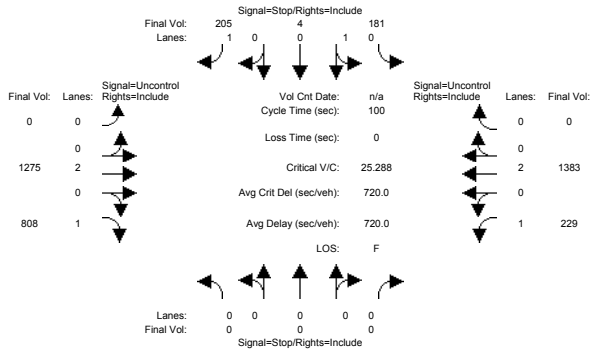
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0    41    4   205     0 1182   808   229 1357     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3576
Minor Approach Volume:           250
Minor Approach Volume Threshold: -174 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    41    4   205     0 1182   808   229 1357     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    41    4   205     0 1182   808   229 1357     0
Added Vol:      0    0     0   140    0     0     0   93     0     0   26     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   181    4   205     0 1275   808   229 1383     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   181    4   205     0 1275   808   229 1383     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   181    4   205     0 1275   808   229 1383     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  2479 3924   692  xxxx xxxx xxxxx  2083 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    25    3   391  xxxx xxxx xxxxx   270 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx     7    1   391  xxxx xxxx xxxxx   270 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx 25.29 7.94  0.52  xxxx xxxx  xxxx  0.85 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   2.9  xxxx xxxx xxxxx   7.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  23.9 xxxxx xxxx xxxxx  63.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     C     *    *     *     F    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx     6 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx  25.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx 15793 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     F    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           7504.3           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0   181    4   205     0 1275   808   229 1383     0
ApproachDel:    xxxxxx           7504.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=813.0]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=390]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=4085]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

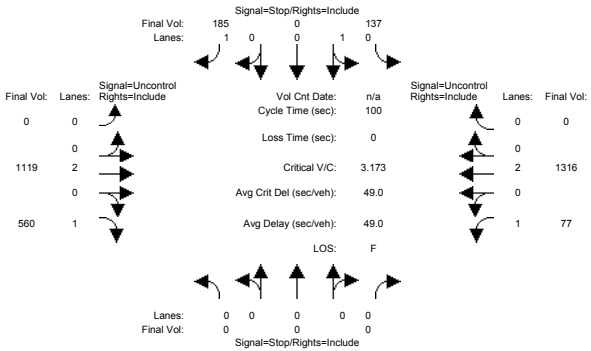
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0   181    4   205     0 1275   808   229 1383     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3695
Minor Approach Volume:           390
Minor Approach Volume Threshold: -188 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #1: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   137    0   185     0 1119   560    77 1316     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   137    0   185     0 1119   560    77 1316     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   137    0   185     0 1119   560    77 1316     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   137    0   185     0 1119   560    77 1316     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   137    0   185     0 1119   560    77 1316     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  2030 3149   658  xxxx xxxx xxxxx  1679 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    51   11   412  xxxx xxxx xxxxx   387 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    43    9   412  xxxx xxxx xxxxx   387 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  3.17 0.00  0.45  xxxx xxxx  xxxx  0.20 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   2.3  xxxx xxxx xxxxx   0.7 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  20.7 xxxxx xxxx xxxxx  16.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     C     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx    43 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx  15.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  1175 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     F    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            512.0           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0   137    0   185     0 1119   560    77 1316     0
ApproachDel:    xxxxxx            512.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=45.8]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=322]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3394]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

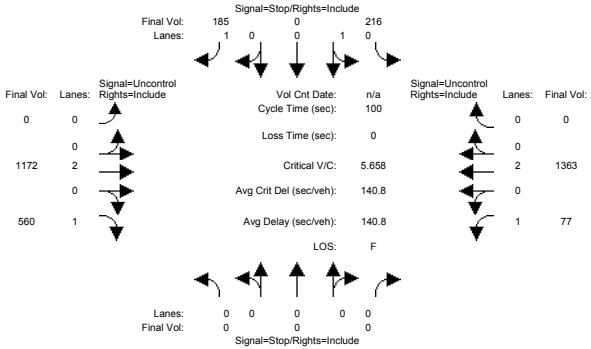
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0   137    0   185     0 1119   560    77 1316     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3072
Minor Approach Volume:           322
Minor Approach Volume Threshold: -109 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   137    0   185     0 1119   560    77 1316     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   137    0   185     0 1119   560    77 1316     0
Added Vol:      0    0     0    79    0     0     0   53     0     0   47     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   216    0   185     0 1172   560    77 1363     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   216    0   185     0 1172   560    77 1363     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   216    0   185     0 1172   560    77 1363     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  2103 3249   682  xxxx xxxx xxxxx  1732 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    45    9   397  xxxx xxxx xxxxx   369 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    38    7   397  xxxx xxxx xxxxx   369 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  5.66 0.00  0.47  xxxx xxxx  xxxx  0.21 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   2.4  xxxx xxxx xxxxx   0.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  21.7 xxxxx xxxx xxxxx  17.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     C     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx    38 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx  25.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  2304 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     F    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           1251.1           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0   216    0   185     0 1172   560    77 1363     0
ApproachDel:    xxxxxx           1251.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=139.4]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=401]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3573]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

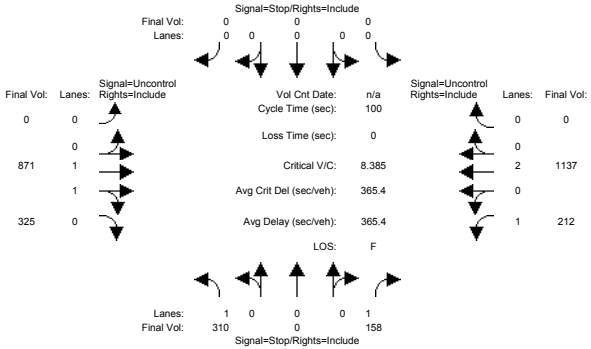
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0   216    0   185     0 1172   560    77 1363     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3172
Minor Approach Volume:           401
Minor Approach Volume Threshold: -122 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #2: SR-99 NB Ramps / Robertson-Ave 26




```
Street Name:         SR-99 NB Ramps                    Robertson Ave 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     310    0   158      0    0      0      0  871   325   212 1137     0
Growth Adj:  1.00 1.00  1.00   1.00 1.00   1.00   1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  310    0   158      0    0      0      0  871   325   212 1137     0
Added Vol:      0    0     0      0    0      0      0    0     0     0    0     0
PasserByVol:    0    0     0      0    0      0      0    0     0     0    0     0
Initial Fut:  310    0   158      0    0      0      0  871   325   212 1137     0
User Adj:    1.00 1.00  1.00   1.00 1.00   1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00   1.00 1.00   1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   310    0   158      0    0      0      0  871   325   212 1137     0
Reduct Vol:     0    0     0      0    0      0      0    0     0     0    0     0
FinalVolume:  310    0   158      0    0      0      0  871   325   212 1137     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2026 xxxx   598  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1196 xxxx xxxxx
Potent Cap.:   51 xxxx   450  xxxx xxxx xxxxx  xxxx xxxx xxxxx   591 xxxx xxxxx
Move Cap.:     37 xxxx   450  xxxx xxxx xxxxx  xxxx xxxx xxxxx   591 xxxx xxxxx
Volume/Cap:  8.38 xxxx  0.35  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.36 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   37.2 xxxx   1.6  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.6 xxxx xxxxx
Control Del: 3533 xxxx  17.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.5 xxxx xxxxx
LOS by Move:    F    *     C      *    *      *      *    *      *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *      *    *      *      *    *      *     *    *     *
ApproachDel:    2345.8           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                  *                  *                  *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  310    0   158     0    0      0     0  871   325   212 1137     0
ApproachDel:    2345.8           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=305.0]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=468]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3013]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

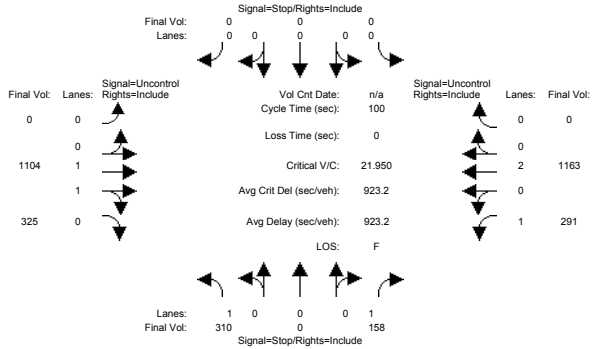
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  310    0   158     0    0      0     0  871   325   212 1137     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2545
Minor Approach Volume:           468
Minor Approach Volume Threshold: -28 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #2: SR-99 NB Ramps / Robertson-Ave 26




```
Street Name:          SR-99 NB Ramps                    Robertson Ave 26
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     310    0   158      0    0      0      0  871   325   212 1137     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  310    0   158      0    0      0      0  871   325   212 1137     0
Added Vol:      0    0     0      0    0      0      0  233     0    79   26     0
PasserByVol:    0    0     0      0    0      0      0    0     0     0    0     0
Initial Fut:  310    0   158      0    0      0      0 1104   325   291 1163     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   310    0   158      0    0      0      0 1104   325   291 1163     0
Reduct Vol:     0    0     0      0    0      0      0    0     0     0    0     0
FinalVolume:  310    0   158      0    0      0      0 1104   325   291 1163     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2430 xxxx   715  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1429 xxxx xxxxx
Potent Cap.:   27 xxxx   378  xxxx xxxx xxxxx  xxxx xxxx xxxxx   482 xxxx xxxxx
Move Cap.:     14 xxxx   378  xxxx xxxx xxxxx  xxxx xxxx xxxxx   482 xxxx xxxxx
Volume/Cap: 21.95 xxxx  0.42  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.60 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   39.9 xxxx   2.0  xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.9 xxxx xxxxx
Control Del: 9947 xxxx  21.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  23.2 xxxx xxxxx
LOS by Move:    F    *     C     *    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    6596.2           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  310    0   158     0    0     0     0 1104   325   291 1163     0
ApproachDel:    6596.2           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=857.5]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=468]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3351]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

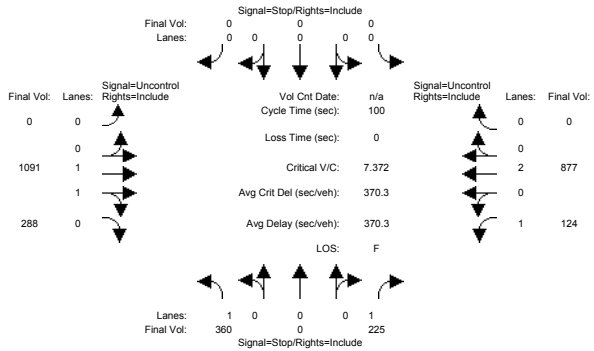
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  310    0   158     0    0     0     0 1104   325   291 1163     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2883
Minor Approach Volume:           468
Minor Approach Volume Threshold: -81 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #2: SR-99 NB Ramps / Robertson-Ave 26




```
Street Name:          SR-99 NB Ramps                    Robertson Ave 26
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     360    0   225     0    0     0     0 1091   288   124  877     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  360    0   225     0    0     0     0 1091   288   124  877     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  360    0   225     0    0     0     0 1091   288   124  877     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   360    0   225     0    0     0     0 1091   288   124  877     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  360    0   225     0    0     0     0 1091   288   124  877     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1922 xxxx   690  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1379 xxxx xxxxx
Potent Cap.:   60 xxxx   393  xxxx xxxx xxxxx  xxxx xxxx xxxxx   504 xxxx xxxxx
Move Cap.:     49 xxxx   393  xxxx xxxx xxxxx  xxxx xxxx xxxxx   504 xxxx xxxxx
Volume/Cap:  7.37 xxxx  0.57  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.25 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   42.1 xxxx   3.5  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx
Control Del: 3029 xxxx  25.8 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.5 xxxx xxxxx
LOS by Move:    F    *     D     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    1873.9           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  360    0   225     0    0     0     0 1091   288   124  877     0
ApproachDel:    1873.9           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=304.5]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=585]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2965]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

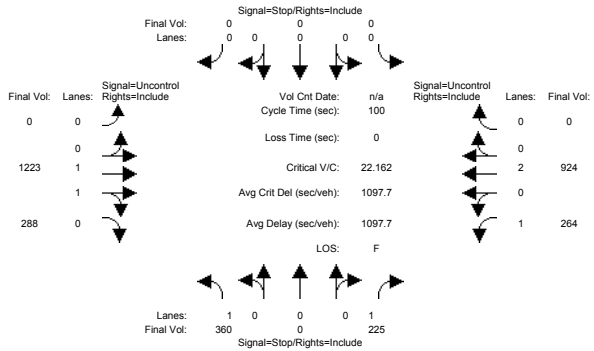
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  360    0   225     0    0     0     0 1091   288   124  877     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2380
Minor Approach Volume:           585
Minor Approach Volume Threshold: 1 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #2: SR-99 NB Ramps / Robertson-Ave 26




```
Street Name:         SR-99 NB Ramps                    Robertson Ave 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     360    0   225     0    0     0     0 1091   288   124  877     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  360    0   225     0    0     0     0 1091   288   124  877     0
Added Vol:      0    0     0     0    0     0     0  132     0   140   47     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  360    0   225     0    0     0     0 1223   288   264  924     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   360    0   225     0    0     0     0 1223   288   264  924     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  360    0   225     0    0     0     0 1223   288   264  924     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2357 xxxx   756  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1511 xxxx xxxxx
Potent Cap.:   31 xxxx   355  xxxx xxxx xxxxx  xxxx xxxx xxxxx   448 xxxx xxxxx
Move Cap.:     16 xxxx   355  xxxx xxxx xxxxx  xxxx xxxx xxxxx   448 xxxx xxxxx
Volume/Cap: 22.16 xxxx  0.63  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.59 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   45.9 xxxx   4.1  xxxx xxxx xxxxx  xxxx xxxx xxxxx   3.7 xxxx xxxxx
Control Del: 9976 xxxx  31.1 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  23.9 xxxx xxxxx
LOS by Move:    F    *     D     *    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    6151.2           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  360    0   225     0    0     0     0 1223   288   264  924     0
ApproachDel:    6151.2           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=999.6]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=585]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3284]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

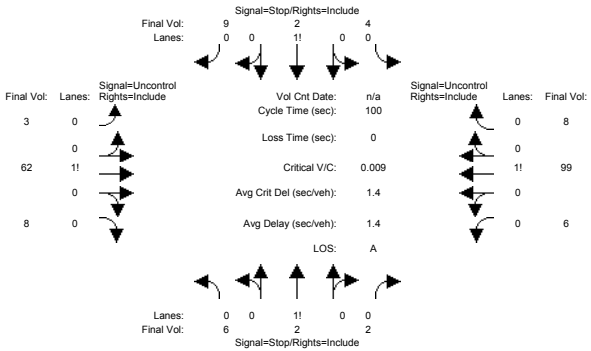
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Robertson-Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  360    0   225     0    0     0     0 1223   288   264  924     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2699
Minor Approach Volume:           585
Minor Approach Volume Threshold: -53 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #3: Road 19 / Avenue 26




```
Street Name:              Road 19                          Avenue 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6    2     2     4    2     9     3   62     8     6   99     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6    2     2     4    2     9     3   62     8     6   99     8
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6    2     2     4    2     9     3   62     8     6   99     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6    2     2     4    2     9     3   62     8     6   99     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6    2     2     4    2     9     3   62     8     6   99     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  193  191    66   189  191   103   107 xxxx xxxxx    70 xxxx xxxxx
Potent Cap.:  772  708  1003   776  708   957  1497 xxxx xxxxx  1544 xxxx xxxxx
Move Cap.:    759  703  1003   769  703   957  1497 xxxx xxxxx  1544 xxxx xxxxx
Volume/Cap:  0.01 0.00  0.00  0.01 0.00  0.01  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  785 xxxxx  xxxx  860 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.0 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  9.6 xxxxx xxxxx  9.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    A     *     *    A     *     *    *     *     *    *     *
ApproachDel:       9.6              9.3           xxxxxx           xxxxxx
ApproachLOS:         A                A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6    2     2     4    2     9     3   62     8     6   99     8
ApproachDel:       9.6              9.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=10]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=211]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=211]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6    2     2     4    2     9     3   62     8     6   99     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             186
Minor Approach Volume:           15
Minor Approach Volume Threshold: 668
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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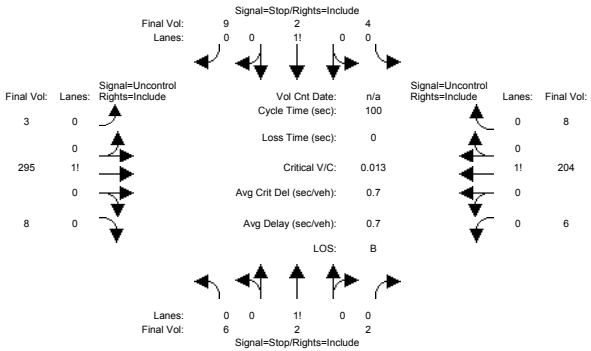
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #3: Road 19 / Avenue 26




```
Street Name:              Road 19                          Avenue 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6    2     2     4    2     9     3   62     8     6   99     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6    2     2     4    2     9     3   62     8     6   99     8
Added Vol:      0    0     0     0    0     0     0  233     0     0  105     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6    2     2     4    2     9     3  295     8     6  204     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6    2     2     4    2     9     3  295     8     6  204     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6    2     2     4    2     9     3  295     8     6  204     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  531  529   299   527  529   208   212 xxxx xxxxx   303 xxxx xxxxx
Potent Cap.:  462  458   745   465  458   837  1370 xxxx xxxxx  1269 xxxx xxxxx
Move Cap.:    454  455   745   460  455   837  1370 xxxx xxxxx  1269 xxxx xxxxx
Volume/Cap:  0.01 0.00  0.00  0.01 0.00  0.01  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx   7.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  492 xxxxx  xxxx  629 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.1 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.5 xxxxx xxxxx 10.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      12.5             10.9            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6    2     2     4    2     9     3  295     8     6  204     8
ApproachDel:      12.5             10.9            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=10]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=549]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=549]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6    2     2     4    2     9     3  295     8     6  204     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             524
Minor Approach Volume:           15
Minor Approach Volume Threshold: 392
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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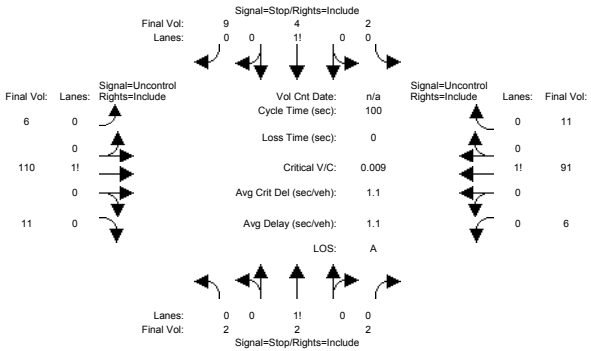
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #3: Road 19 / Avenue 26




```
Street Name:              Road 19                          Avenue 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    2     2     2    4     9     6  110    11     6   91    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    2     2     2    4     9     6  110    11     6   91    11
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    2     2     2    4     9     6  110    11     6   91    11
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    2     2     2    4     9     6  110    11     6   91    11
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    2     2     2    4     9     6  110    11     6   91    11
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  243  242   116   238  242    97   102 xxxx xxxxx   121 xxxx xxxxx
Potent Cap.:  716  663   942   721  663   965  1503 xxxx xxxxx  1479 xxxx xxxxx
Move Cap.:    701  658   942   713  658   965  1503 xxxx xxxxx  1479 xxxx xxxxx
Volume/Cap:  0.00 0.00  0.00  0.00 0.01  0.01  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  749 xxxxx  xxxx  824 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.0 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  9.8 xxxxx xxxxx  9.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    A     *     *    A     *     *    *     *     *    *     *
ApproachDel:       9.8              9.5            xxxxxx           xxxxxx
ApproachLOS:         A                A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2    2     2     2    4     9     6  110    11     6   91    11
ApproachDel:       9.8              9.5            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=256]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=256]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2    2     2     2    4     9     6  110    11     6   91    11
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             235
Minor Approach Volume:           15
Minor Approach Volume Threshold: 606
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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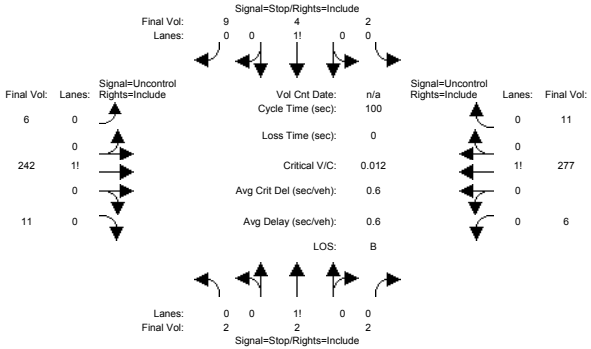
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #3: Road 19 / Avenue 26




```
Street Name:              Road 19                          Avenue 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    2     2     2    4     9     6  110    11     6   91    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    2     2     2    4     9     6  110    11     6   91    11
Added Vol:      0    0     0     0    0     0     0  132     0     0  186     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    2     2     2    4     9     6  242    11     6  277    11
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    2     2     2    4     9     6  242    11     6  277    11
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    2     2     2    4     9     6  242    11     6  277    11
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  561  560   248   556  560   283   288 xxxx xxxxx   253 xxxx xxxxx
Potent Cap.:  442  440   796   445  440   761  1286 xxxx xxxxx  1324 xxxx xxxxx
Move Cap.:    430  436   796   439  436   761  1286 xxxx xxxxx  1324 xxxx xxxxx
Volume/Cap:  0.00 0.00  0.00  0.00 0.01  0.01  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx   7.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  511 xxxxx  xxxx  587 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.0 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.1 xxxxx xxxxx 11.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      12.1             11.3            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2    2     2     2    4     9     6  242    11     6  277    11
ApproachDel:      12.1             11.3            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=574]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=574]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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signal warrant (such as the 4-hour or 8-hour warrants).

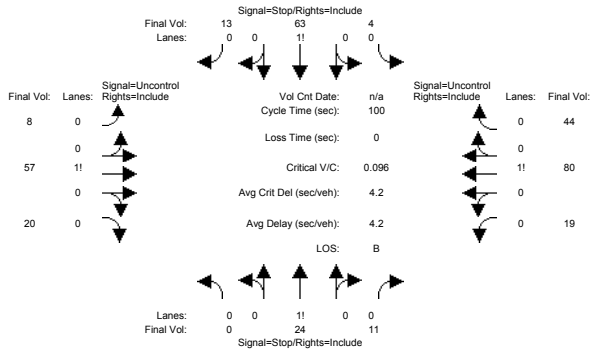
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Road 19 / Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    2    2     2     2    4     9     6  242    11     6  277    11
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             553
Minor Approach Volume:           15
Minor Approach Volume Threshold: 377
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #4: Santa Fe Dr / Ave 26




```
Street Name:           Santa Fe Drive                        Ave 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   24    11     4   63    13     8   57    20    19   80    44
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   24    11     4   63    13     8   57    20    19   80    44
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   24    11     4   63    13     8   57    20    19   80    44
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   24    11     4   63    13     8   57    20    19   80    44
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   24    11     4   63    13     8   57    20    19   80    44
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx  245    67   241  233   102   124 xxxx xxxxx    77 xxxx xxxxx
Potent Cap.: xxxx  661  1002   718  671   959  1475 xxxx xxxxx  1535 xxxx xxxxx
Move Cap.:   xxxx  649  1002   681  659   959  1475 xxxx xxxxx  1535 xxxx xxxxx
Volume/Cap:  xxxx 0.04  0.01  0.01 0.10  0.01  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx   730  xxxx  695 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx   0.2 xxxxx  0.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx  10.2 xxxxx 10.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     B     *    B     *     *    *     *     *    *     *
ApproachDel:      10.2             10.9           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    0   24    11     4   63    13     8   57    20    19   80    44
ApproachDel:      10.2             10.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=343]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=80]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=343]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    0   24    11     4   63    13     8   57    20    19   80    44
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             228
Minor Approach Volume:           80
Minor Approach Volume Threshold: 614
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
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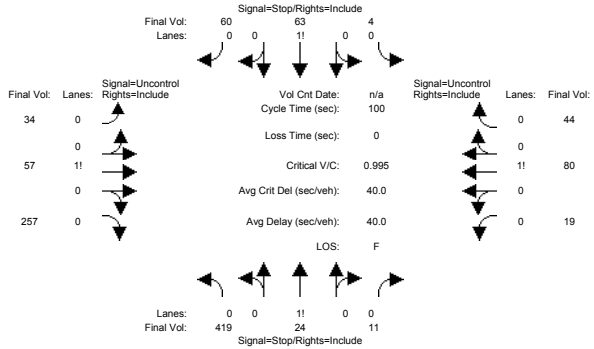
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #4: Santa Fe Dr / Ave 26




```
Street Name:           Santa Fe Drive                        Ave 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   24    11     4   63    13     8   57    20    19   80    44
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   24    11     4   63    13     8   57    20    19   80    44
Added Vol:    419    0     0     0    0    47    26    0   237     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  419   24    11     4   63    60    34   57   257    19   80    44
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   419   24    11     4   63    60    34   57   257    19   80    44
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  419   24    11     4   63    60    34   57   257    19   80    44
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  455  416   186   411  522   102   124 xxxx xxxxx   314 xxxx xxxxx
Potent Cap.:  519  531   862   555  462   959  1475 xxxx xxxxx  1258 xxxx xxxxx
Move Cap.:    421  510   862   513  444   959  1475 xxxx xxxxx  1258 xxxx xxxxx
Volume/Cap:  1.00 0.05  0.01  0.01 0.14  0.06  0.02 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   7.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  430 xxxxx  xxxx  599 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 14.6 xxxxx xxxxx  0.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 89.9 xxxxx xxxxx 12.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    B     *     *    *     *     *    *     *
ApproachDel:      89.9             12.6            xxxxxx           xxxxxx
ApproachLOS:         F                B                 *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  419   24    11     4   63    60    34   57   257    19   80    44
ApproachDel:      89.9             12.6            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=11.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=454]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1072]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=127]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1072]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  419   24    11     4   63    60    34   57   257    19   80    44
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             491
Minor Approach Volume:           454
Minor Approach Volume Threshold: 409
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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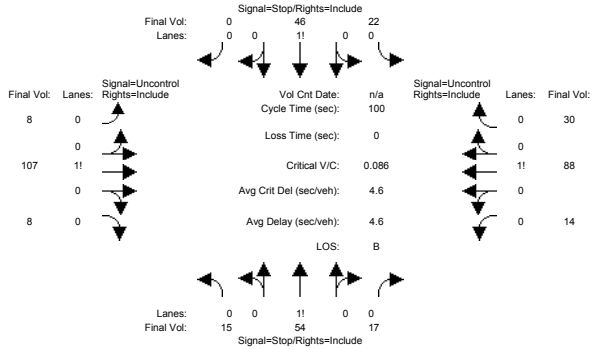
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #4: Santa Fe Dr / Ave 26




```
Street Name:           Santa Fe Drive                        Ave 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   54    17    22   46     0     8  107     8    14   88    30
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15   54    17    22   46     0     8  107     8    14   88    30
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   15   54    17    22   46     0     8  107     8    14   88    30
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    15   54    17    22   46     0     8  107     8    14   88    30
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   15   54    17    22   46     0     8  107     8    14   88    30
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5 xxxxx   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0 xxxxx   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  281  273   111   294  262 xxxxx   118 xxxx xxxxx   115 xxxx xxxxx
Potent Cap.:  675  637   948   663  646 xxxxx  1483 xxxx xxxxx  1487 xxxx xxxxx
Move Cap.:    631  628   948   601  637 xxxxx  1483 xxxx xxxxx  1487 xxxx xxxxx
Volume/Cap:  0.02 0.09  0.02  0.04 0.07  xxxx  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  673 xxxxx   625 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.4 xxxxx   0.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 11.1 xxxxx  11.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     B    *     *     *    *     *     *    *     *
ApproachDel:      11.1             11.5           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  1  0  0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   15   54    17    22   46     0     8  107     8    14   88    30
ApproachDel:      11.1             11.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=86]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=409]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=68]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=409]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  1  0  0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   15   54    17    22   46     0     8  107     8    14   88    30
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             255
Minor Approach Volume:           86
Minor Approach Volume Threshold: 584
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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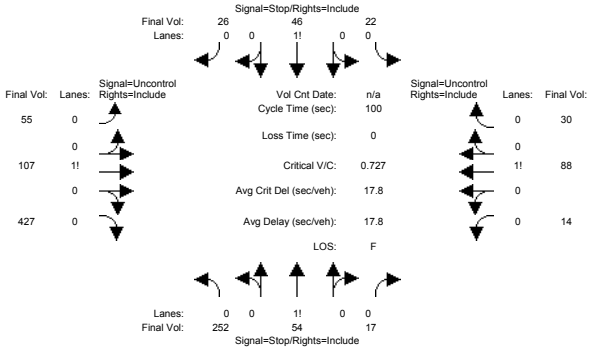
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #4: Santa Fe Dr / Ave 26




```
Street Name:           Santa Fe Drive                        Ave 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15   54    17    22   46     0     8  107     8    14   88    30
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15   54    17    22   46     0     8  107     8    14   88    30
Added Vol:    237    0     0     0    0    26    47    0   419     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  252   54    17    22   46    26    55  107   427    14   88    30
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   252   54    17    22   46    26    55  107   427    14   88    30
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  252   54    17    22   46    26    55  107   427    14   88    30
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  598  577   321   597  775   103   118 xxxx xxxxx   534 xxxx xxxxx
Potent Cap.:  417  430   725   418  331   957  1483 xxxx xxxxx  1044 xxxx xxxxx
Move Cap.:    347  408   725   352  314   957  1483 xxxx xxxxx  1044 xxxx xxxxx
Volume/Cap:  0.73 0.13  0.02  0.06 0.15  0.03  0.04 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  366 xxxxx  xxxx  398 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  8.6 xxxxx xxxxx  0.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 56.3 xxxxx xxxxx 16.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    C     *     *    *     *     *    *     *
ApproachDel:      56.3             16.8           xxxxxx           xxxxxx
ApproachLOS:         F                C                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  252   54    17    22   46    26    55  107   427    14   88    30
ApproachDel:      56.3             16.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=323]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1138]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=94]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1138]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

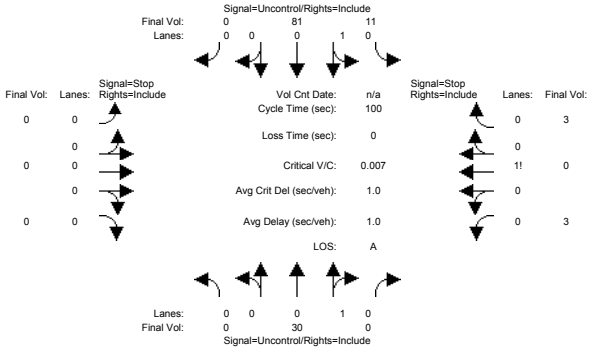
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Santa Fe Dr / Ave 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  252   54    17    22   46    26    55  107   427    14   88    30
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             721
Minor Approach Volume:           323
Minor Approach Volume Threshold: 307
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #5: Route 22 / Santa Fe Dr




```
Street Name:         Route 22-Santa Fe                    Santa Fe Drive
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   30     0    11   81     0     0    0     0     3    0     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   30     0    11   81     0     0    0     0     3    0     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   30     0    11   81     0     0    0     0     3    0     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   30     0    11   81     0     0    0     0     3    0     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   30     0    11   81     0     0    0     0     3    0     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx    30 xxxx xxxxx  xxxx xxxx xxxxx   133  133    30
Potent Cap.: xxxx xxxx xxxxx  1596 xxxx xxxxx  xxxx xxxx xxxxx   866  761  1050
Move Cap.:   xxxx xxxx xxxxx  1596 xxxx xxxxx  xxxx xxxx xxxxx   861  756  1050
Volume/Cap:  xxxx xxxx  xxxx  0.01 xxxx  xxxx  xxxx xxxx  xxxx  0.00 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  946 xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.0 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  8.8 xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    A     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              8.8
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   30     0    11   81     0     0    0     0     3    0     3
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              8.8
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=128]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

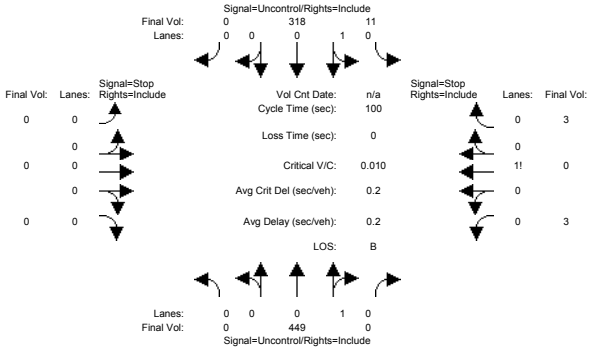
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0   30     0    11   81     0     0    0     0     3    0     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             122
Minor Approach Volume:           6
Minor Approach Volume Threshold: 780
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #5: Route 22 / Santa Fe Dr




```
Street Name:         Route 22-Santa Fe                    Santa Fe Drive
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   30     0    11   81     0     0    0     0     3    0     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   30     0    11   81     0     0    0     0     3    0     3
Added Vol:      0  419     0     0  237     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  449     0    11  318     0     0    0     0     3    0     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  449     0    11  318     0     0    0     0     3    0     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  449     0    11  318     0     0    0     0     3    0     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   449 xxxx xxxxx  xxxx xxxx xxxxx   789  789   449
Potent Cap.: xxxx xxxx xxxxx  1122 xxxx xxxxx  xxxx xxxx xxxxx   362  325   614
Move Cap.:   xxxx xxxx xxxxx  1122 xxxx xxxxx  xxxx xxxx xxxxx   360  322   614
Volume/Cap:  xxxx xxxx  xxxx  0.01 xxxx  xxxx  xxxx xxxx  xxxx  0.01 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   8.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  454 xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.0 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx   8.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 13.0 xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             13.0
ApproachLOS:         *                *                *                B
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  449     0    11  318     0     0    0     0     3    0     3
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             13.0
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=784]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

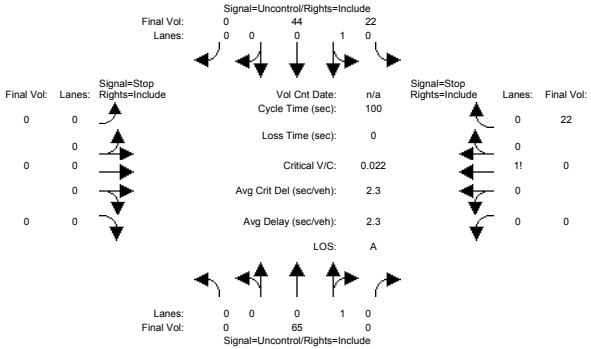
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  449     0    11  318     0     0    0     0     3    0     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             778
Minor Approach Volume:           6
Minor Approach Volume Threshold: 286
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #5: Route 22 / Santa Fe Dr




```
Street Name:         Route 22-Santa Fe                    Santa Fe Drive
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   65     0    22   44     0     0    0     0     0    0    22
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   65     0    22   44     0     0    0     0     0    0    22
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   65     0    22   44     0     0    0     0     0    0    22
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   65     0    22   44     0     0    0     0     0    0    22
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   65     0    22   44     0     0    0     0     0    0    22
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx    65 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx    65
Potent Cap.: xxxx xxxx xxxxx  1550 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  1005
Move Cap.:   xxxx xxxx xxxxx  1550 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  1005
Volume/Cap:  xxxx xxxx  xxxx  0.01 xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.02
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1
Control Del:xxxxx xxxx xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   8.7
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              8.7
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  0  0  1
Initial Vol:    0   65     0    22   44     0     0    0     0     0    0    22
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              8.7
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=22]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=153]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

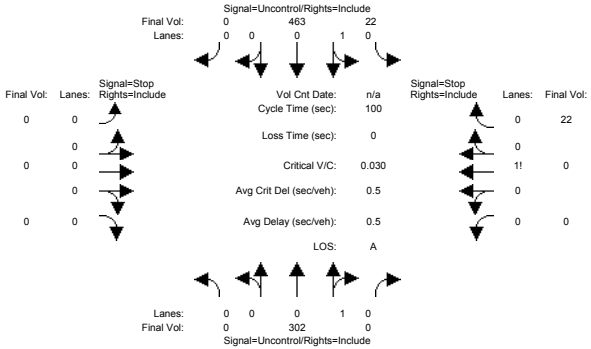
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  0  0  1
Initial Vol:    0   65     0    22   44     0     0    0     0     0    0    22
------------|---------------||---------------||---------------||---------------|
Major Street Volume:            131
Minor Approach Volume:          22
Minor Approach Volume Threshold: 761
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #5: Route 22 / Santa Fe Dr




```
Street Name:         Route 22-Santa Fe                    Santa Fe Drive
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   65     0    22   44     0     0    0     0     0    0    22
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   65     0    22   44     0     0    0     0     0    0    22
Added Vol:      0  237     0     0  419     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  302     0    22  463     0     0    0     0     0    0    22
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  302     0    22  463     0     0    0     0     0    0    22
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  302     0    22  463     0     0    0     0     0    0    22
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   302 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   302
Potent Cap.: xxxx xxxx xxxxx  1270 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   742
Move Cap.:   xxxx xxxx xxxxx  1270 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   742
Volume/Cap:  xxxx xxxx  xxxx  0.02 xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1
Control Del:xxxxx xxxx xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.0
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             10.0
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  0  0  1
Initial Vol:    0  302     0    22  463     0     0    0     0     0    0    22
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             10.0
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=22]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=809]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

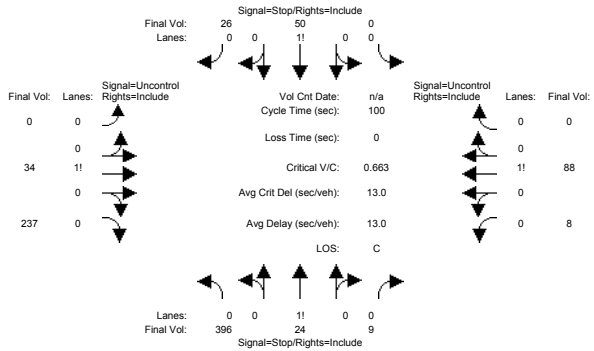
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Route 22 / Santa Fe Dr
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  1  0  0  0    0  0  0  0  0    0  0  0  0  1
Initial Vol:    0  302     0    22  463     0     0    0     0     0    0    22
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             787
Minor Approach Volume:           22
Minor Approach Volume Threshold: 283
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #6: Road 22 / Avenue 24




```
Street Name:              Road 22                          Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     396   24     9     0   50    26     0   34   237     8   88     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  396   24     9     0   50    26     0   34   237     8   88     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  396   24     9     0   50    26     0   34   237     8   88     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   396   24     9     0   50    26     0   34   237     8   88     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  396   24     9     0   50    26     0   34   237     8   88     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2 xxxxx  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  295  257   153  xxxx  375    88  xxxx xxxx xxxxx   271 xxxx xxxxx
Potent Cap.:  662  651   899  xxxx  559   976  xxxx xxxx xxxxx  1304 xxxx xxxxx
Move Cap.:    597  647   899  xxxx  556   976  xxxx xxxx xxxxx  1304 xxxx xxxxx
Volume/Cap:  0.66 0.04  0.01  xxxx 0.09  0.03  xxxx xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  604 xxxxx  xxxx xxxx   652  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  5.8 xxxxx xxxxx xxxx   0.4 xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 24.2 xxxxx xxxxx xxxx  11.3 xxxxx xxxx xxxxx   7.8 xxxx xxxxx
Shared LOS:     *    C     *     *    *     B     *    *     *     A    *     *
ApproachDel:      24.2             11.3           xxxxxx           xxxxxx
ApproachLOS:         C                B                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  396   24     9     0   50    26     0   34   237     8   88     0
ApproachDel:      24.2             11.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=429]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=872]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=76]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=872]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  396   24     9     0   50    26     0   34   237     8   88     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             367
Minor Approach Volume:           429
Minor Approach Volume Threshold: 487
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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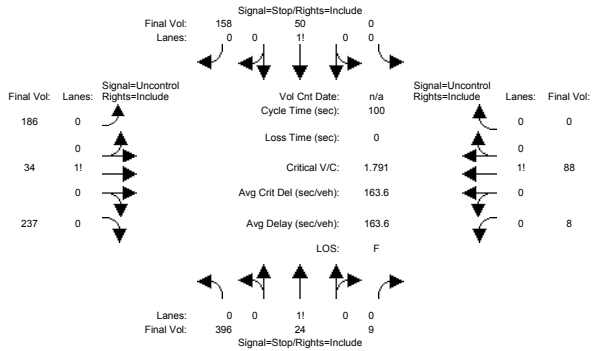
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #6: Road 22 / Avenue 24




```
Street Name:              Road 22                          Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     396   24     9     0   50    26     0   34   237     8   88     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  396   24     9     0   50    26     0   34   237     8   88     0
Added Vol:      0    0     0     0    0   132   186    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  396   24     9     0   50   158   186   34   237     8   88     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   396   24     9     0   50   158   186   34   237     8   88     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  396   24     9     0   50   158   186   34   237     8   88     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2 xxxxx  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  733  629   153  xxxx  747    88    88 xxxx xxxxx   271 xxxx xxxxx
Potent Cap.:  339  402   899  xxxx  344   976  1520 xxxx xxxxx  1304 xxxx xxxxx
Move Cap.:    221  345   899  xxxx  295   976  1520 xxxx xxxxx  1304 xxxx xxxxx
Volume/Cap:  1.79 0.07  0.01  xxxx 0.17  0.16  0.12 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.4 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx   7.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  229 xxxxx  xxxx xxxx   628  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 30.3 xxxxx xxxxx xxxx   1.4 xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx  444 xxxxx xxxxx xxxx  13.6 xxxxx xxxx xxxxx   7.8 xxxx xxxxx
Shared LOS:     *    F     *     *    *     B     *    *     *     A    *     *
ApproachDel:     443.8             13.6           xxxxxx           xxxxxx
ApproachLOS:         F                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  1  0  0  0
Initial Vol:  396   24     9     0   50   158   186   34   237     8   88     0
ApproachDel:     443.8             13.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=52.9]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=429]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1190]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=208]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1190]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  1  0    0  0  1! 0  0    0  1  0  0  0
Initial Vol:  396   24     9     0   50   158   186   34   237     8   88     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             553
Minor Approach Volume:           429
Minor Approach Volume Threshold: 377
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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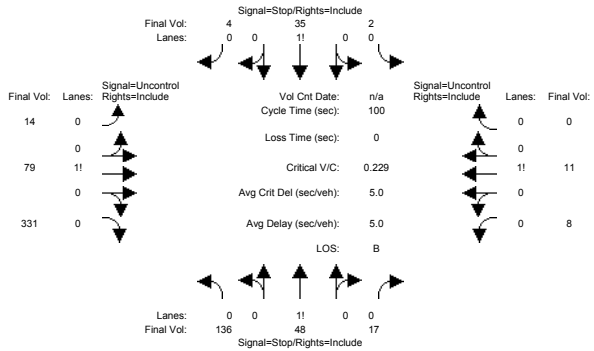
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #6: Road 22 / Avenue 24




```
Street Name:              Road 22                          Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     136   48    17     2   35     4    14   79   331     8   11     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  136   48    17     2   35     4    14   79   331     8   11     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  136   48    17     2   35     4    14   79   331     8   11     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   136   48    17     2   35     4    14   79   331     8   11     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  136   48    17     2   35     4    14   79   331     8   11     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  319  300   245   332  465    11    11 xxxx xxxxx   410 xxxx xxxxx
Potent Cap.:  638  616   799   625  498  1076  1621 xxxx xxxxx  1160 xxxx xxxxx
Move Cap.:    594  607   799   568  490  1076  1621 xxxx xxxxx  1160 xxxx xxxxx
Volume/Cap:  0.23 0.08  0.02  0.00 0.07  0.00  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx   8.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  610 xxxxx  xxxx  521 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.4 xxxxx xxxxx  0.3 xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 13.8 xxxxx xxxxx 12.5 xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     A    *     *
ApproachDel:      13.8             12.5           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  0
Initial Vol:  136   48    17     2   35     4    14   79   331     8   11     0
ApproachDel:      13.8             12.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=201]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=685]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=41]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=685]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  0
Initial Vol:  136   48    17     2   35     4    14   79   331     8   11     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             443
Minor Approach Volume:           201
Minor Approach Volume Threshold: 437
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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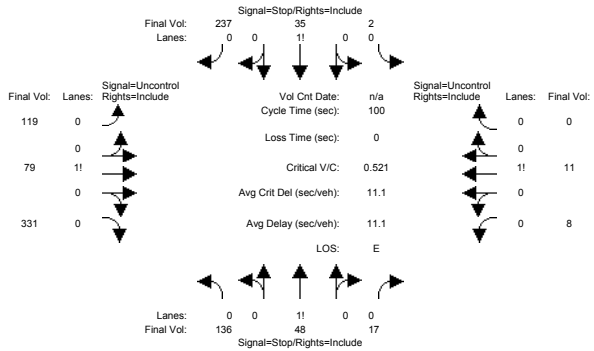
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #6: Road 22 / Avenue 24




```
Street Name:              Road 22                          Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     136   48    17     2   35     4    14   79   331     8   11     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  136   48    17     2   35     4    14   79   331     8   11     0
Added Vol:      0    0     0     0    0   233   105    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  136   48    17     2   35   237   119   79   331     8   11     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   136   48    17     2   35   237   119   79   331     8   11     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  136   48    17     2   35   237   119   79   331     8   11     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  646  510   245   542  675    11    11 xxxx xxxxx   410 xxxx xxxxx
Potent Cap.:  388  470   799   454  378  1076  1621 xxxx xxxxx  1160 xxxx xxxxx
Move Cap.:    261  430   799   381  346  1076  1621 xxxx xxxxx  1160 xxxx xxxxx
Volume/Cap:  0.52 0.11  0.02  0.01 0.10  0.22  0.07 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx   8.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  307 xxxxx  xxxx  839 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  4.3 xxxxx xxxxx  1.4 xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx 36.4 xxxxx xxxxx 11.4 xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx
Shared LOS:     *    E     *     *    B     *     *    *     *     A    *     *
ApproachDel:      36.4             11.4           xxxxxx           xxxxxx
ApproachLOS:         E                B                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  0
Initial Vol:  136   48    17     2   35   237   119   79   331     8   11     0
ApproachDel:      36.4             11.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=201]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1023]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=274]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1023]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

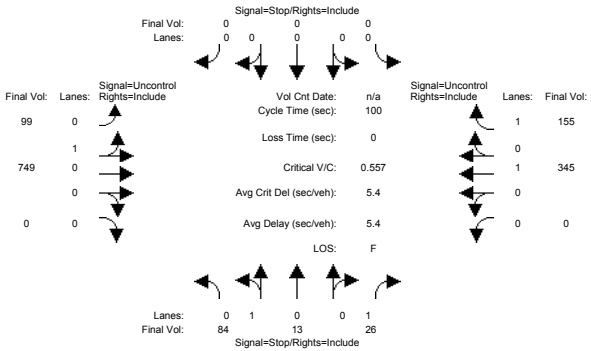
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Road 22 / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  0
Initial Vol:  136   48    17     2   35   237   119   79   331     8   11     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             548
Minor Approach Volume:           274
Minor Approach Volume Threshold: 380
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #7: SR-99 NB Ramps / Avenue 24




```
Street Name:           SR-99 NB Ramps                      Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      84   13    26     0    0     0    99  749     0     0  345   155
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   84   13    26     0    0     0    99  749     0     0  345   155
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   84   13    26     0    0     0    99  749     0     0  345   155
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    84   13    26     0    0     0    99  749     0     0  345   155
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   84   13    26     0    0     0    99  749     0     0  345   155
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1370 1447   749  xxxx xxxx xxxxx   500 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  163  133   415  xxxx xxxx xxxxx  1075 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    151  120   415  xxxx xxxx xxxxx  1075 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.56 0.11  0.06  xxxx xxxx  xxxx  0.09 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   0.2  xxxx xxxx xxxxx   0.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  14.3 xxxxx xxxx xxxxx   8.7 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  146 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  3.7 xxxx xxxxx xxxxx xxxx xxxxx   0.3 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 68.7 xxxx xxxxx xxxxx xxxx xxxxx   8.7 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     F    *     *     *    *     *     A    *     *     *    *     *
ApproachDel:      57.2           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   84   13    26     0    0     0    99  749     0     0  345   155
ApproachDel:      57.2           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.0]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=123]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1471]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

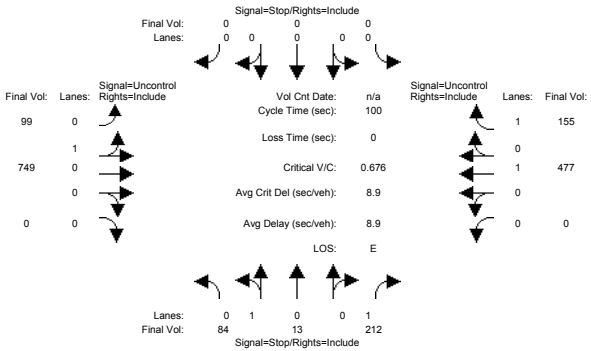
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   84   13    26     0    0     0    99  749     0     0  345   155
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1348
Minor Approach Volume:           123
Minor Approach Volume Threshold: 246
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #7: SR-99 NB Ramps / Avenue 24




```
Street Name:           SR-99 NB Ramps                      Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      84   13    26     0    0     0    99  749     0     0  345   155
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   84   13    26     0    0     0    99  749     0     0  345   155
Added Vol:      0    0   186     0    0     0     0    0     0     0  132     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   84   13   212     0    0     0    99  749     0     0  477   155
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    84   13   212     0    0     0    99  749     0     0  477   155
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   84   13   212     0    0     0    99  749     0     0  477   155
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1502 1579   749  xxxx xxxx xxxxx   632 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  136  110   415  xxxx xxxx xxxxx   960 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    124   98   415  xxxx xxxx xxxxx   960 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.68 0.13  0.51  xxxx xxxx  xxxx  0.10 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   2.8  xxxx xxxx xxxxx   0.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  22.4 xxxxx xxxx xxxxx   9.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     C     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  120 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  4.8 xxxx xxxxx xxxxx xxxx xxxxx   0.3 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:104.9 xxxx xxxxx xxxxx xxxx xxxxx   9.2 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     F    *     *     *    *     *     A    *     *     *    *     *
ApproachDel:      48.3           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         E                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   84   13   212     0    0     0    99  749     0     0  477   155
ApproachDel:      48.3           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=309]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1789]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

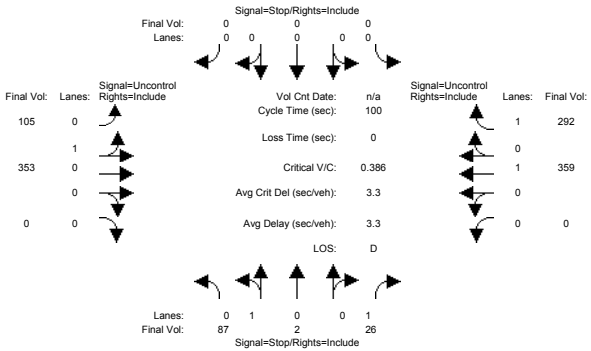
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   84   13   212     0    0     0    99  749     0     0  477   155
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1480
Minor Approach Volume:           309
Minor Approach Volume Threshold: 205
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #7: SR-99 NB Ramps / Avenue 24




```
Street Name:           SR-99 NB Ramps                      Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      87    2    26     0    0     0   105  353     0     0  359   292
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   87    2    26     0    0     0   105  353     0     0  359   292
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   87    2    26     0    0     0   105  353     0     0  359   292
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    87    2    26     0    0     0   105  353     0     0  359   292
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   87    2    26     0    0     0   105  353     0     0  359   292
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1068 1214   353  xxxx xxxx xxxxx   651 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  248  183   695  xxxx xxxx xxxxx   945 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    225  162   695  xxxx xxxx xxxxx   945 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.39 0.01  0.04  xxxx xxxx  xxxx  0.11 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   0.1  xxxx xxxx xxxxx   0.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  10.4 xxxxx xxxx xxxxx   9.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  223 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  1.8 xxxx xxxxx xxxxx xxxx xxxxx   0.4 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 31.4 xxxx xxxxx xxxxx xxxx xxxxx   9.3 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     D    *     *     *    *     *     A    *     *     *    *     *
ApproachDel:      26.7           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         D                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   87    2    26     0    0     0   105  353     0     0  359   292
ApproachDel:      26.7           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=115]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1224]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

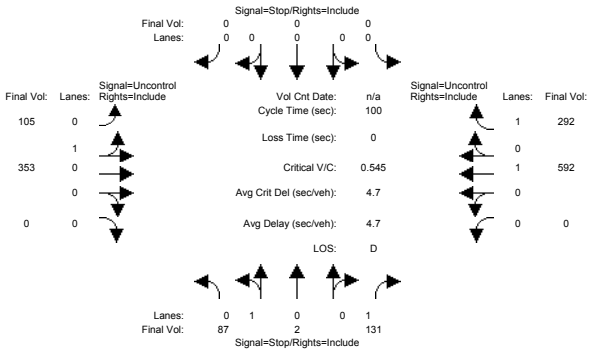
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   87    2    26     0    0     0   105  353     0     0  359   292
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1109
Minor Approach Volume:           115
Minor Approach Volume Threshold: 330
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #7: SR-99 NB Ramps / Avenue 24




```
Street Name:           SR-99 NB Ramps                      Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      87    2    26     0    0     0   105  353     0     0  359   292
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   87    2    26     0    0     0   105  353     0     0  359   292
Added Vol:      0    0   105     0    0     0     0    0     0     0  233     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   87    2   131     0    0     0   105  353     0     0  592   292
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    87    2   131     0    0     0   105  353     0     0  592   292
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   87    2   131     0    0     0   105  353     0     0  592   292
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1301 1447   353  xxxx xxxx xxxxx   884 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  179  133   695  xxxx xxxx xxxxx   774 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    160  114   695  xxxx xxxx xxxxx   774 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.55 0.02  0.19  xxxx xxxx  xxxx  0.14 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   0.7  xxxx xxxx xxxxx   0.5 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  11.4 xxxxx xxxx xxxxx  10.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  158 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  2.9 xxxx xxxxx xxxxx xxxx xxxxx   0.5 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 53.7 xxxx xxxxx xxxxx xxxx xxxxx  10.4 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     F    *     *     *    *     *     B    *     *     *    *     *
ApproachDel:      28.5           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         D                  *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   87    2   131     0    0     0   105  353     0     0  592   292
ApproachDel:      28.5           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=220]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1562]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

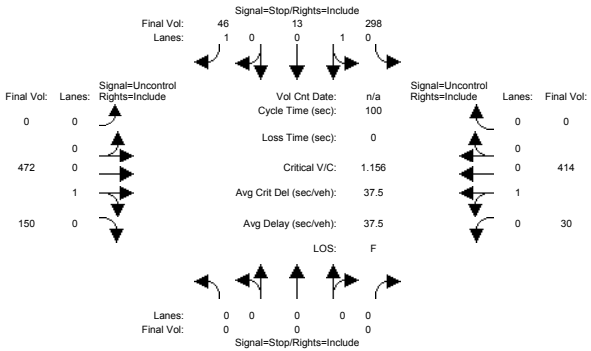
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  1  0  0  1    0  0  0  0  0    0  1  0  0  0    0  0  1  0  1
Initial Vol:   87    2   131     0    0     0   105  353     0     0  592   292
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1342
Minor Approach Volume:           220
Minor Approach Volume Threshold: 248
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #8: SR-99 SB Ramps / Avenue 24




```
Street Name:           SR-99 SB Ramps                     Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   298   13    46     0  472   150    30  414     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   298   13    46     0  472   150    30  414     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   298   13    46     0  472   150    30  414     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   298   13    46     0  472   150    30  414     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   298   13    46     0  472   150    30  414     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1021 1096   414  xxxx xxxx xxxxx   622 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   264  215   643  xxxx xxxx xxxxx   969 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   258  208   643  xxxx xxxx xxxxx   969 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.16 0.06  0.07  xxxx xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.2  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  11.0 xxxxx xxxx xxxxx   8.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   255 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx  14.8 xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx 169.0 xxxx xxxxx xxxxx xxxx xxxxx   8.8 xxxx xxxxx
Shared LOS:     *    *     *     F    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx            148.6           xxxxxx           xxxxxx
ApproachLOS:         *                F               *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0   298   13    46     0  472   150    30  414     0
ApproachDel:    xxxxxx            148.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=14.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=357]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1423]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

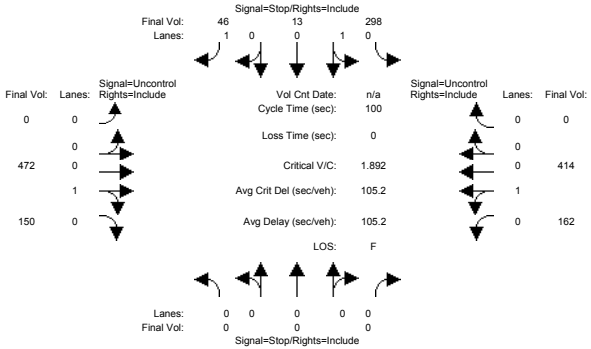
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0   298   13    46     0  472   150    30  414     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1066
Minor Approach Volume:           357
Minor Approach Volume Threshold: 272
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #8: SR-99 SB Ramps / Avenue 24




```
Street Name:           SR-99 SB Ramps                      Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   298   13    46     0  472   150    30  414     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   298   13    46     0  472   150    30  414     0
Added Vol:      0    0     0     0    0     0     0    0     0   132    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   298   13    46     0  472   150   162  414     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   298   13    46     0  472   150   162  414     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   298   13    46     0  472   150   162  414     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1285 1360   414  xxxx xxxx xxxxx   622 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   183  150   643  xxxx xxxx xxxxx   969 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   158  122   643  xxxx xxxx xxxxx   969 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.89 0.11  0.07  xxxx xxxx  xxxx  0.17 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.2  xxxx xxxx xxxxx   0.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  11.0 xxxxx xxxx xxxxx   9.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   156 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx  24.2 xxxx xxxxx xxxxx xxxx xxxxx   0.6 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx 519.6 xxxx xxxxx xxxxx xxxx xxxxx   9.5 xxxx xxxxx
Shared LOS:     *    *     *     F    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx            454.0           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0   298   13    46     0  472   150   162  414     0
ApproachDel:    xxxxxx            454.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=45.0]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=357]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1555]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

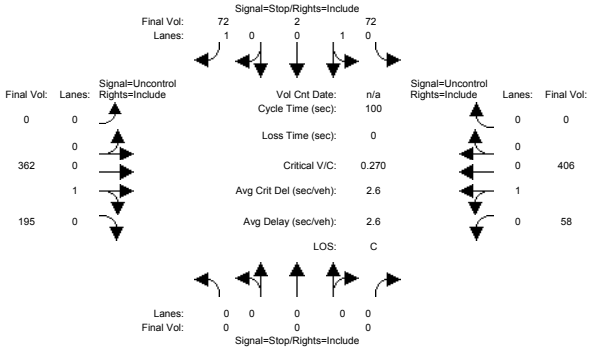
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0   298   13    46     0  472   150   162  414     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1198
Minor Approach Volume:           357
Minor Approach Volume Threshold: 236
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #8: SR-99 SB Ramps / Avenue 24




```
Street Name:           SR-99 SB Ramps                     Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    72    2    72     0  362   195    58  406     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    72    2    72     0  362   195    58  406     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    72    2    72     0  362   195    58  406     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    72    2    72     0  362   195    58  406     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    72    2    72     0  362   195    58  406     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   982 1079   406  xxxx xxxx xxxxx   557 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   279  220   649  xxxx xxxx xxxxx  1024 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   266  207   649  xxxx xxxx xxxxx  1024 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.27 0.01  0.11  xxxx xxxx  xxxx  0.06 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.4  xxxx xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  11.2 xxxxx xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   264 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   1.1 xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  23.8 xxxx xxxxx xxxxx xxxx xxxxx   8.7 xxxx xxxxx
Shared LOS:     *    *     *     C    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx             17.6           xxxxxx           xxxxxx
ApproachLOS:         *                C                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0    72    2    72     0  362   195    58  406     0
ApproachDel:    xxxxxx             17.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=146]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1167]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

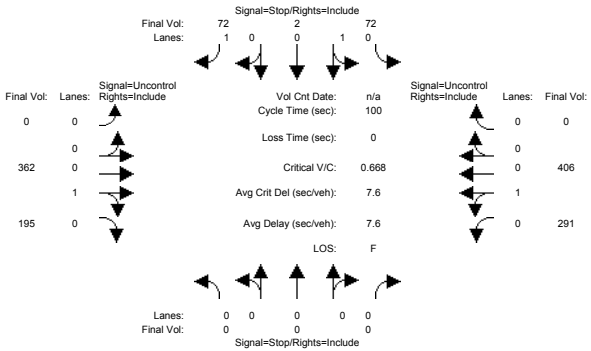
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0    72    2    72     0  362   195    58  406     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1021
Minor Approach Volume:           146
Minor Approach Volume Threshold: 286
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #8: SR-99 SB Ramps / Avenue 24




```
Street Name:           SR-99 SB Ramps                     Avenue 24
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    72    2    72     0  362   195    58  406     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    72    2    72     0  362   195    58  406     0
Added Vol:      0    0     0     0    0     0     0    0     0   233    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    72    2    72     0  362   195   291  406     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    72    2    72     0  362   195   291  406     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    72    2    72     0  362   195   291  406     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1448 1545   406  xxxx xxxx xxxxx   557 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   146  116   649  xxxx xxxx xxxxx  1024 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   108   76   649  xxxx xxxx xxxxx  1024 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.67 0.03  0.11  xxxx xxxx  xxxx  0.28 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.4  xxxx xxxx xxxxx   1.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  11.2 xxxxx xxxx xxxxx   9.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   107 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   3.6 xxxx xxxxx xxxxx xxxx xxxxx   1.2 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  93.7 xxxx xxxxx xxxxx xxxx xxxxx   9.9 xxxx xxxxx
Shared LOS:     *    *     *     F    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx             53.0           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0    72    2    72     0  362   195   291  406     0
ApproachDel:    xxxxxx             53.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=146]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1400]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 SB Ramps / Avenue 24
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  0  1  0    0  1  0  0  0
Initial Vol:    0    0     0    72    2    72     0  362   195   291  406     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1254
Minor Approach Volume:           146
Minor Approach Volume Threshold: 221
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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HEAVY MANTENANCE FACILITY ANALYSIS – KOJIMA DEVELOPMENT

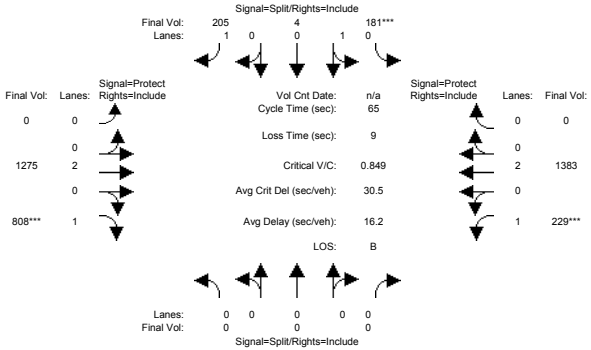
2035 WITH MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #1: SR-99 SB Ramps / Robertson Blvd



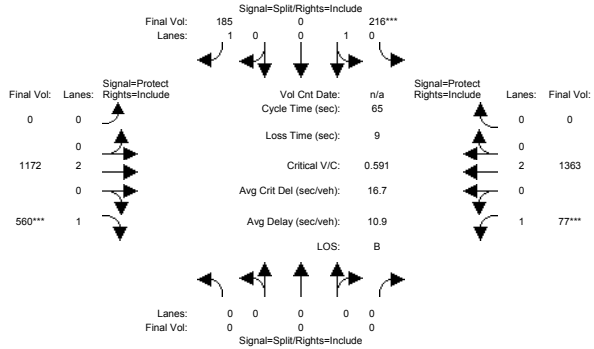
Street Name:	SR-99 SB Ramps						Robertson Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	41	4	205	0	1182	808	229	1357	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	41	4	205	0	1182	808	229	1357	0
Added Vol:	0	0	0	140	0	0	0	93	0	0	26	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	181	4	205	0	1275	808	229	1383	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	181	4	205	0	1275	808	229	1383	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	181	4	205	0	1275	808	229	1383	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	181	4	205	0	1275	808	229	1383	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.93	0.93	0.85	1.00	0.95	0.85	0.95	0.95	1.00
Lanes:	0.00	0.00	0.00	0.98	0.02	1.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	1729	38	1615	0	3610	1615	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.10	0.10	0.13	0.00	0.35	0.50	0.13	0.38	0.00
Crit Moves:				****					****	****		
Green/Cycle:	0.00	0.00	0.00	0.15	0.15	0.15	0.00	0.56	0.56	0.14	0.71	0.00
Volume/Cap:	0.00	0.00	0.00	0.68	0.68	0.83	0.00	0.63	0.89	0.89	0.54	0.00
Delay/Veh:	0.0	0.0	0.0	32.8	32.8	46.3	0.0	10.1	22.8	55.8	4.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	32.8	32.8	46.3	0.0	10.1	22.8	55.8	4.7	0.0
LOS by Move:	A	A	A	C	C	D	A	B	C	E	A	A
HCM2kAvgQ:	0	0	0	5	5	7	0	10	18	5	7	0

Note: Queue reported in the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #1: SR-99 SB Ramps / Robertson Blvd



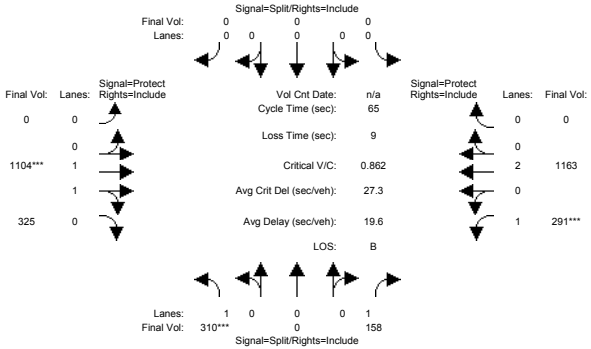
Street Name:	SR-99 SB Ramps						Robertson Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	137	0	185	0	1119	560	77	1316	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	137	0	185	0	1119	560	77	1316	0
Added Vol:	0	0	0	79	0	0	0	53	0	0	47	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	216	0	185	0	1172	560	77	1363	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	216	0	185	0	1172	560	77	1363	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	216	0	185	0	1172	560	77	1363	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	216	0	185	0	1172	560	77	1363	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	1.00	0.95	0.85	0.95	0.95	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	1809	0	1615	0	3610	1615	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.12	0.00	0.11	0.00	0.32	0.35	0.04	0.38	0.00
Crit Moves:				****					****	****		
Green/Cycle:	0.00	0.00	0.00	0.19	0.00	0.19	0.00	0.56	0.56	0.11	0.67	0.00
Volume/Cap:	0.00	0.00	0.00	0.62	0.00	0.59	0.00	0.58	0.62	0.40	0.56	0.00
Delay/Veh:	0.0	0.0	0.0	27.4	0.0	27.0	0.0	9.7	10.9	28.4	6.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	27.4	0.0	27.0	0.0	9.7	10.9	28.4	6.1	0.0
LOS by Move:	A	A	A	C	A	C	A	A	B	C	A	A
HCM2kAvgQ:	0	0	0	5	0	4	0	9	8	1	8	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #2: SR-99 NB Ramps / Robertson-Ave 26



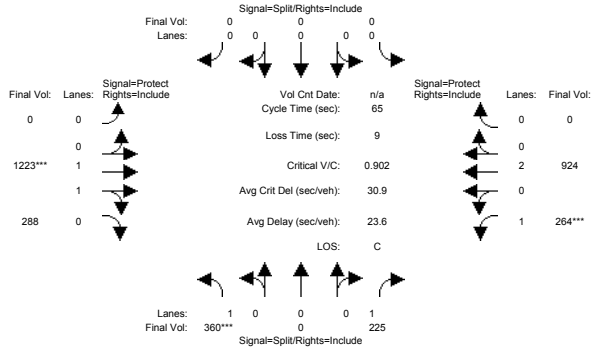
Street Name:	SR-99 NB Ramps									Robertson Ave 26					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	0	10	0	0	0	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	310	0	158	0	0	0	0	871	325	212	1137	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	310	0	158	0	0	0	0	871	325	212	1137	0
Added Vol:	0	0	0	0	0	0	0	233	0	79	26	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	310	0	158	0	0	0	0	1104	325	291	1163	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	310	0	158	0	0	0	0	1104	325	291	1163	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	310	0	158	0	0	0	0	1104	325	291	1163	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	310	0	158	0	0	0	0	1104	325	291	1163	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.92	0.92	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.55	0.45	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	2694	793	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.00	0.10	0.00	0.00	0.00	0.00	0.41	0.41	0.16	0.32	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.20	0.00	0.20	0.00	0.00	0.00	0.00	0.48	0.48	0.19	0.66	0.00
Volume/Cap:	0.86	0.00	0.49	0.00	0.00	0.00	0.00	0.86	0.86	0.86	0.49	0.00
Delay/Veh:	43.9	0.0	24.3	0.0	0.0	0.0	0.0	20.1	20.1	45.3	5.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.9	0.0	24.3	0.0	0.0	0.0	0.0	20.1	20.1	45.3	5.6	0.0
LOS by Move:	D	A	C	A	A	A	A	C	C	D	A	A
HCM2kAvgQ:	9	0	3	0	0	0	0	14	14	9	6	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #2: SR-99 NB Ramps / Robertson-Ave 26



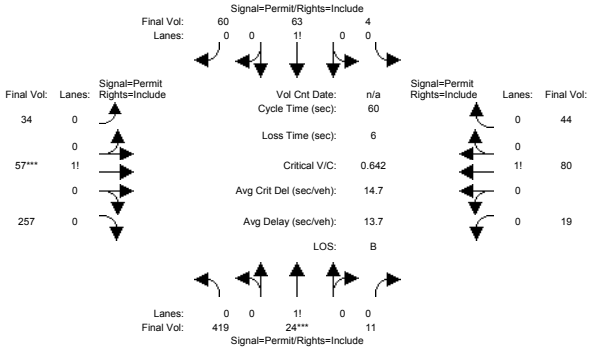
Street Name:	SR-99 NB Ramps									Robertson Ave 26					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	0	10	0	0	0	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	360	0	225	0	0	0	0	1091	288	124	877	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	360	0	225	0	0	0	0	1091	288	124	877	0
Added Vol:	0	0	0	0	0	0	0	132	0	140	47	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	360	0	225	0	0	0	0	1223	288	264	924	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	360	0	225	0	0	0	0	1223	288	264	924	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	360	0	225	0	0	0	0	1223	288	264	924	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	360	0	225	0	0	0	0	1223	288	264	924	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.92	0.92	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.62	0.38	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	2837	668	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.20	0.00	0.14	0.00	0.00	0.00	0.00	0.43	0.43	0.15	0.26	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.22	0.00	0.22	0.00	0.00	0.00	0.00	0.48	0.48	0.16	0.64	0.00
Volume/Cap:	0.90	0.00	0.63	0.00	0.00	0.00	0.00	0.90	0.90	0.90	0.40	0.00
Delay/Veh:	47.6	0.0	26.5	0.0	0.0	0.0	0.0	22.7	22.7	55.5	5.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.6	0.0	26.5	0.0	0.0	0.0	0.0	22.7	22.7	55.5	5.8	0.0
LOS by Move:	D	A	C	A	A	A	A	C	C	E	A	A
HCM2kAvgQ:	11	0	5	0	0	0	0	16	16	9	5	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #4: Santa Fe Dr / Ave 26



Street Name:	Santa Fe Drive						Ave 26					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	24	11	4	63	13	8	57	20	19	80	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	24	11	4	63	13	8	57	20	19	80	44
Added Vol:	419	0	0	0	0	47	26	0	237	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	419	24	11	4	63	60	34	57	257	19	80	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	419	24	11	4	63	60	34	57	257	19	80	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	419	24	11	4	63	60	34	57	257	19	80	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	419	24	11	4	63	60	34	57	257	19	80	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.65	0.65	0.65	0.93	0.93	0.93	0.87	0.87	0.87	0.90	0.90	0.90
Lanes:	0.93	0.05	0.02	0.03	0.50	0.47	0.10	0.16	0.74	0.13	0.56	0.31
Final Sat.:	1142	65	30	56	874	833	161	270	1217	227	956	526
Capacity Analysis Module:												
Vol/Sat:	0.37	0.37	0.37	0.07	0.07	0.07	0.21	0.21	0.21	0.08	0.08	0.08
Crit Moves:		****						****				
Green/Cycle:	0.57	0.57	0.57	0.57	0.57	0.57	0.33	0.33	0.33	0.33	0.33	0.33
Volume/Cap:	0.64	0.64	0.64	0.13	0.13	0.13	0.64	0.64	0.64	0.25	0.25	0.25
Delay/Veh:	10.7	10.7	10.7	6.0	6.0	6.0	19.8	19.8	19.8	15.0	15.0	15.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.7	10.7	10.7	6.0	6.0	6.0	19.8	19.8	19.8	15.0	15.0	15.0
LOS by Move:	B	B	B	A	A	A	B	B	B	B	B	B
HCM2kAvgQ:	7	7	7	1	1	1	7	7	7	2	2	2

Note: Queue reported is the number of cars per lane.

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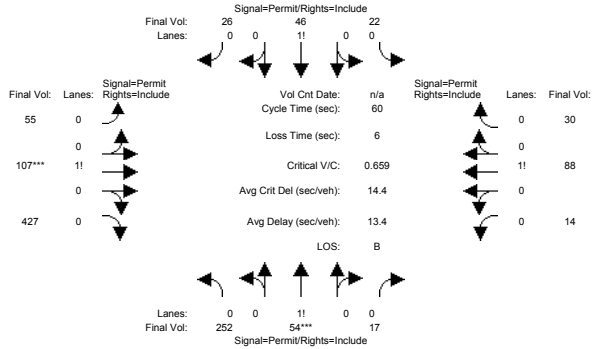
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #4: Santa Fe Dr / Ave 26



Street Name:	Santa Fe Drive						Ave 26					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	15	54	17	22	46	0	8	107	8	14	88	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	54	17	22	46	0	8	107	8	14	88	30
Added Vol:	237	0	0	0	0	26	47	0	419	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	252	54	17	22	46	26	55	107	427	14	88	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	252	54	17	22	46	26	55	107	427	14	88	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	252	54	17	22	46	26	55	107	427	14	88	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	252	54	17	22	46	26	55	107	427	14	88	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.72	0.72	0.87	0.87	0.87	0.87	0.87	0.87	0.92	0.92	0.92
Lanes:	0.78	0.17	0.05	0.23	0.49	0.28	0.09	0.18	0.73	0.10	0.67	0.23
Final Sat.:	1063	228	72	387	809	457	154	300	1199	185	1160	395
Capacity Analysis Module:												
Vol/Sat:	0.24	0.24	0.24	0.06	0.06	0.06	0.36	0.36	0.36	0.08	0.08	0.08
Crit Moves:		****						****				
Green/Cycle:	0.36	0.36	0.36	0.36	0.36	0.36	0.54	0.54	0.54	0.54	0.54	0.54
Volume/Cap:	0.66	0.66	0.66	0.16	0.16	0.16	0.66	0.66	0.66	0.14	0.14	0.14
Delay/Veh:	19.4	19.4	19.4	13.2	13.2	13.2	11.7	11.7	11.7	6.9	6.9	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.4	19.4	19.4	13.2	13.2	13.2	11.7	11.7	11.7	6.9	6.9	6.9
LOS by Move:	B	B	B	B	B	B	B	B	B	A	A	A
HCM2kAvgQ:	6	6	6	1	1	1	9	9	9	1	1	1

Note: Queue reported is the number of cars per lane.

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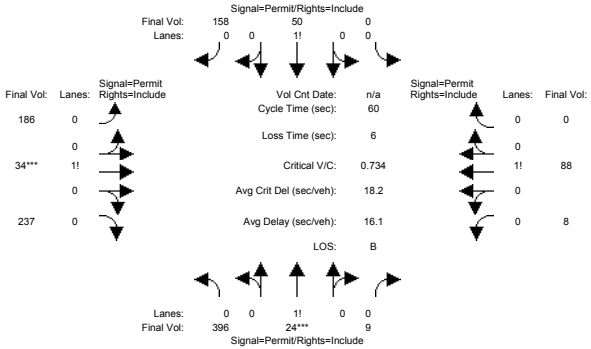
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #6: Road 22 / Avenue 24



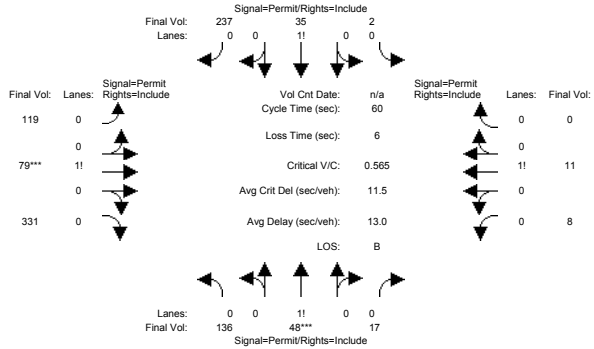
Street Name:	Road 22						Avenue 24					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	396	24	9	0	50	26	0	34	237	8	88	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	396	24	9	0	50	26	0	34	237	8	88	0
Added Vol:	0	0	0	0	0	132	186	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	396	24	9	0	50	158	186	34	237	8	88	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	396	24	9	0	50	158	186	34	237	8	88	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	396	24	9	0	50	158	186	34	237	8	88	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	396	24	9	0	50	158	186	34	237	8	88	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.65	0.65	0.65	1.00	0.90	0.90	0.77	0.77	0.77	0.97	0.97	1.00
Lanes:	0.92	0.06	0.02	0.00	0.24	0.76	0.41	0.07	0.52	0.08	0.92	0.00
Final Sat.:	1137	69	26	0	410	1295	595	109	759	153	1684	0
Capacity Analysis Module:												
Vol/Sat:	0.35	0.35	0.35	0.00	0.12	0.12	0.31	0.31	0.31	0.05	0.05	0.00
Crit Moves:		****						****				
Green/Cycle:	0.47	0.47	0.47	0.00	0.47	0.47	0.43	0.43	0.43	0.43	0.43	0.00
Volume/Cap:	0.73	0.73	0.73	0.00	0.26	0.26	0.73	0.73	0.73	0.12	0.12	0.00
Delay/Veh:	17.5	17.5	17.5	0.0	9.6	9.6	18.9	18.9	18.9	10.5	10.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.5	17.5	17.5	0.0	9.6	9.6	18.9	18.9	18.9	10.5	10.5	0.0
LOS by Move:	B	B	B	A	A	A	B	B	B	B	B	A
HCM2kAvgQ:	8	8	8	0	2	2	9	9	9	1	1	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #6: Road 22 / Avenue 24



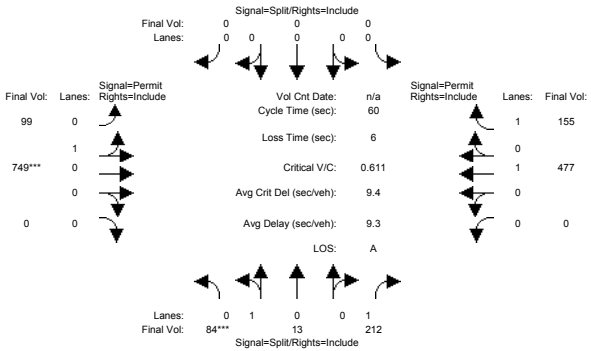
Street Name:	Road 22						Avenue 24					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	136	48	17	2	35	4	14	79	331	8	11	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	136	48	17	2	35	4	14	79	331	8	11	0
Added Vol:	0	0	0	0	0	233	105	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	136	48	17	2	35	237	119	79	331	8	11	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	136	48	17	2	35	237	119	79	331	8	11	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	136	48	17	2	35	237	119	79	331	8	11	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	136	48	17	2	35	237	119	79	331	8	11	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.59	0.59	0.59	0.88	0.88	0.88	0.85	0.85	0.85	0.88	0.88	1.00
Lanes:	0.68	0.24	0.08	0.01	0.13	0.86	0.22	0.15	0.63	0.42	0.58	0.00
Final Sat.:	753	266	94	12	214	1450	363	241	1008	706	970	0
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.18	0.16	0.16	0.16	0.33	0.33	0.33	0.01	0.01	0.00
Crit Moves:		****						****				
Green/Cycle:	0.32	0.32	0.32	0.32	0.32	0.32	0.58	0.58	0.58	0.58	0.58	0.00
Volume/Cap:	0.57	0.57	0.57	0.51	0.51	0.51	0.57	0.57	0.57	0.02	0.02	0.00
Delay/Veh:	19.1	19.1	19.1	17.4	17.4	17.4	8.7	8.7	8.7	5.3	5.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.1	19.1	19.1	17.4	17.4	17.4	8.7	8.7	8.7	5.3	5.3	0.0
LOS by Move:	B	B	B	B	B	B	A	A	A	A	A	A
HCM2kAvgQ:	4	4	4	5	5	5	7	7	7	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #7: SR-99 NB Ramps / Avenue 24



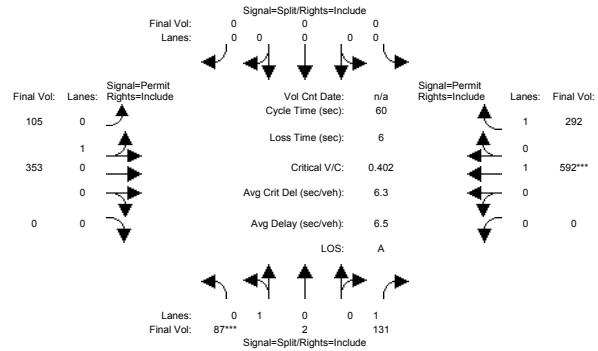
Street Name:	SR-99 NB Ramps						Avenue 24					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	10	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	84	13	26	0	0	0	99	749	0	0	345	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	84	13	26	0	0	0	99	749	0	0	345	155
Added Vol:	0	0	186	0	0	0	0	0	0	0	132	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	84	13	212	0	0	0	99	749	0	0	477	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	84	13	212	0	0	0	99	749	0	0	477	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	13	212	0	0	0	99	749	0	0	477	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	84	13	212	0	0	0	99	749	0	0	477	155
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.96	0.96	0.85	1.00	1.00	1.00	0.90	0.90	1.00	1.00	1.00	0.85
Lanes:	0.87	0.13	1.00	0.00	0.00	0.00	0.12	0.88	0.00	0.00	1.00	1.00
Final Sat.:	1578	244	1615	0	0	0	199	1509	0	0	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.13	0.00	0.00	0.00	0.50	0.50	0.00	0.00	0.25	0.10
Crit Moves:	****							****				
Green/Cycle:	0.21	0.21	0.21	0.00	0.00	0.00	0.69	0.69	0.00	0.00	0.69	0.69
Volume/Cap:	0.25	0.25	0.61	0.00	0.00	0.00	0.72	0.72	0.00	0.00	0.37	0.14
Delay/Veh:	19.9	19.9	24.5	0.0	0.0	0.0	8.2	8.2	0.0	0.0	4.1	3.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.9	19.9	24.5	0.0	0.0	0.0	8.2	8.2	0.0	0.0	4.1	3.3
LOS by Move:	B	B	C	A	A	A	A	A	A	A	A	A
HCM2kAvgQ:	2	2	5	0	0	0	10	10	0	0	4	1

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #7: SR-99 NB Ramps / Avenue 24



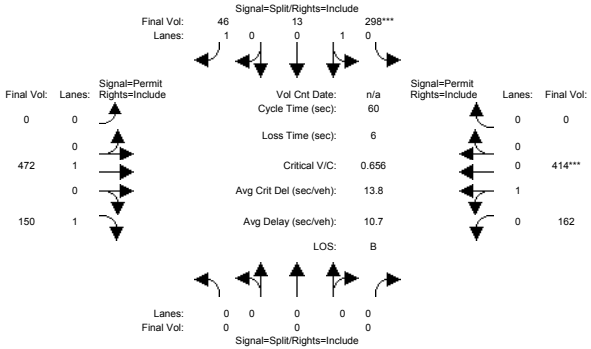
Street Name:	SR-99 NB Ramps						Avenue 24					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	10	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	87	2	26	0	0	0	105	353	0	0	359	292
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	2	26	0	0	0	105	353	0	0	359	292
Added Vol:	0	0	105	0	0	0	0	0	0	0	233	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	2	131	0	0	0	105	353	0	0	592	292
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	87	2	131	0	0	0	105	353	0	0	592	292
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	87	2	131	0	0	0	105	353	0	0	592	292
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	87	2	131	0	0	0	105	353	0	0	592	292
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	0.94	0.85	1.00	1.00	1.00	0.80	0.80	1.00	1.00	1.00	0.85
Lanes:	0.98	0.02	1.00	0.00	0.00	0.00	0.23	0.77	0.00	0.00	1.00	1.00
Final Sat.:	1748	40	1615	0	0	0	348	1172	0	0	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.08	0.00	0.00	0.00	0.30	0.30	0.00	0.00	0.31	0.18
Crit Moves:	****										****	
Green/Cycle:	0.20	0.20	0.20	0.00	0.00	0.00	0.70	0.70	0.00	0.00	0.70	0.70
Volume/Cap:	0.25	0.25	0.40	0.00	0.00	0.00	0.43	0.43	0.00	0.00	0.45	0.26
Delay/Veh:	20.5	20.5	21.6	0.0	0.0	0.0	4.2	4.2	0.0	0.0	4.2	3.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.5	20.5	21.6	0.0	0.0	0.0	4.2	4.2	0.0	0.0	4.2	3.5
LOS by Move:	C	C	C	A	A	A	A	A	A	A	A	A
HCM2kAvgQ:	2	2	3	0	0	0	4	4	0	0	5	2

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #8: SR-99 SB Ramps / Avenue 24



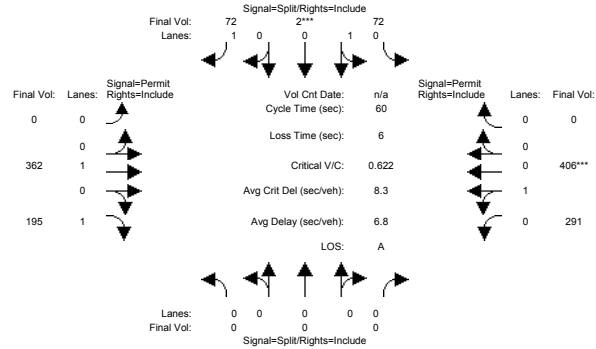
Street Name:	SR-99 SB Ramps						Avenue 24					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	10	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	298	13	46	0	472	150	30	414	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	298	13	46	0	472	150	30	414	0
Added Vol:	0	0	0	0	0	0	0	0	0	132	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	298	13	46	0	472	150	162	414	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	298	13	46	0	472	150	162	414	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	298	13	46	0	472	150	162	414	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	298	13	46	0	472	150	162	414	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.88	0.88	0.85	1.00	1.00	0.85	0.75	0.75	1.00
Lanes:	0.00	0.00	0.00	0.96	0.04	1.00	0.00	1.00	1.00	0.28	0.72	0.00
Final Sat.:	0	0	0	1593	69	1615	0	1900	1615	401	1026	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.19	0.19	0.03	0.00	0.25	0.09	0.40	0.40	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.29	0.29	0.29	0.00	0.61	0.61	0.61	0.61	0.00
Volume/Cap:	0.00	0.00	0.00	0.66	0.66	0.10	0.00	0.40	0.15	0.66	0.66	0.00
Delay/Veh:	0.0	0.0	0.0	22.2	22.2	15.9	0.0	6.1	5.0	9.3	9.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.2	22.2	15.9	0.0	6.1	5.0	9.3	9.3	0.0
LOS by Move:	A	A	A	C	C	B	A	A	A	A	A	A
HCM2kAvgQ:	0	0	0	6	6	1	0	5	1	7	7	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 4 - KOJIMA DEVELOPMENT_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #8: SR-99 SB Ramps / Avenue 24



Street Name:	SR-99 SB Ramps						Avenue 24					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	10	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	72	2	72	0	362	195	58	406	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	72	2	72	0	362	195	58	406	0
Added Vol:	0	0	0	0	0	0	0	0	0	233	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	72	2	72	0	362	195	291	406	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	72	2	72	0	362	195	291	406	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	72	2	72	0	362	195	291	406	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	72	2	72	0	362	195	291	406	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.93	0.93	0.85	1.00	1.00	0.85	0.71	0.71	1.00
Lanes:	0.00	0.00	0.00	0.97	0.03	1.00	0.00	1.00	1.00	0.42	0.58	0.00
Final Sat.:	0	0	0	1712	48	1615	0	1900	1615	562	784	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.04	0.04	0.04	0.00	0.19	0.12	0.52	0.52	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.17	0.17	0.17	0.00	0.73	0.73	0.73	0.73	0.00
Volume/Cap:	0.00	0.00	0.00	0.25	0.25	0.27	0.00	0.26	0.16	0.71	0.71	0.00
Delay/Veh:	0.0	0.0	0.0	22.2	22.2	22.3	0.0	2.7	2.5	6.8	6.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.2	22.2	22.3	0.0	2.7	2.5	6.8	6.8	0.0
LOS by Move:	A	A	A	C	C	C	A	A	A	A	A	A
HCM2kAvgQ:	0	0	0	1	1	1	0	2	1	8	8	0

Note: Queue reported is the number of cars per lane.

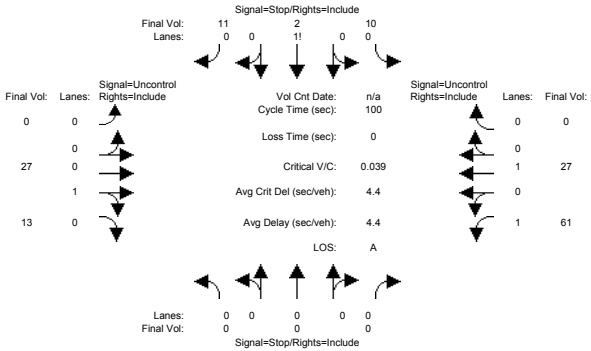
HEAVY MANTENANCE FACILITY ANALYSIS – GORDON SHAW

EXISTING CONDITIONS – LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1: SR-99 SB Ramps / Avenue 20 1/2




```
Street Name:          SR-99 SB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    10    2    11     0   27    13    61   27     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    10    2    11     0   27    13    61   27     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    10    2    11     0   27    13    61   27     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    10    2    11     0   27    13    61   27     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    10    2    11     0   27    13    61   27     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   183  189    27  xxxx xxxx xxxxx    40 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   812  709  1054  xxxx xxxx xxxxx  1583 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   788  682  1054  xxxx xxxx xxxxx  1583 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.01 0.00  0.01  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  882 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  9.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    A     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             9.2           xxxxxx           xxxxxx
ApproachLOS:         *              A                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    10    2    11     0   27    13    61   27     0
ApproachDel:    xxxxxx              9.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=151]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

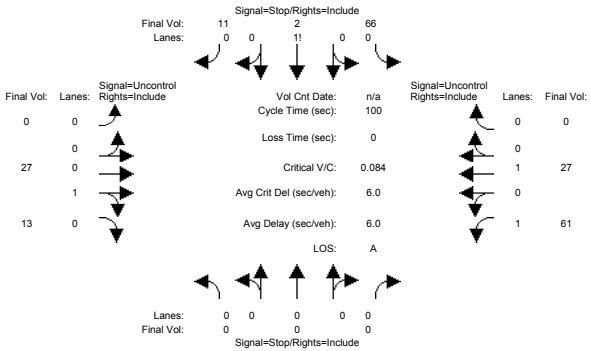
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    10    2    11     0   27    13    61   27     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             128
Minor Approach Volume:           23
Minor Approach Volume Threshold: 993
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #1: SR-99 SB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 SB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    10    2    11     0   27    13    61   27     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    10    2    11     0   27    13    61   27     0
Added Vol:      0    0     0    56    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    66    2    11     0   27    13    61   27     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    66    2    11     0   27    13    61   27     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    66    2    11     0   27    13    61   27     0
------------||---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------||---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   183  189    27  xxxx xxxx xxxxx    40 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   812  709  1054  xxxx xxxx xxxxx  1583 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   788  682  1054  xxxx xxxx xxxxx  1583 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.08 0.00  0.01  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------||---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  813 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  9.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    A     *     *    *     *     *    *     *
ApproachDel:    xxxxxx              9.9           xxxxxx           xxxxxx
ApproachLOS:         *               A                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    66    2    11     0   27    13    61   27     0
ApproachDel:    xxxxxx              9.9           xxxxxx           xxxxxx
------------||---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=79]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=207]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

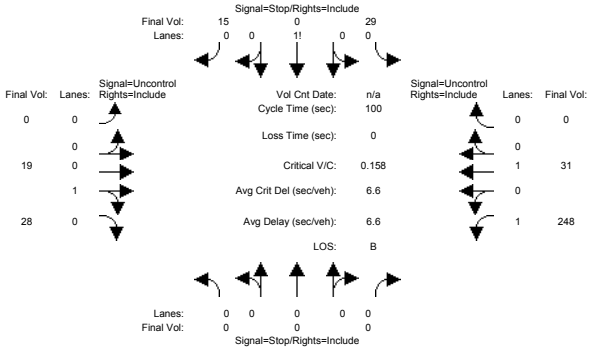
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    66    2    11     0   27    13    61   27     0
------------||---------------||---------------||---------------||---------------|
Major Street Volume:             128
Minor Approach Volume:           79
Minor Approach Volume Threshold: 993
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1: SR-99 SB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 SB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    29    0    15     0   19    28   248   31     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    29    0    15     0   19    28   248   31     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    29    0    15     0   19    28   248   31     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    29    0    15     0   19    28   248   31     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    29    0    15     0   19    28   248   31     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   560  574    31  xxxx xxxx xxxxx    47 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   493  432  1049  xxxx xxxx xxxxx  1573 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   433  364  1049  xxxx xxxx xxxxx  1573 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.07 0.00  0.01  xxxx xxxx  xxxx  0.16 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  542 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 12.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             12.2           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    29    0    15     0   19    28   248   31     0
ApproachDel:    xxxxxx              12.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=44]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=370]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

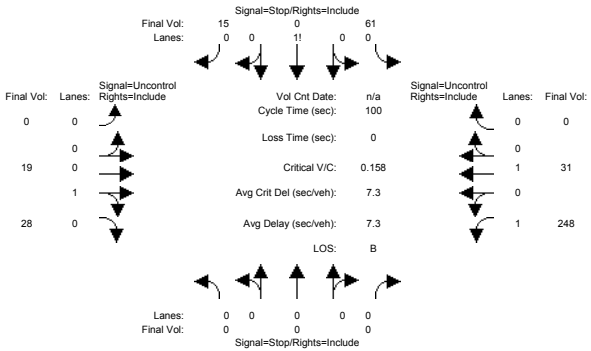
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    29    0    15     0   19    28   248   31     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             326
Minor Approach Volume:           44
Minor Approach Volume Threshold: 671
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #1: SR-99 SB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 SB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    29    0    15     0   19    28   248   31     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    29    0    15     0   19    28   248   31     0
Added Vol:      0    0     0    32    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    61    0    15     0   19    28   248   31     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    61    0    15     0   19    28   248   31     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    61    0    15     0   19    28   248   31     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   560  574    31  xxxx xxxx xxxxx    47 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   493  432  1049  xxxx xxxx xxxxx  1573 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   433  364  1049  xxxx xxxx xxxxx  1573 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.14 0.00  0.01  xxxx xxxx  xxxx  0.16 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  490 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 13.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             13.7           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    61    0    15     0   19    28   248   31     0
ApproachDel:    xxxxxx             13.7           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=76]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=402]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

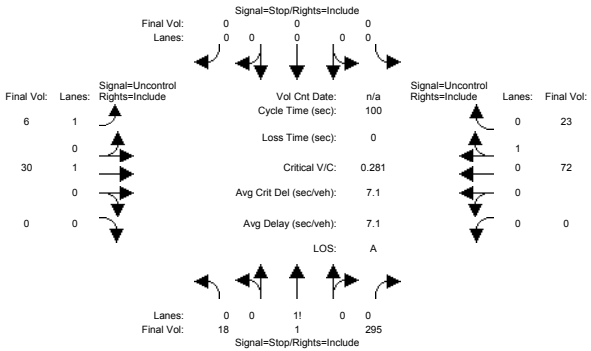
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    61    0    15     0   19    28   248   31     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             326
Minor Approach Volume:           76
Minor Approach Volume Threshold: 671
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #2: SR-99 NB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      18    1   295     0    0     0     6   30     0     0   72    23
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   18    1   295     0    0     0     6   30     0     0   72    23
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   18    1   295     0    0     0     6   30     0     0   72    23
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    18    1   295     0    0     0     6   30     0     0   72    23
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   18    1   295     0    0     0     6   30     0     0   72    23
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  126  137    30  xxxx xxxx xxxxx    95 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  874  758  1050  xxxx xxxx xxxxx  1512 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    871  755  1050  xxxx xxxx xxxxx  1512 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.02 0.00  0.28  xxxx xxxx  xxxx  0.00 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx 1037 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    A     *     *    *     *     *    *     *     *    *     *
ApproachDel:      10.0           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         A                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   18    1   295     0    0     0     6   30     0     0   72    23
ApproachDel:      10.0           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=314]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=445]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

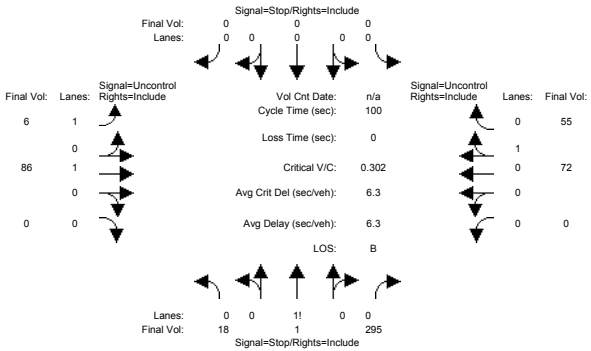
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   18    1   295     0    0     0     6   30     0     0   72    23
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             131
Minor Approach Volume:           314
Minor Approach Volume Threshold: 985
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #2: SR-99 NB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      18    1   295     0    0     0     6   30     0     0   72    23
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   18    1   295     0    0     0     6   30     0     0   72    23
Added Vol:      0    0     0     0    0     0     0   56     0     0    0    32
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   18    1   295     0    0     0     6   86     0     0   72    55
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    18    1   295     0    0     0     6   86     0     0   72    55
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   18    1   295     0    0     0     6   86     0     0   72    55
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  198  225    86  xxxx xxxx xxxxx   127 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  796  678   978  xxxx xxxx xxxxx  1472 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    793  675   978  xxxx xxxx xxxxx  1472 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.02 0.00  0.30  xxxx xxxx  xxxx  0.00 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  964 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     *    *     *
ApproachDel:      10.5           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         B                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   18    1   295     0    0     0     6   86     0     0   72    55
ApproachDel:      10.5           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=314]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=533]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

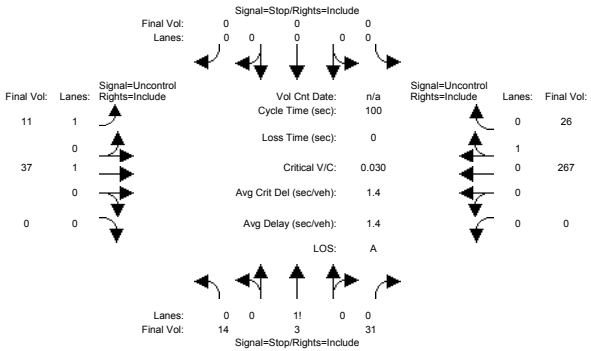
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   18    1   295     0    0     0     6   86     0     0   72    55
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             219
Minor Approach Volume:           314
Minor Approach Volume Threshold: 808
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #2: SR-99 NB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      14    3    31     0    0     0    11   37     0     0  267    26
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   14    3    31     0    0     0    11   37     0     0  267    26
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   14    3    31     0    0     0    11   37     0     0  267    26
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    14    3    31     0    0     0    11   37     0     0  267    26
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   14    3    31     0    0     0    11   37     0     0  267    26
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  339  352    37  xxxx xxxx xxxxx   293 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  661  576  1041  xxxx xxxx xxxxx  1280 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    657  571  1041  xxxx xxxx xxxxx  1280 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.02 0.01  0.03  xxxx xxxx  xxxx  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  852 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  9.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    A     *     *    *     *     *    *     *     *    *     *
ApproachDel:       9.5           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         A                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   14    3    31     0    0     0    11   37     0     0  267    26
ApproachDel:       9.5           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=48]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=389]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

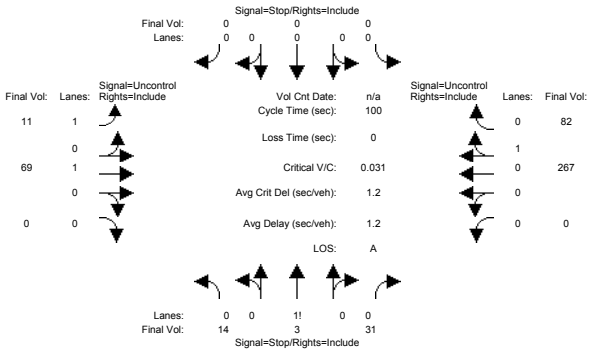
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   14    3    31     0    0     0    11   37     0     0  267    26
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             341
Minor Approach Volume:           48
Minor Approach Volume Threshold: 655
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #2: SR-99 NB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      14    3    31     0    0     0    11   37     0     0  267    26
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   14    3    31     0    0     0    11   37     0     0  267    26
Added Vol:      0    0     0     0    0     0     0   32     0     0    0    56
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   14    3    31     0    0     0    11   69     0     0  267    82
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    14    3    31     0    0     0    11   69     0     0  267    82
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   14    3    31     0    0     0    11   69     0     0  267    82
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  399  440    69  xxxx xxxx xxxxx   349 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  611  514  1000  xxxx xxxx xxxxx  1221 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    606  509  1000  xxxx xxxx xxxxx  1221 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.02 0.01  0.03  xxxx xxxx  xxxx  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.0 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  800 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  9.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    A     *     *    *     *     *    *     *     *    *     *
ApproachDel:       9.8           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         A                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   14    3    31     0    0     0    11   69     0     0  267    82
ApproachDel:       9.8           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=48]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=477]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

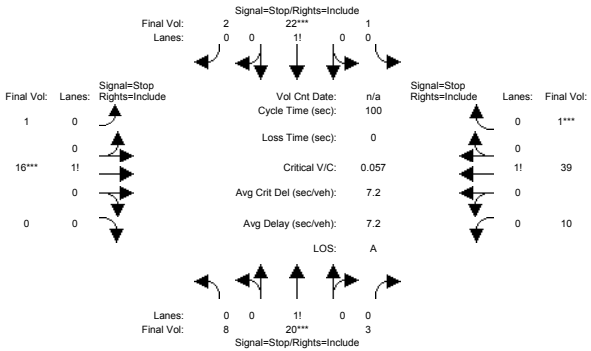
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   14    3    31     0    0     0    11   69     0     0  267    82
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             429
Minor Approach Volume:           48
Minor Approach Volume Threshold: 576
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #3: Road 24 / Avenue 20 1/2




```
Street Name:              Road 24                        Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8   20     3     1   22     2     1   16     0    10   39     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    8   20     3     1   22     2     1   16     0    10   39     1
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    8   20     3     1   22     2     1   16     0    10   39     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     8   20     3     1   22     2     1   16     0    10   39     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    8   20     3     1   22     2     1   16     0    10   39     1
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    8   20     3     1   22     2     1   16     0    10   39     1
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.26 0.64  0.10  0.04 0.88  0.08  0.06 0.94  0.00  0.20 0.78  0.02
Final Sat.:   226  564    85    35  773    70    51  819     0   175  683    18
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.04  0.04  0.03 0.03  0.03  0.02 0.02  xxxx  0.06 0.06  0.06
Crit Moves:        ****              ****              ****                    ****
Delay/Veh:    7.2  7.2   7.2   7.1  7.1   7.1   7.2  7.2   0.0   7.3  7.3   7.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.2  7.2   7.2   7.1  7.1   7.1   7.2  7.2   0.0   7.3  7.3   7.3
LOS by Move:    A    A     A     A    A     A     A    A     *     A    A     A
ApproachDel:       7.2              7.1              7.2              7.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.2              7.1              7.2              7.3
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.0  0.0   0.0   0.0  0.0   0.0   0.0  0.0   0.0   0.1  0.1   0.1
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #3 Road 24 / Avenue 20 1/2

****

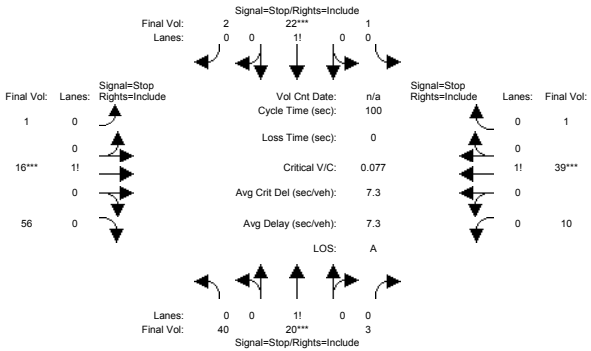

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  0    0  0  1! 0  0
Initial Vol:    8   20     3     1   22     2     1   16     0    10   39     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             67
Minor Approach Volume:           31
Minor Approach Volume Threshold: 940
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Ext+Prj AM

Intersection #3: Road 24 / Avenue 20 1/2




```
Street Name:              Road 24                        Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8   20     3     1   22     2     1   16     0    10   39     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    8   20     3     1   22     2     1   16     0    10   39     1
Added Vol:     32    0     0     0    0     0     0    0    56     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   40   20     3     1   22     2     1   16    56    10   39     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    40   20     3     1   22     2     1   16    56    10   39     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   40   20     3     1   22     2     1   16    56    10   39     1
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   40   20     3     1   22     2     1   16    56    10   39     1
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.63 0.32  0.05  0.04 0.88  0.08  0.01 0.22  0.77  0.20 0.78  0.02
Final Sat.:   522  261    39    34  738    67    13  209   733   168  657    17
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.08  0.08  0.03 0.03  0.03  0.08 0.08  0.08  0.06 0.06  0.06
Crit Moves:        ****              ****              ****              ****
Delay/Veh:    7.6  7.6   7.6   7.3  7.3   7.3   7.0  7.0   7.0   7.4  7.4   7.4
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.6  7.6   7.6   7.3  7.3   7.3   7.0  7.0   7.0   7.4  7.4   7.4
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       7.6              7.3              7.0              7.4
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.6              7.3              7.0              7.4
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.1  0.1   0.1   0.0  0.0   0.0   0.1  0.1   0.1   0.1  0.1   0.1
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #3 Road 24 / Avenue 20 1/2

****

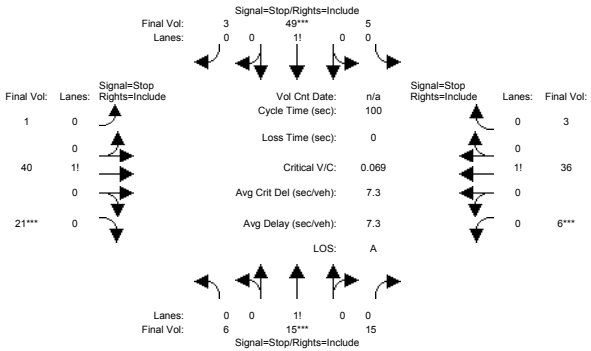

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   40   20     3     1   22     2     1   16    56    10   39     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             123
Minor Approach Volume:           63
Minor Approach Volume Threshold: 778
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #3: Road 24 / Avenue 20 1/2




```
Street Name:              Road 24                          Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   15    15     5   49     3     1   40    21     6   36     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   15    15     5   49     3     1   40    21     6   36     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6   15    15     5   49     3     1   40    21     6   36     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6   15    15     5   49     3     1   40    21     6   36     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    6   15    15     5   49     3     1   40    21     6   36     3
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    6   15    15     5   49     3     1   40    21     6   36     3
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.16 0.42  0.42  0.09 0.86  0.05  0.02 0.64  0.34  0.13 0.80  0.07
Final Sat.:   148  369   369    75  730    45    14  577   303   114  681    57
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.04  0.04  0.07 0.07  0.07  0.07 0.07  0.07  0.05 0.05  0.05
Crit Moves:        ****              ****                 ****  ****
Delay/Veh:    7.1  7.1   7.1   7.4  7.4   7.4   7.2  7.2   7.2   7.4  7.4   7.4
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.1  7.1   7.1   7.4  7.4   7.4   7.2  7.2   7.2   7.4  7.4   7.4
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       7.1              7.4              7.2              7.4
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.1              7.4              7.2              7.4
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.0  0.0   0.0   0.1  0.1   0.1   0.1  0.1   0.1   0.1  0.1   0.1
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #3 Road 24 / Avenue 20 1/2

****

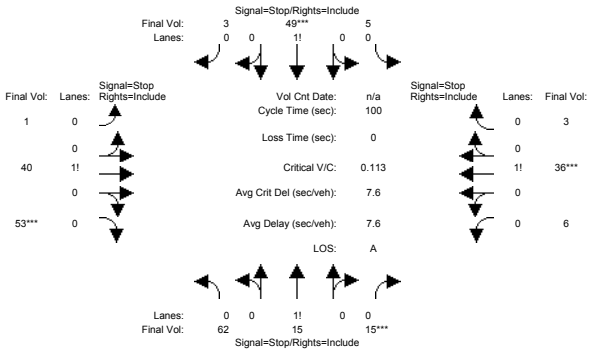

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    6   15    15     5   49     3     1   40    21     6   36     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             107
Minor Approach Volume:            57
Minor Approach Volume Threshold: 815
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Ext+Prj PM

Intersection #3: Road 24 / Avenue 20 1/2




```
Street Name:              Road 24                        Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6    15    15     5    49     3     1    40    21     6    36     3
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    6    15    15     5    49     3     1    40    21     6    36     3
Added Vol:     56     0     0     0     0     0     0     0    32     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   62    15    15     5    49     3     1    40    53     6    36     3
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    62    15    15     5    49     3     1    40    53     6    36     3
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   62    15    15     5    49     3     1    40    53     6    36     3
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   62    15    15     5    49     3     1    40    53     6    36     3
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.68  0.16  0.16  0.09  0.86  0.05  0.01  0.43  0.56  0.13  0.80  0.07
Final Sat.:   550   133   133    72   702    43     9   377   499   108   647    54
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11  0.11  0.11  0.07  0.07  0.07  0.11  0.11  0.11  0.06  0.06  0.06
Crit Moves:              ****        ****                    ****        ****
Delay/Veh:    7.8   7.8   7.8   7.6   7.6   7.6   7.4   7.4   7.4   7.5   7.5   7.5
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.8   7.8   7.8   7.6   7.6   7.6   7.4   7.4   7.4   7.5   7.5   7.5
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        7.8               7.6               7.4               7.5
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         7.8               7.6               7.4               7.5
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   0.1   0.1   0.1   0.1   0.1   0.1   0.1   0.1   0.1   0.1   0.1   0.1
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #3 Road 24 / Avenue 20 1/2

****

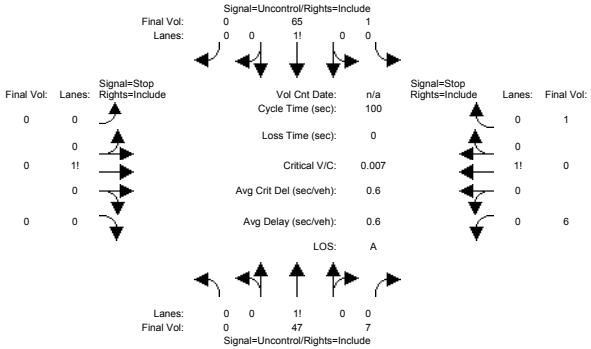

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   62   15    15     5   49     3     1   40    53     6   36     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             149
Minor Approach Volume:           94
Minor Approach Volume Threshold: 727
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #4: Road 24 / Avenue 19




```
Street Name:              Road 24                          Avenue 19
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   47     7     1   65     0     0    0     0     6    0     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   47     7     1   65     0     0    0     0     6    0     1
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   47     7     1   65     0     0    0     0     6    0     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   47     7     1   65     0     0    0     0     6    0     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   47     7     1   65     0     0    0     0     6    0     1
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   6.4  6.5   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx    54 xxxx xxxxx   118  121    65   118  118    51
Potent Cap.: xxxx xxxx xxxxx  1564 xxxx xxxxx   863  773  1005   883  777  1023
Move Cap.:   xxxx xxxx xxxxx  1564 xxxx xxxxx   861  773  1005   883  776  1023
Volume/Cap:  xxxx xxxx  xxxx  0.00 xxxx  xxxx  0.00 0.00  0.00  0.01 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx    0 xxxxx  xxxx  900 xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.0 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.0 xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    A     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.0
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    0   47     7     1   65     0     0    0     0     6    0     1
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.0
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=7]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=127]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    0   47     7     1   65     0     0    0     0     6    0     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             120
Minor Approach Volume:           7
Minor Approach Volume Threshold: 785
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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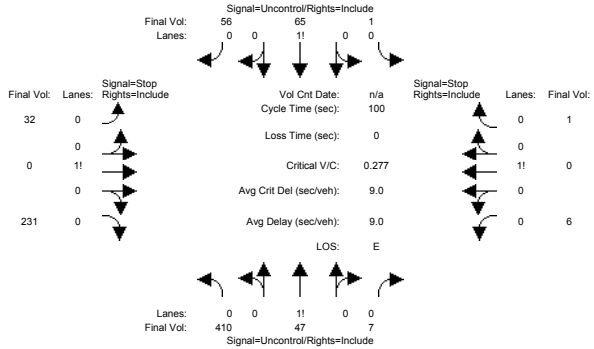
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #4: Road 24 / Avenue 19




```
Street Name:              Road 24                          Avenue 19
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   47     7     1   65     0     0    0     0     6    0     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   47     7     1   65     0     0    0     0     6    0     1
Added Vol:    410    0     0     0    0    56    32    0   231     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  410   47     7     1   65    56    32    0   231     6    0     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   410   47     7     1   65    56    32    0   231     6    0     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  410   47     7     1   65    56    32    0   231     6    0     1
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  121 xxxx xxxxx    54 xxxx xxxxx   966  969    93  1081  994    51
Potent Cap.: 1479 xxxx xxxxx  1564 xxxx xxxxx   236  256   970   197  247  1023
Move Cap.:   1479 xxxx xxxxx  1564 xxxx xxxxx   170  164   970   108  158  1023
Volume/Cap:  0.28 xxxx  xxxx  0.00 xxxx  xxxx  0.19 0.00  0.24  0.06 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.1 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.4 xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  617 xxxxx  xxxx  124 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  2.1 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 15.1 xxxxx xxxxx 35.7 xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    E     *
ApproachDel:    xxxxxx           xxxxxx             15.1            35.7
ApproachLOS:         *                *               C               E
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  410   47     7     1   65    56    32    0   231     6    0     1
ApproachDel:    xxxxxx           xxxxxx              15.1            35.7
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=263]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=856]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=7]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=856]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

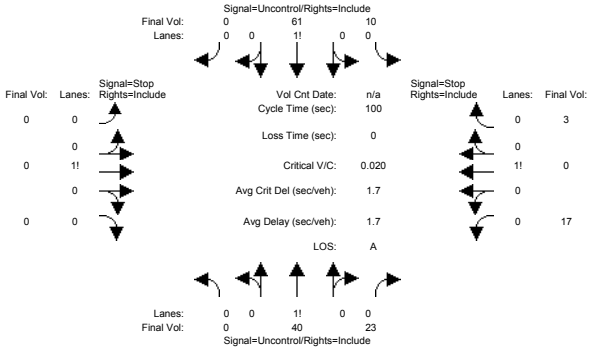
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  410   47     7     1   65    56    32    0   231     6    0     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             586
Minor Approach Volume:           263
Minor Approach Volume Threshold: 362
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #4: Road 24 / Avenue 19




```
Street Name:              Road 24                          Avenue 19
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   40    23    10   61     0     0    0     0    17    0     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   40    23    10   61     0     0    0     0    17    0     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   40    23    10   61     0     0    0     0    17    0     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   40    23    10   61     0     0    0     0    17    0     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   40    23    10   61     0     0    0     0    17    0     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   6.4  6.5   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx    63 xxxx xxxxx   134  144    61   133  133    52
Potent Cap.: xxxx xxxx xxxxx  1553 xxxx xxxxx   842  751  1010   866  762  1022
Move Cap.:   xxxx xxxx xxxxx  1553 xxxx xxxxx   836  746  1010   862  757  1022
Volume/Cap:  xxxx xxxx  xxxx  0.01 xxxx  xxxx  0.00 0.00  0.00  0.02 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx    0 xxxxx  xxxx  883 xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.2 xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    A     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.2
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    0   40    23    10   61     0     0    0     0    17    0     3
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.2
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=20]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=154]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    0   40    23    10   61     0     0    0     0    17    0     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             134
Minor Approach Volume:           20
Minor Approach Volume Threshold: 755
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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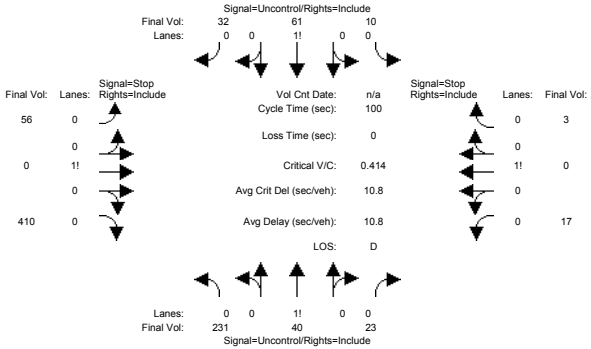
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #4: Road 24 / Avenue 19




```
Street Name:              Road 24                          Avenue 19
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   40    23    10   61     0     0    0     0    17    0     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   40    23    10   61     0     0    0     0    17    0     3
Added Vol:    231    0     0     0    0    32    56    0   410     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  231   40    23    10   61    32    56    0   410    17    0     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   231   40    23    10   61    32    56    0   410    17    0     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  231   40    23    10   61    32    56    0   410    17    0     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   93 xxxx xxxxx    63 xxxx xxxxx   612  622    77   816  627    52
Potent Cap.: 1514 xxxx xxxxx  1553 xxxx xxxxx   408  405   990   298  403  1022
Move Cap.:   1514 xxxx xxxxx  1553 xxxx xxxxx   351  332   990   150  330  1022
Volume/Cap:  0.15 xxxx  xxxx  0.01 xxxx  xxxx  0.16 0.00  0.41  0.11 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.5 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.8 xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  812 xxxxx  xxxx  173 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  3.7 xxxxx xxxxx  0.4 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 15.2 xxxxx xxxxx 28.6 xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    D     *
ApproachDel:    xxxxxx           xxxxxx             15.2            28.6
ApproachLOS:         *                *                C               D
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  231   40    23    10   61    32    56    0   410    17    0     3
ApproachDel:    xxxxxx           xxxxxx             15.2            28.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=466]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=883]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=20]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=883]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  231   40    23    10   61    32    56    0   410    17    0     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             397
Minor Approach Volume:           466
Minor Approach Volume Threshold: 466
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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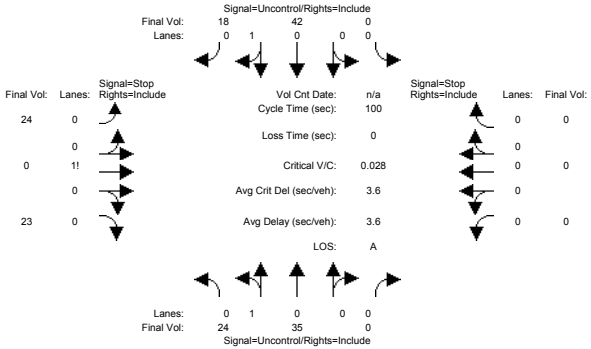
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #5: Road 24 / Avenue 18 1/2




```
Street Name:              Road 24                        Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      24   35     0     0   42    18    24    0    23     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   24   35     0     0   42    18    24    0    23     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   24   35     0     0   42    18    24    0    23     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    24   35     0     0   42    18    24    0    23     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   24   35     0     0   42    18    24    0    23     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   60 xxxx xxxxx  xxxx xxxx xxxxx   134  134    51  xxxx xxxx xxxxx
Potent Cap.: 1556 xxxx xxxxx  xxxx xxxx xxxxx   864  760  1023  xxxx xxxx xxxxx
Move Cap.:   1556 xxxx xxxxx  xxxx xxxx xxxxx   854  749  1023  xxxx xxxx xxxxx
Volume/Cap:  0.02 xxxx  xxxx  xxxx xxxx  xxxx  0.03 0.00  0.02  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  929 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.2 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.1 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              9.1           xxxxxx
ApproachLOS:         *                *                A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   24   35     0     0   42    18    24    0    23     0    0     0
ApproachDel:    xxxxxx           xxxxxx              9.1           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=47]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=166]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   24   35     0     0   42    18    24    0    23     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             119
Minor Approach Volume:           47
Minor Approach Volume Threshold: 787
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
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signal warrant (such as the 4-hour or 8-hour warrants).

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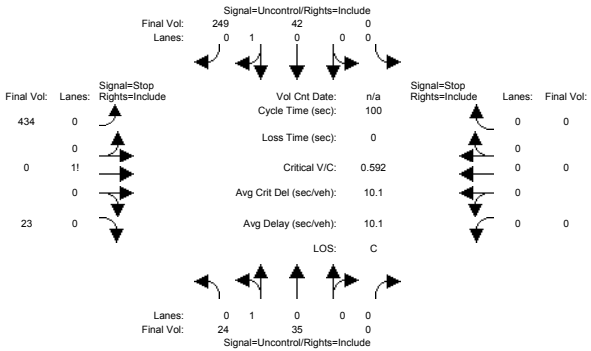
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #5: Road 24 / Avenue 18 1/2




```
Street Name:              Road 24                        Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      24   35     0     0   42    18    24    0    23     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   24   35     0     0   42    18    24    0    23     0    0     0
Added Vol:      0    0     0     0    0   231   410    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   24   35     0     0   42   249   434    0    23     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    24   35     0     0   42   249   434    0    23     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   24   35     0     0   42   249   434    0    23     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  291 xxxx xxxxx  xxxx xxxx xxxxx   250  250   167  xxxx xxxx xxxxx
Potent Cap.: 1282 xxxx xxxxx  xxxx xxxx xxxxx   743  657   883  xxxx xxxx xxxxx
Move Cap.:   1282 xxxx xxxxx  xxxx xxxx xxxxx   733  644   883  xxxx xxxx xxxxx
Volume/Cap:  0.02 xxxx  xxxx  xxxx xxxx  xxxx  0.59 0.00  0.03  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  739 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  4.3 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 17.4 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    C     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             17.4           xxxxxx
ApproachLOS:         *                *                C                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   24   35     0     0   42   249   434    0    23     0    0     0
ApproachDel:    xxxxxx           xxxxxx             17.4           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=457]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=807]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   24   35     0     0   42   249   434    0    23     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             350
Minor Approach Volume:           457
Minor Approach Volume Threshold: 499
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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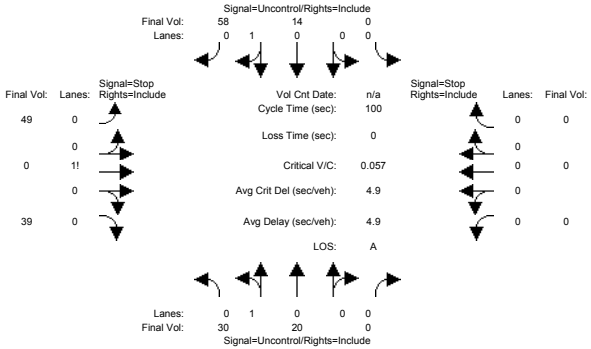
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #5: Road 24 / Avenue 18 1/2




```
Street Name:              Road 24                        Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      30   20     0     0   14    58    49    0    39     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   30   20     0     0   14    58    49    0    39     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   30   20     0     0   14    58    49    0    39     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    30   20     0     0   14    58    49    0    39     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   30   20     0     0   14    58    49    0    39     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   72 xxxx xxxxx  xxxx xxxx xxxxx   123  123    43  xxxx xxxx xxxxx
Potent Cap.: 1541 xxxx xxxxx  xxxx xxxx xxxxx   877  771  1033  xxxx xxxx xxxxx
Move Cap.:   1541 xxxx xxxxx  xxxx xxxx xxxxx   864  756  1033  xxxx xxxx xxxxx
Volume/Cap:  0.02 xxxx  xxxx  xxxx xxxx  xxxx  0.06 0.00  0.04  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  931 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.3 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.3 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              9.3           xxxxxx
ApproachLOS:         *                *               A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   30   20     0     0   14    58    49    0    39     0    0     0
ApproachDel:    xxxxxx           xxxxxx              9.3           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=88]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=210]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

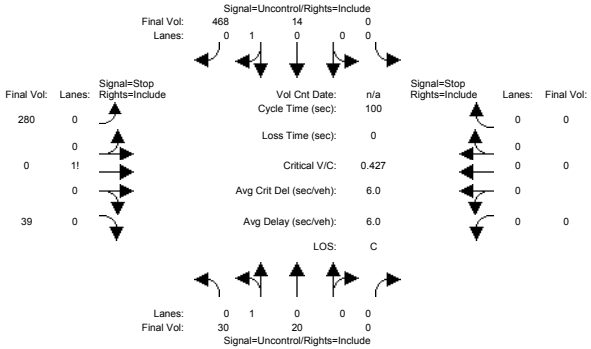
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   30   20     0     0   14    58    49    0    39     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             122
Minor Approach Volume:           88
Minor Approach Volume Threshold: 780
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #5: Road 24 / Avenue 18 1/2




```
Street Name:              Road 24                        Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      30   20     0     0   14    58    49    0    39     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   30   20     0     0   14    58    49    0    39     0    0     0
Added Vol:      0    0     0     0    0   410   231    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   30   20     0     0   14   468   280    0    39     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    30   20     0     0   14   468   280    0    39     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   30   20     0     0   14   468   280    0    39     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  482 xxxx xxxxx  xxxx xxxx xxxxx   328  328   248  xxxx xxxx xxxxx
Potent Cap.: 1091 xxxx xxxxx  xxxx xxxx xxxxx   671  594   796  xxxx xxxx xxxxx
Move Cap.:   1091 xxxx xxxxx  xxxx xxxx xxxxx   656  577   796  xxxx xxxx xxxxx
Volume/Cap:  0.03 xxxx  xxxx  xxxx xxxx  xxxx  0.43 0.00  0.05  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  671 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  2.6 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 15.1 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    C     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             15.1           xxxxxx
ApproachLOS:         *                *                C                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   30   20     0     0   14   468   280    0    39     0    0     0
ApproachDel:    xxxxxx           xxxxxx             15.1           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=319]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=851]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

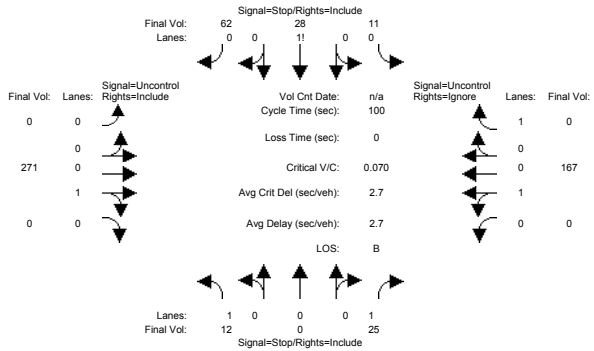
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   30   20     0     0   14   468   280    0    39     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             532
Minor Approach Volume:           319
Minor Approach Volume Threshold: 388
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #6: SR-99 SB Ramps-Road 23 / Avenue 18 1/2




```
Street Name:      SR-99 SB Ramps-Road 23              Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      12    0    25    11   28    62     0  271     0     0  167    30
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   12    0    25    11   28    62     0  271     0     0  167    30
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   12    0    25    11   28    62     0  271     0     0  167    30
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:    12    0    25    11   28    62     0  271     0     0  167     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   12    0    25    11   28    62     0  271     0     0  167     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1 xxxx   6.2   7.1  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  483 xxxx   271   451  438   167  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  497 xxxx   773   522  515   882  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    443 xxxx   773   506  515   882  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.03 xxxx  0.03  0.02 0.05  0.07  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx   0.1  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 13.4 xxxx   9.8 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     A     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  690 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.5 xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 11.1 xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     *    *     *     A    *     *
ApproachDel:      11.0             11.1           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:   12    0    25    11   28    62     0  271     0     0  167    30
ApproachDel:      11.0             11.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=37]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=606]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=101]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=606]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

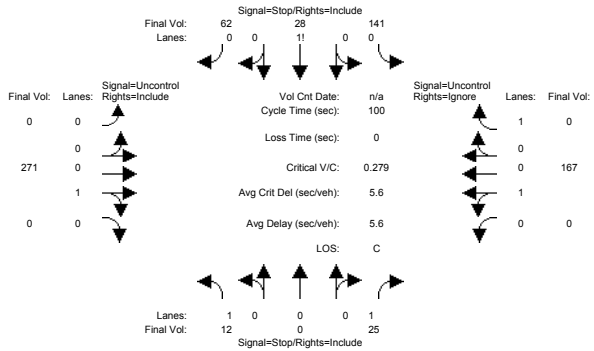
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:   12    0    25    11   28    62     0  271     0     0  167    30
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             468
Minor Approach Volume:           101
Minor Approach Volume Threshold: 546
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #6: SR-99 SB Ramps-Road 23 / Avenue 18 1/2




```
Street Name:      SR-99 SB Ramps-Road 23              Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      12    0    25    11   28    62     0  271     0     0  167    30
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   12    0    25    11   28    62     0  271     0     0  167    30
Added Vol:      0    0     0   130    0     0     0    0     0     0    0   158
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   12    0    25   141   28    62     0  271     0     0  167   188
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:    12    0    25   141   28    62     0  271     0     0  167     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   12    0    25   141   28    62     0  271     0     0  167     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1 xxxx   6.2   7.1  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  483 xxxx   271   451  438   167  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  497 xxxx   773   522  515   882  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    443 xxxx   773   506  515   882  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.03 xxxx  0.03  0.28 0.05  0.07  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx   0.1  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 13.4 xxxx   9.8 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     A     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  572 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  1.9 xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 15.5 xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     A    *     *
ApproachDel:      11.0             15.5           xxxxxx           xxxxxx
ApproachLOS:         B               C                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:   12    0    25   141   28    62     0  271     0     0  167   188
ApproachDel:      11.0             15.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=37]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=894]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=231]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=894]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:   12    0    25   141   28    62     0  271     0     0  167   188
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             626
Minor Approach Volume:           231
Minor Approach Volume Threshold: 446
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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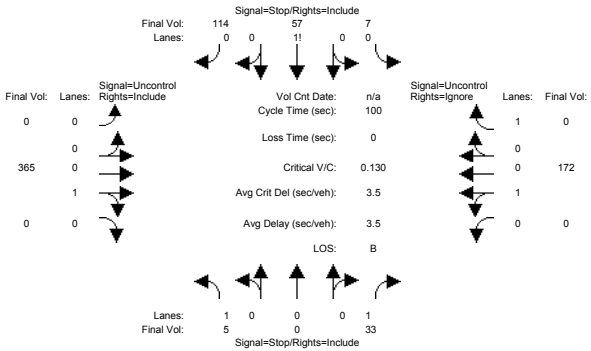
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #6: SR-99 SB Ramps-Road 23 / Avenue 18 1/2




```
Street Name:      SR-99 SB Ramps-Road 23              Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    0    33     7   57   114     0  365     0     0  172    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    5    0    33     7   57   114     0  365     0     0  172    46
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    5    0    33     7   57   114     0  365     0     0  172    46
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     5    0    33     7   57   114     0  365     0     0  172     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    5    0    33     7   57   114     0  365     0     0  172     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1 xxxx   6.2   7.1  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  623 xxxx   365   554  537   172  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  402 xxxx   685   446  453   877  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    316 xxxx   685   425  453   877  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.02 xxxx  0.05  0.02 0.13  0.13  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx   0.2  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 16.6 xxxx  10.5 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    C    *     B     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  654 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  1.1 xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 12.6 xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     *    *     *     A    *     *
ApproachDel:      11.3             12.6           xxxxxx           xxxxxx
ApproachLOS:         B                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:    5    0    33     7   57   114     0  365     0     0  172    46
ApproachDel:      11.3             12.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=38]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=799]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=178]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=799]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

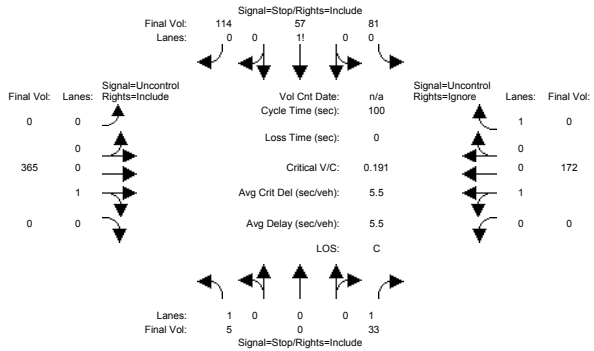
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:    5    0    33     7   57   114     0  365     0     0  172    46
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             583
Minor Approach Volume:           178
Minor Approach Volume Threshold: 471
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #6: SR-99 SB Ramps-Road 23 / Avenue 18 1/2




```
Street Name:      SR-99 SB Ramps-Road 23              Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5    0    33     7   57   114     0  365     0     0  172    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    5    0    33     7   57   114     0  365     0     0  172    46
Added Vol:      0    0     0    74    0     0     0    0     0     0    0   280
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    5    0    33    81   57   114     0  365     0     0  172   326
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:     5    0    33    81   57   114     0  365     0     0  172     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    5    0    33    81   57   114     0  365     0     0  172     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1 xxxx   6.2   7.1  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  623 xxxx   365   554  537   172  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  402 xxxx   685   446  453   877  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    316 xxxx   685   425  453   877  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.02 xxxx  0.05  0.19 0.13  0.13  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx   0.2  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 16.6 xxxx  10.5 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    C    *     B     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  565 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.3 xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 16.4 xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     A    *     *
ApproachDel:      11.3             16.4           xxxxxx           xxxxxx
ApproachLOS:         B               C                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:    5    0    33    81   57   114     0  365     0     0  172   326
ApproachDel:      11.3             16.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=38]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1153]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=252]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1153]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

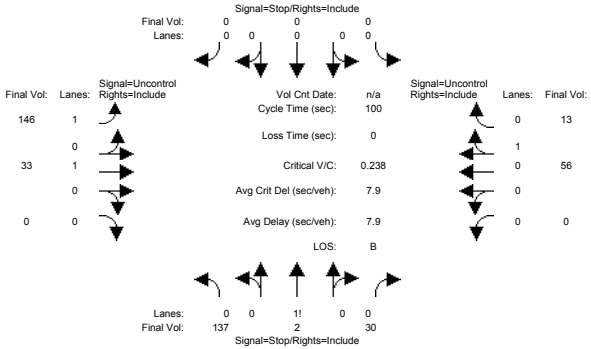
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:    5    0    33    81   57   114     0  365     0     0  172   326
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             863
Minor Approach Volume:           252
Minor Approach Volume Threshold: 336
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #7: SR-99 NB Ramps / Avenue 18 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     137    2    30     0    0     0   146   33     0     0   56    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  137    2    30     0    0     0   146   33     0     0   56    13
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  137    2    30     0    0     0   146   33     0     0   56    13
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   137    2    30     0    0     0   146   33     0     0   56    13
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  137    2    30     0    0     0   146   33     0     0   56    13
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  388  394    33  xxxx xxxx xxxxx    69 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  620  546  1046  xxxx xxxx xxxxx  1545 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    575  494  1046  xxxx xxxx xxxxx  1545 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.24 0.00  0.03  xxxx xxxx  xxxx  0.09 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  624 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 12.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     *    *     *
ApproachDel:      12.9           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         B                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  137    2    30     0    0     0   146   33     0     0   56    13
ApproachDel:      12.9           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=169]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=417]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

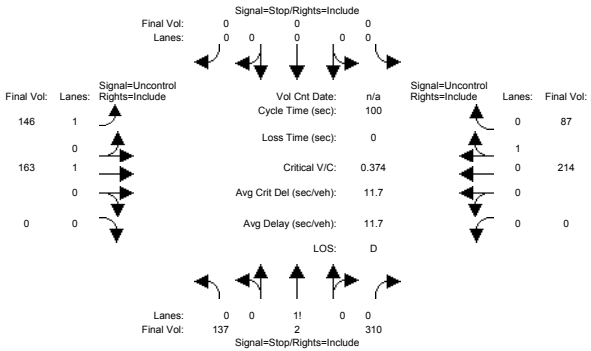
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  137    2    30     0    0     0   146   33     0     0   56    13
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             248
Minor Approach Volume:           169
Minor Approach Volume Threshold: 765
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #7: SR-99 NB Ramps / Avenue 18 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     137    2    30     0    0     0   146   33     0     0   56    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  137    2    30     0    0     0   146   33     0     0   56    13
Added Vol:      0    0   280     0    0     0     0  130     0     0  158    74
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  137    2   310     0    0     0   146  163     0     0  214    87
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   137    2   310     0    0     0   146  163     0     0  214    87
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  137    2   310     0    0     0   146  163     0     0  214    87
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  713  756   163  xxxx xxxx xxxxx   301 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  402  340   887  xxxx xxxx xxxxx  1272 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    366  301   887  xxxx xxxx xxxxx  1272 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.37 0.01  0.35  xxxx xxxx  xxxx  0.11 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  615 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  6.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 25.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    *     *     *    *     *     *    *     *
ApproachDel:      25.0           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         D                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  137    2   310     0    0     0   146  163     0     0  214    87
ApproachDel:      25.0           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=449]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1059]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

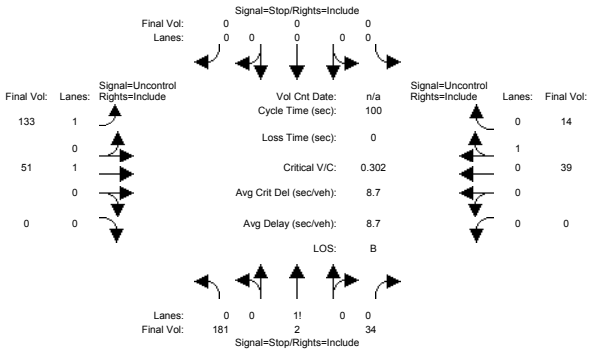
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  137    2   310     0    0     0   146  163     0     0  214    87
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             610
Minor Approach Volume:           449
Minor Approach Volume Threshold: 455
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #7: SR-99 NB Ramps / Avenue 18 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     181    2    34     0    0     0   133   51     0     0   39    14
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  181    2    34     0    0     0   133   51     0     0   39    14
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  181    2    34     0    0     0   133   51     0     0   39    14
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   181    2    34     0    0     0   133   51     0     0   39    14
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  181    2    34     0    0     0   133   51     0     0   39    14
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  363  370    51  xxxx xxxx xxxxx    53 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  640  563  1023  xxxx xxxx xxxxx  1566 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    599  515  1023  xxxx xxxx xxxxx  1566 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.30 0.00  0.03  xxxx xxxx  xxxx  0.08 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  639 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 13.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     *    *     *
ApproachDel:      13.5           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         B                  *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  181    2    34     0    0     0   133   51     0     0   39    14
ApproachDel:      13.5           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=217]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=454]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

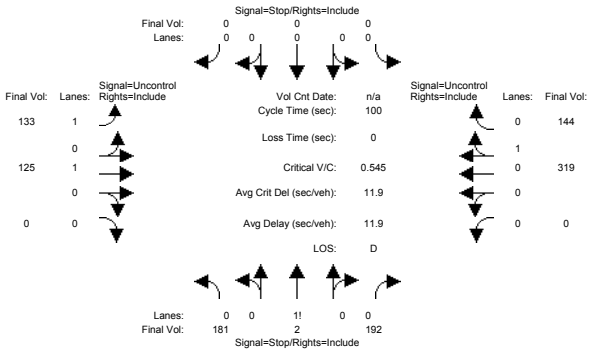
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  181    2    34     0    0     0   133   51     0     0   39    14
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             237
Minor Approach Volume:           217
Minor Approach Volume Threshold: 781
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #7: SR-99 NB Ramps / Avenue 18 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     181    2    34     0    0     0   133   51     0     0   39    14
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  181    2    34     0    0     0   133   51     0     0   39    14
Added Vol:      0    0   158     0    0     0     0   74     0     0  280   130
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  181    2   192     0    0     0   133  125     0     0  319   144
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   181    2   192     0    0     0   133  125     0     0  319   144
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  181    2   192     0    0     0   133  125     0     0  319   144
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  782  854   125  xxxx xxxx xxxxx   463 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  366  298   931  xxxx xxxx xxxxx  1109 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    332  262   931  xxxx xxxx xxxxx  1109 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.55 0.01  0.21  xxxx xxxx  xxxx  0.12 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.7 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  494 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  6.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 31.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    *     *     *    *     *     *    *     *
ApproachDel:      31.7           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         D                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  181    2   192     0    0     0   133  125     0     0  319   144
ApproachDel:      31.7           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=375]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1096]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  181    2   192     0    0     0   133  125     0     0  319   144
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             721
Minor Approach Volume:           375
Minor Approach Volume Threshold: 398
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

HEAVY MANTENANCE FACILITY ANALYSIS – GORDON SHAW

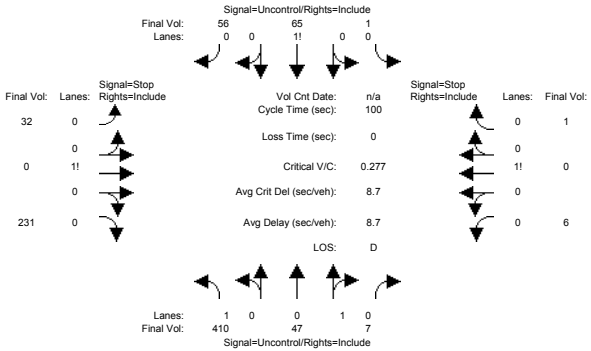
EXISTING WITH MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM Mit

Intersection #4: Road 24 / Avenue 19




```
Street Name:             Road 24                          Avenue 19
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   47     7     1   65     0     0    0     0     6    0     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   47     7     1   65     0     0    0     0     6    0     1
Added Vol:    410    0     0     0    0    56    32    0   231     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  410   47     7     1   65    56    32    0   231     6    0     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   410   47     7     1   65    56    32    0   231     6    0     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  410   47     7     1   65    56    32    0   231     6    0     1
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  121 xxxx xxxxx    54 xxxx xxxxx   966  969    93  1081  994    51
Potent Cap.: 1479 xxxx xxxxx  1564 xxxx xxxxx   236  256   970   197  247  1023
Move Cap.:   1479 xxxx xxxxx  1564 xxxx xxxxx   185  185   970   118  179  1023
Volume/Cap:  0.28 xxxx  xxxx  0.00 xxxx  xxxx  0.17 0.00  0.24  0.05 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.1 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.4 xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  640 xxxxx  xxxx  135 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  2.0 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 14.5 xxxxx xxxxx 33.1 xxxxx
Shared LOS:     *    *     *     *    *     *     *    B     *     *    D     *
ApproachDel:    xxxxxx           xxxxxx             14.5             33.1
ApproachLOS:         *                *                B                D
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  410   47     7     1   65    56    32    0   231     6    0     1
ApproachDel:    xxxxxx           xxxxxx              14.5             33.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=263]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=856]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=7]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=856]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

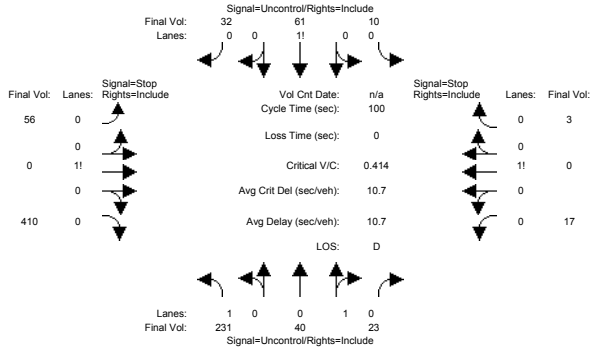
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  410   47     7     1   65    56    32    0   231     6    0     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             586
Minor Approach Volume:           263
Minor Approach Volume Threshold: 469
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM Mit

Intersection #4: Road 24 / Avenue 19




```
Street Name:              Road 24                          Avenue 19
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   40    23    10   61     0     0    0     0    17    0     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   40    23    10   61     0     0    0     0    17    0     3
Added Vol:    231    0     0     0    0    32    56    0   410     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  231   40    23    10   61    32    56    0   410    17    0     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   231   40    23    10   61    32    56    0   410    17    0     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  231   40    23    10   61    32    56    0   410    17    0     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   93 xxxx xxxxx    63 xxxx xxxxx   612  622    77   816  627    52
Potent Cap.: 1514 xxxx xxxxx  1553 xxxx xxxxx   408  405   990   298  403  1022
Move Cap.:   1514 xxxx xxxxx  1553 xxxx xxxxx   358  341   990   153  339  1022
Volume/Cap:  0.15 xxxx  xxxx  0.01 xxxx  xxxx  0.16 0.00  0.41  0.11 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.5 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.8 xxxx xxxxx   7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  816 xxxxx  xxxx  176 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  3.7 xxxxx xxxxx  0.4 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 15.1 xxxxx xxxxx 28.1 xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    D     *
ApproachDel:    xxxxxx           xxxxxx             15.1            28.1
ApproachLOS:         *                *                C               D
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  231   40    23    10   61    32    56    0   410    17    0     3
ApproachDel:    xxxxxx           xxxxxx             15.1            28.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=466]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=883]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=20]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=883]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  231   40    23    10   61    32    56    0   410    17    0     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             397
Minor Approach Volume:           466
Minor Approach Volume Threshold: 603
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

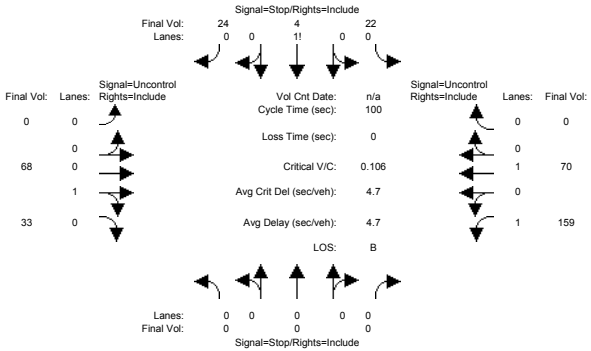
HEAVY MANTENANCE FACILITY ANALYSIS – GORDON SHAW

2035 CONDITIONS – LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #1: SR-99 SB Ramps / Avenue 20 1/2




```
Street Name:          SR-99 SB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    22    4    24     0   68    33   159   70     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    22    4    24     0   68    33   159   70     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    22    4    24     0   68    33   159   70     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    22    4    24     0   68    33   159   70     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    22    4    24     0   68    33   159   70     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   473  489    70  xxxx xxxx xxxxx   101 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   554  482   998  xxxx xxxx xxxxx  1504 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   509  431   998  xxxx xxxx xxxxx  1504 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.04 0.01  0.02  xxxx xxxx  xxxx  0.11 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  653 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 11.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            11.0           xxxxxx           xxxxxx
ApproachLOS:         *              B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    22    4    24     0   68    33   159   70     0
ApproachDel:    xxxxxx              11.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=50]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=380]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

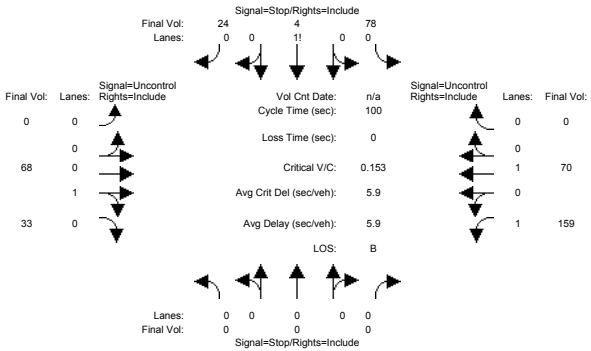
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    22    4    24     0   68    33   159   70     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             330
Minor Approach Volume:           50
Minor Approach Volume Threshold: 667
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1: SR-99 SB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 SB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    22    4    24     0   68    33   159   70     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    22    4    24     0   68    33   159   70     0
Added Vol:      0    0     0    56    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    78    4    24     0   68    33   159   70     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    78    4    24     0   68    33   159   70     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    78    4    24     0   68    33   159   70     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   473  489    70  xxxx xxxx xxxxx   101 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   554  482   998  xxxx xxxx xxxxx  1504 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   509  431   998  xxxx xxxx xxxxx  1504 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.15 0.01  0.02  xxxx xxxx  xxxx  0.11 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  568 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 12.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             12.8           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    78    4    24     0   68    33   159   70     0
ApproachDel:    xxxxxx             12.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=106]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=436]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

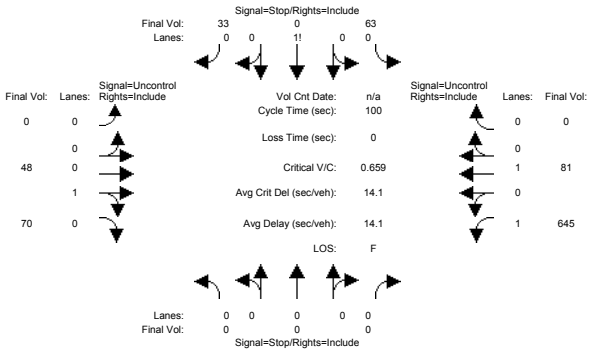
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    78    4    24     0   68    33   159   70     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             330
Minor Approach Volume:           106
Minor Approach Volume Threshold: 667
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #1: SR-99 SB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 SB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    63    0    33     0   48    70   645   81     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    63    0    33     0   48    70   645   81     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    63    0    33     0   48    70   645   81     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    63    0    33     0   48    70   645   81     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    63    0    33     0   48    70   645   81     0
------------||---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------||---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1454 1489    81  xxxx xxxx xxxxx   118 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   145  125   985  xxxx xxxx xxxxx  1483 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    96   71   985  xxxx xxxx xxxxx  1483 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.66 0.00  0.03  xxxx xxxx  xxxx  0.43 xxxx  xxxx
------------||---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  139 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 75.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             75.3           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    63    0    33     0   48    70   645   81     0
ApproachDel:    xxxxxx             75.3           xxxxxx           xxxxxx
------------||---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=96]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=940]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

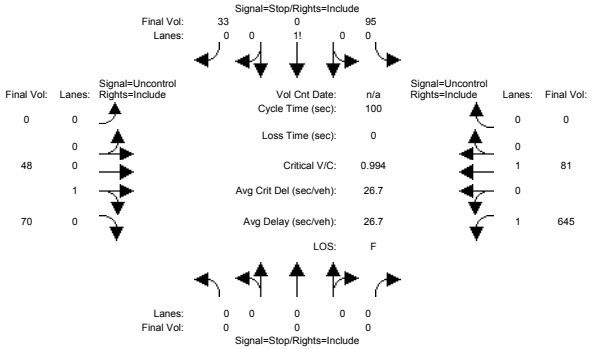
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    63    0    33     0   48    70   645   81     0
------------||---------------||---------------||---------------||---------------|
Major Street Volume:             844
Minor Approach Volume:           96
Minor Approach Volume Threshold: 343
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1: SR-99 SB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 SB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    63    0    33     0   48    70   645   81     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    63    0    33     0   48    70   645   81     0
Added Vol:      0    0     0    32    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    95    0    33     0   48    70   645   81     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    95    0    33     0   48    70   645   81     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    95    0    33     0   48    70   645   81     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1454 1489    81  xxxx xxxx xxxxx   118 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   145  125   985  xxxx xxxx xxxxx  1483 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    96   71   985  xxxx xxxx xxxxx  1483 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.99 0.00  0.03  xxxx xxxx  xxxx  0.43 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   2.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  125 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  7.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  156 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            155.8           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    95    0    33     0   48    70   645   81     0
ApproachDel:    xxxxxx            155.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=128]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=972]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

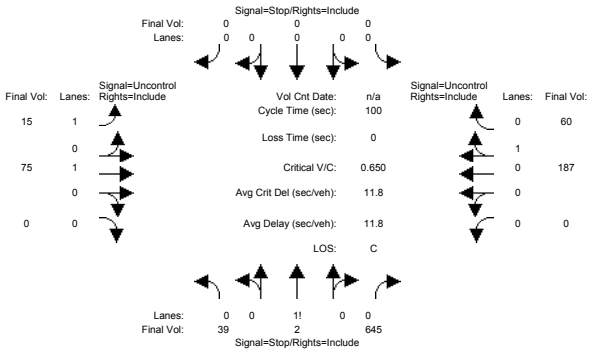
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 SR-99 SB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  0  1  0    1  0  1  0  0
Initial Vol:    0    0     0    95    0    33     0   48    70   645   81     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             844
Minor Approach Volume:           128
Minor Approach Volume Threshold: 343
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #2: SR-99 NB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      39    2   645     0    0     0    15   75     0     0  187    60
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   39    2   645     0    0     0    15   75     0     0  187    60
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   39    2   645     0    0     0    15   75     0     0  187    60
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    39    2   645     0    0     0    15   75     0     0  187    60
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   39    2   645     0    0     0    15   75     0     0  187    60
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  322  352    75  xxxx xxxx xxxxx   247 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  676  576   992  xxxx xxxx xxxxx  1331 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    670  569   992  xxxx xxxx xxxxx  1331 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.06 0.00  0.65  xxxx xxxx  xxxx  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  964 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  6.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 17.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      17.4           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   39    2   645     0    0     0    15   75     0     0  187    60
ApproachDel:      17.4           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=686]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1023]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

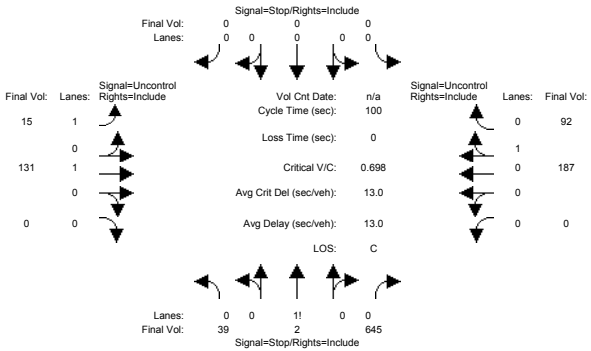
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   39    2   645     0    0     0    15   75     0     0  187    60
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             337
Minor Approach Volume:           686
Minor Approach Volume Threshold: 660
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #2: SR-99 NB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      39    2   645     0    0     0    15   75     0     0  187    60
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   39    2   645     0    0     0    15   75     0     0  187    60
Added Vol:      0    0     0     0    0     0     0   56     0     0    0    32
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   39    2   645     0    0     0    15  131     0     0  187    92
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    39    2   645     0    0     0    15  131     0     0  187    92
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   39    2   645     0    0     0    15  131     0     0  187    92
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  394  440   131  xxxx xxxx xxxxx   279 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  615  514   924  xxxx xxxx xxxxx  1295 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    609  508   924  xxxx xxxx xxxxx  1295 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.06 0.00  0.70  xxxx xxxx  xxxx  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  895 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  7.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 20.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     *    *     *
ApproachDel:      20.9           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   39    2   645     0    0     0    15  131     0     0  187    92
ApproachDel:      20.9           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=686]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1111]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

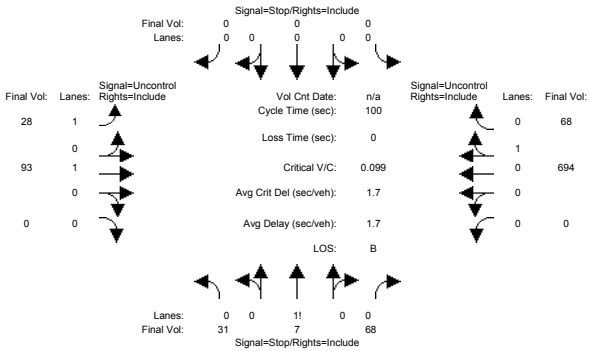
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   39    2   645     0    0     0    15  131     0     0  187    92
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             425
Minor Approach Volume:           686
Minor Approach Volume Threshold: 580
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #2: SR-99 NB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      31    7    68     0    0     0    28   93     0     0  694    68
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   31    7    68     0    0     0    28   93     0     0  694    68
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   31    7    68     0    0     0    28   93     0     0  694    68
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    31    7    68     0    0     0    28   93     0     0  694    68
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   31    7    68     0    0     0    28   93     0     0  694    68
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  877  911    93  xxxx xxxx xxxxx   762 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  322  276   970  xxxx xxxx xxxxx   859 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    314  267   970  xxxx xxxx xxxxx   859 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.10 0.03  0.07  xxxx xxxx  xxxx  0.03 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  543 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 13.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     *    *     *
ApproachDel:      13.2           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         B                  *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   31    7    68     0    0     0    28   93     0     0  694    68
ApproachDel:      13.2           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=106]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=989]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

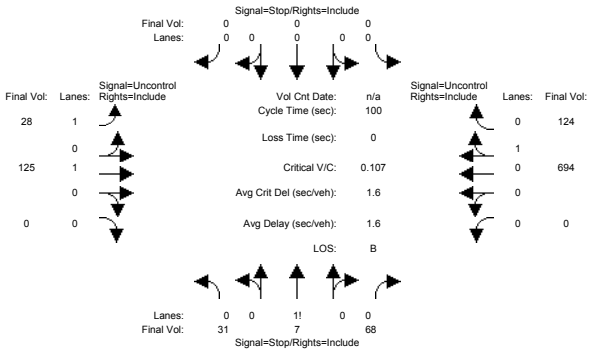
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   31    7    68     0    0     0    28   93     0     0  694    68
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             883
Minor Approach Volume:           106
Minor Approach Volume Threshold: 328
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #2: SR-99 NB Ramps / Avenue 20 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      31    7    68     0    0     0    28   93     0     0  694    68
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   31    7    68     0    0     0    28   93     0     0  694    68
Added Vol:      0    0     0     0    0     0     0   32     0     0    0    56
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   31    7    68     0    0     0    28  125     0     0  694   124
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    31    7    68     0    0     0    28  125     0     0  694   124
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   31    7    68     0    0     0    28  125     0     0  694   124
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  937  999   125  xxxx xxxx xxxxx   818 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  296  245   931  xxxx xxxx xxxxx   819 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    289  237   931  xxxx xxxx xxxxx   819 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.11 0.03  0.07  xxxx xxxx  xxxx  0.03 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  505 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 14.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     *    *     *
ApproachDel:      14.0           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         B                  *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   31    7    68     0    0     0    28  125     0     0  694   124
ApproachDel:      14.0           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=106]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1077]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

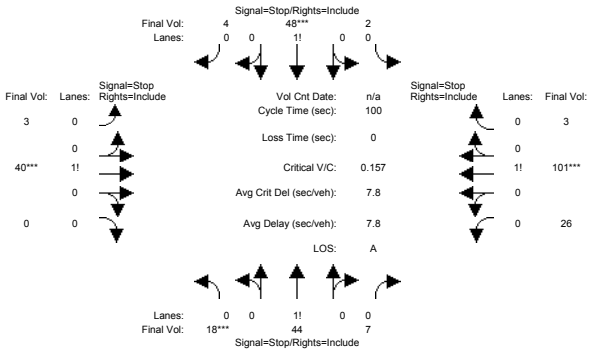
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 SR-99 NB Ramps / Avenue 20 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:   31    7    68     0    0     0    28  125     0     0  694   124
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             971
Minor Approach Volume:           106
Minor Approach Volume Threshold: 295
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Nobuild AM

Intersection #3: Road 24 / Avenue 20 1/2




```
Street Name:              Road 24                        Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      18   44     7     2   48     4     3   40     0    26  101     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   18   44     7     2   48     4     3   40     0    26  101     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   18   44     7     2   48     4     3   40     0    26  101     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    18   44     7     2   48     4     3   40     0    26  101     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   18   44     7     2   48     4     3   40     0    26  101     3
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   18   44     7     2   48     4     3   40     0    26  101     3
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.26 0.64  0.10  0.04 0.89  0.07  0.07 0.93  0.00  0.20 0.78  0.02
Final Sat.:   210  513    82    30  715    60    56  752     0   166  644    19
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.09  0.09  0.07 0.07  0.07  0.05 0.05  xxxx  0.16 0.16  0.16
Crit Moves:  ****                 ****              ****              ****
Delay/Veh:    7.7  7.7   7.7   7.6  7.6   7.6   7.5  7.5   0.0   8.0  8.0   8.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.7  7.7   7.7   7.6  7.6   7.6   7.5  7.5   0.0   8.0  8.0   8.0
LOS by Move:    A    A     A     A    A     A     A    A     *     A    A     A
ApproachDel:       7.7              7.6              7.5              8.0
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.7              7.6              7.5              8.0
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.1  0.1   0.1   0.1  0.1   0.1   0.1  0.1   0.1   0.2  0.2   0.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #3 Road 24 / Avenue 20 1/2

****

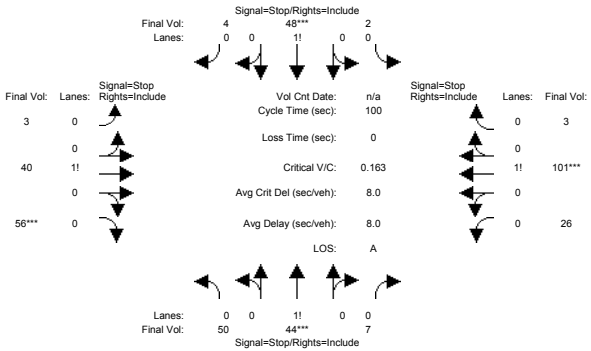

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  0    0  0  1! 0  0
Initial Vol:   18   44     7     2   48     4     3   40     0    26  101     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             173
Minor Approach Volume:           69
Minor Approach Volume Threshold: 687
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build AM

Intersection #3: Road 24 / Avenue 20 1/2




```
Street Name:              Road 24                        Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      18   44     7     2   48     4     3   40     0    26  101     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   18   44     7     2   48     4     3   40     0    26  101     3
Added Vol:     32    0     0     0    0     0     0    0    56     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   50   44     7     2   48     4     3   40    56    26  101     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    50   44     7     2   48     4     3   40    56    26  101     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   50   44     7     2   48     4     3   40    56    26  101     3
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   50   44     7     2   48     4     3   40    56    26  101     3
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.49 0.44  0.07  0.04 0.89  0.07  0.03 0.40  0.57  0.20 0.78  0.02
Final Sat.:   379  333    53    28  682    57    26  345   483   159  619    18
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.13  0.13  0.07 0.07  0.07  0.12 0.12  0.12  0.16 0.16  0.16
Crit Moves:        ****              ****                ****        ****
Delay/Veh:    8.2  8.2   8.2   7.8  7.8   7.8   7.6  7.6   7.6   8.2  8.2   8.2
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.2  8.2   8.2   7.8  7.8   7.8   7.6  7.6   7.6   8.2  8.2   8.2
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       8.2              7.8              7.6              8.2
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.2              7.8              7.6              8.2
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.1  0.1   0.1   0.1  0.1   0.1   0.1  0.1   0.1   0.2  0.2   0.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #3 Road 24 / Avenue 20 1/2

****

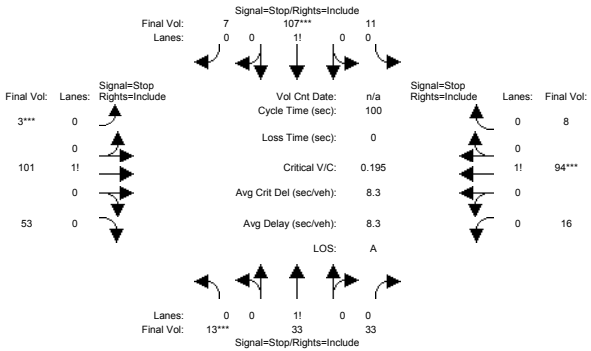

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   50   44     7     2   48     4     3   40    56    26  101     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             229
Minor Approach Volume:           101
Minor Approach Volume Threshold: 613
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Nobuild PM

Intersection #3: Road 24 / Avenue 20 1/2




```
Street Name:              Road 24                          Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      13   33    33    11  107     7     3  101    53    16   94     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   13   33    33    11  107     7     3  101    53    16   94     8
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   13   33    33    11  107     7     3  101    53    16   94     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    13   33    33    11  107     7     3  101    53    16   94     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   13   33    33    11  107     7     3  101    53    16   94     8
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   13   33    33    11  107     7     3  101    53    16   94     8
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.16 0.42  0.42  0.09 0.85  0.06  0.02 0.64  0.34  0.13 0.80  0.07
Final Sat.:   126  320   320    66  640    42    15  517   271   103  608    52
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.10  0.17 0.17  0.17  0.20 0.20  0.20  0.15 0.15  0.15
Crit Moves:  ****                 ****        ****                 ****
Delay/Veh:    7.9  7.9   7.9   8.4  8.4   8.4   8.3  8.3   8.3   8.3  8.3   8.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.9  7.9   7.9   8.4  8.4   8.4   8.3  8.3   8.3   8.3  8.3   8.3
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       7.9              8.4              8.3              8.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.9              8.4              8.3              8.3
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.1  0.1   0.1   0.2  0.2   0.2   0.2  0.2   0.2   0.2  0.2   0.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #3 Road 24 / Avenue 20 1/2

****

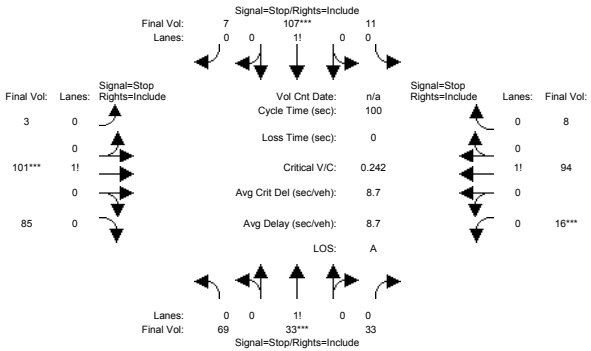

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   13   33    33    11  107     7     3  101    53    16   94     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             275
Minor Approach Volume:           125
Minor Approach Volume Threshold: 564
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 Build PM

Intersection #3: Road 24 / Avenue 20 1/2




```
Street Name:              Road 24                        Avenue 20 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      13    33    33    11   107     7     3   101    53    16    94     8
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   13    33    33    11   107     7     3   101    53    16    94     8
Added Vol:     56     0     0     0     0     0     0     0    32     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   69    33    33    11   107     7     3   101    85    16    94     8
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    69    33    33    11   107     7     3   101    85    16    94     8
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   69    33    33    11   107     7     3   101    85    16    94     8
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   69    33    33    11   107     7     3   101    85    16    94     8
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.52  0.24  0.24  0.09  0.85  0.06  0.02  0.53  0.45  0.13  0.80  0.07
Final Sat.:   370   177   177    63   613    40    12   418   352    98   576    49
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19  0.19  0.19  0.17  0.17  0.17  0.24  0.24  0.24  0.16  0.16  0.16
Crit Moves:        ****              ****              ****              ****
Delay/Veh:    8.7   8.7   8.7   8.7   8.7   8.7   8.7   8.7   8.7   8.6   8.6   8.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.7   8.7   8.7   8.7   8.7   8.7   8.7   8.7   8.7   8.6   8.6   8.6
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:       8.7               8.7               8.7               8.6
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:        8.7               8.7               8.7               8.6
LOS by Appr:         A                 A                 A                 A
AllWayAvgQ:   0.2   0.2   0.2   0.2   0.2   0.2   0.3   0.3   0.3   0.2   0.2   0.2
Note: Queue reported is the number of cars per lane.
            Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Road 24 / Avenue 20 1/2
*******************************************************************************
```



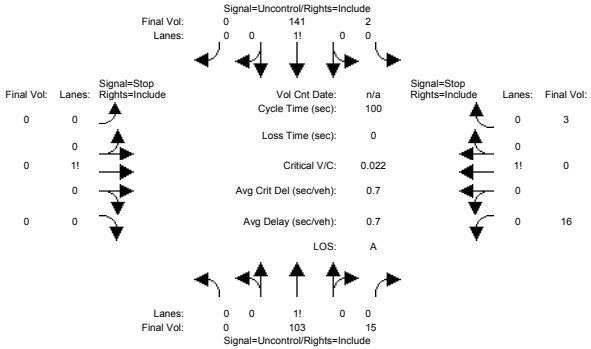
```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   69   33    33    11  107     7     3  101    85    16   94     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             307
Minor Approach Volume:           135
Minor Approach Volume Threshold: 534
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #4: Road 24 / Avenue 19




```
Street Name:              Road 24                          Avenue 19
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  103    15     2  141     0     0    0     0    16    0     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  103    15     2  141     0     0    0     0    16    0     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  103    15     2  141     0     0    0     0    16    0     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  103    15     2  141     0     0    0     0    16    0     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  103    15     2  141     0     0    0     0    16    0     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   6.4  6.5   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   118 xxxx xxxxx   257  263   141   256  256   111
Potent Cap.: xxxx xxxx xxxxx  1483 xxxx xxxxx   700  646   912   738  652   948
Move Cap.:   xxxx xxxx xxxxx  1483 xxxx xxxxx   697  645   912   737  651   948
Volume/Cap:  xxxx xxxx  xxxx  0.00 xxxx  xxxx  0.00 0.00  0.00  0.02 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx    0 xxxxx  xxxx  764 xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.8 xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    A     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.8
ApproachLOS:         *                *                *                 A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    0  103    15     2  141     0     0    0     0    16    0     3
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.8
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=19]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=280]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

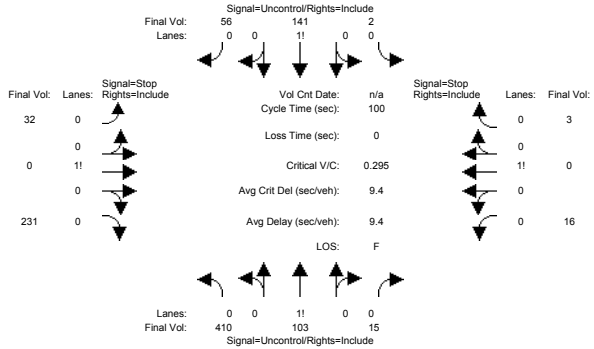
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    0  103    15     2  141     0     0    0     0    16    0     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             261
Minor Approach Volume:           19
Minor Approach Volume Threshold: 578
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #4: Road 24 / Avenue 19




```
Street Name:              Road 24                          Avenue 19
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  103    15     2  141     0     0    0     0    16    0     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  103    15     2  141     0     0    0     0    16    0     3
Added Vol:    410    0     0     0    0    56    32    0   231     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  410  103    15     2  141    56    32    0   231    16    0     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   410  103    15     2  141    56    32    0   231    16    0     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  410  103    15     2  141    56    32    0   231    16    0     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  197 xxxx xxxxx   118 xxxx xxxxx  1105 1111   169  1219 1132   111
Potent Cap.: 1388 xxxx xxxxx  1483 xxxx xxxxx   190  211   880   159  205   948
Move Cap.:   1388 xxxx xxxxx  1483 xxxx xxxxx   133  130   880    82  126   948
Volume/Cap:  0.30 xxxx  xxxx  0.00 xxxx  xxxx  0.24 0.00  0.26  0.19 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.2 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.7 xxxx xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  522 xxxxx  xxxx   96 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  2.8 xxxxx xxxxx  0.7 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 18.7 xxxxx xxxxx 51.6 xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    F     *
ApproachDel:    xxxxxx           xxxxxx             18.7            51.6
ApproachLOS:         *                *                C               F
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  410  103    15     2  141    56    32    0   231    16    0     3
ApproachDel:    xxxxxx           xxxxxx             18.7            51.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=263]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1009]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=19]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1009]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

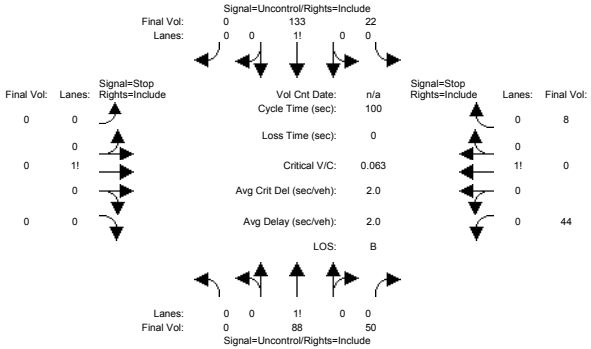
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  410  103    15     2  141    56    32    0   231    16    0     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             727
Minor Approach Volume:           263
Minor Approach Volume Threshold: 304
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #4: Road 24 / Avenue 19




```
Street Name:              Road 24                          Avenue 19
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   88    50    22  133     0     0    0     0    44    0     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   88    50    22  133     0     0    0     0    44    0     8
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   88    50    22  133     0     0    0     0    44    0     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   88    50    22  133     0     0    0     0    44    0     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0   88    50    22  133     0     0    0     0    44    0     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   6.4  6.5   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   138 xxxx xxxxx   294  315   133   290  290   113
Potent Cap.: xxxx xxxx xxxxx  1458 xxxx xxxxx   662  604   922   705  624   945
Move Cap.:   xxxx xxxx xxxxx  1458 xxxx xxxxx   649  595   922   697  614   945
Volume/Cap:  xxxx xxxx  xxxx  0.02 xxxx  xxxx  0.00 0.00  0.00  0.06 0.00  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx    0 xxxxx  xxxx  726 xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 10.3 xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             10.3
ApproachLOS:         *                *                *                B
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    0   88    50    22  133     0     0    0     0    44    0     8
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             10.3
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=52]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=345]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:    0   88    50    22  133     0     0    0     0    44    0     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             293
Minor Approach Volume:           52
Minor Approach Volume Threshold: 547
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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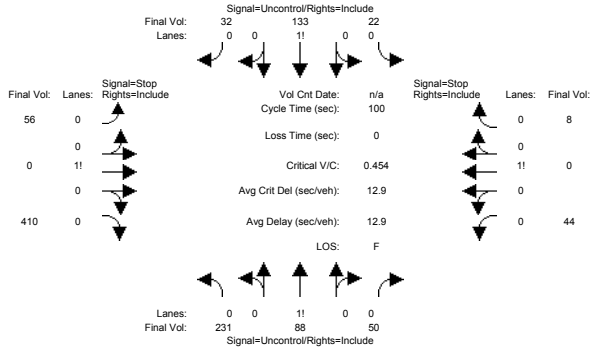
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #4: Road 24 / Avenue 19




```
Street Name:              Road 24                          Avenue 19
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   88    50    22  133     0     0    0     0    44    0     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   88    50    22  133     0     0    0     0    44    0     8
Added Vol:    231    0     0     0    0    32    56    0   410     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  231   88    50    22  133    32    56    0   410    44    0     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   231   88    50    22  133    32    56    0   410    44    0     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  231   88    50    22  133    32    56    0   410    44    0     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5   6.2   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  165 xxxx xxxxx   138 xxxx xxxxx   772  793   149   973  784   113
Potent Cap.: 1426 xxxx xxxxx  1458 xxxx xxxxx   319  323   903   233  327   945
Move Cap.:   1426 xxxx xxxxx  1458 xxxx xxxxx   268  259   903   108  262   945
Volume/Cap:  0.16 xxxx  xxxx  0.02 xxxx  xxxx  0.21 0.00  0.45  0.41 0.00  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.6 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.0 xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  703 xxxxx  xxxx  125 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  5.0 xxxxx xxxxx  1.8 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 19.6 xxxxx xxxxx 52.9 xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    F     *
ApproachDel:    xxxxxx           xxxxxx             19.6            52.9
ApproachLOS:         *                *                C               F
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  231   88    50    22  133    32    56    0   410    44    0     8
ApproachDel:    xxxxxx           xxxxxx             19.6            52.9
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=466]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1074]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=52]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1074]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

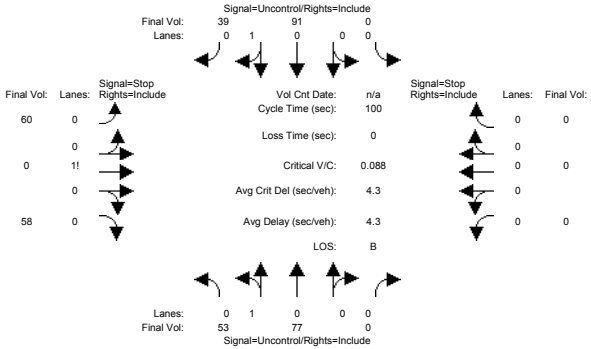
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Road 24 / Avenue 19
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  231   88    50    22  133    32    56    0   410    44    0     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             556
Minor Approach Volume:           466
Minor Approach Volume Threshold: 376
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #5: Road 24 / Avenue 18 1/2




```
Street Name:              Road 24                        Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      53   77     0     0   91    39    60    0    58     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   53   77     0     0   91    39    60    0    58     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   53   77     0     0   91    39    60    0    58     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    53   77     0     0   91    39    60    0    58     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   53   77     0     0   91    39    60    0    58     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  130 xxxx xxxxx  xxxx xxxx xxxxx   294  294   111  xxxx xxxx xxxxx
Potent Cap.: 1468 xxxx xxxxx  xxxx xxxx xxxxx   702  621   948  xxxx xxxx xxxxx
Move Cap.:   1468 xxxx xxxxx  xxxx xxxx xxxxx   682  598   948  xxxx xxxx xxxxx
Volume/Cap:  0.04 xxxx  xxxx  xxxx xxxx  xxxx  0.09 0.00  0.06  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  791 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.5 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 10.3 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    B     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             10.3           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   53   77     0     0   91    39    60    0    58     0    0     0
ApproachDel:    xxxxxx           xxxxxx             10.3           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=118]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=378]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

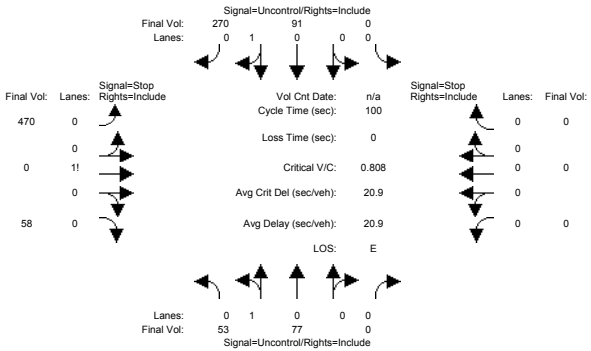
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   53   77     0     0   91    39    60    0    58     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             260
Minor Approach Volume:           118
Minor Approach Volume Threshold: 579
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #5: Road 24 / Avenue 18 1/2




```
Street Name:              Road 24                        Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      53   77     0     0   91    39    60    0    58     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   53   77     0     0   91    39    60    0    58     0    0     0
Added Vol:      0    0     0     0    0   231   410    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   53   77     0     0   91   270   470    0    58     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    53   77     0     0   91   270   470    0    58     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   53   77     0     0   91   270   470    0    58     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  361 xxxx xxxxx  xxxx xxxx xxxxx   409  409   226  xxxx xxxx xxxxx
Potent Cap.: 1209 xxxx xxxxx  xxxx xxxx xxxxx   602  535   818  xxxx xxxx xxxxx
Move Cap.:   1209 xxxx xxxxx  xxxx xxxx xxxxx   582  511   818  xxxx xxxx xxxxx
Volume/Cap:  0.04 xxxx  xxxx  xxxx xxxx  xxxx  0.81 0.00  0.07  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  601 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 10.2 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 39.5 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    E     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             39.5           xxxxxx
ApproachLOS:         *                *               E                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   53   77     0     0   91   270   470    0    58     0    0     0
ApproachDel:    xxxxxx           xxxxxx             39.5           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.8]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=528]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1019]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

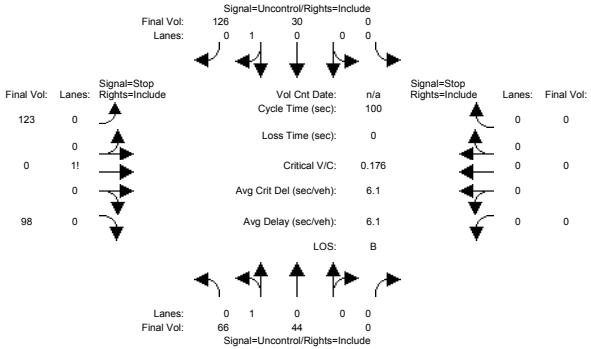
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   53   77     0     0   91   270   470    0    58     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             491
Minor Approach Volume:           528
Minor Approach Volume Threshold: 409
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #5: Road 24 / Avenue 18 1/2




```
Street Name:              Road 24                        Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      66   44     0     0   30   126   123    0    98     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   66   44     0     0   30   126   123    0    98     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   66   44     0     0   30   126   123    0    98     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    66   44     0     0   30   126   123    0    98     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   66   44     0     0   30   126   123    0    98     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  156 xxxx xxxxx  xxxx xxxx xxxxx   269  269    93  xxxx xxxx xxxxx
Potent Cap.: 1436 xxxx xxxxx  xxxx xxxx xxxxx   725  641   970  xxxx xxxx xxxxx
Move Cap.:   1436 xxxx xxxxx  xxxx xxxx xxxxx   698  610   970  xxxx xxxx xxxxx
Volume/Cap:  0.05 xxxx  xxxx  xxxx xxxx  xxxx  0.18 0.00  0.10  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  797 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  1.1 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 11.2 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    B     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             11.2           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   66   44     0     0   30   126   123    0    98     0    0     0
ApproachDel:    xxxxxx           xxxxxx             11.2           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=221]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=487]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   66   44     0     0   30   126   123    0    98     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             266
Minor Approach Volume:           221
Minor Approach Volume Threshold: 573
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
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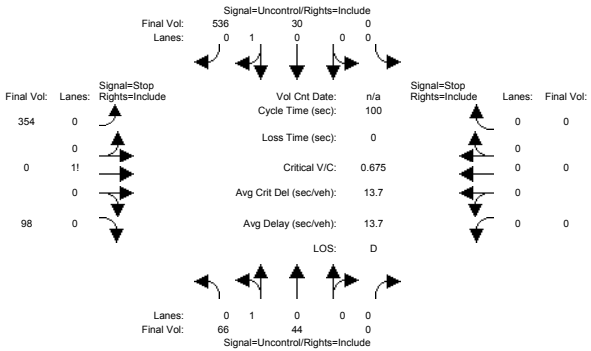
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #5: Road 24 / Avenue 18 1/2




```
Street Name:              Road 24                        Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      66   44     0     0   30   126   123    0    98     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   66   44     0     0   30   126   123    0    98     0    0     0
Added Vol:      0    0     0     0    0   410   231    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   66   44     0     0   30   536   354    0    98     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    66   44     0     0   30   536   354    0    98     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   66   44     0     0   30   536   354    0    98     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  566 xxxx xxxxx  xxxx xxxx xxxxx   474  474   298  xxxx xxxx xxxxx
Potent Cap.: 1016 xxxx xxxxx  xxxx xxxx xxxxx   553  492   746  xxxx xxxx xxxxx
Move Cap.:   1016 xxxx xxxxx  xxxx xxxx xxxxx   524  459   746  xxxx xxxx xxxxx
Volume/Cap:  0.06 xxxx  xxxx  xxxx xxxx  xxxx  0.68 0.00  0.13  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.2 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  560 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  7.9 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  8.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 32.9 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    D     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             32.9           xxxxxx
ApproachLOS:         *                *                D                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   66   44     0     0   30   536   354    0    98     0    0     0
ApproachDel:    xxxxxx           xxxxxx             32.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=452]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1128]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

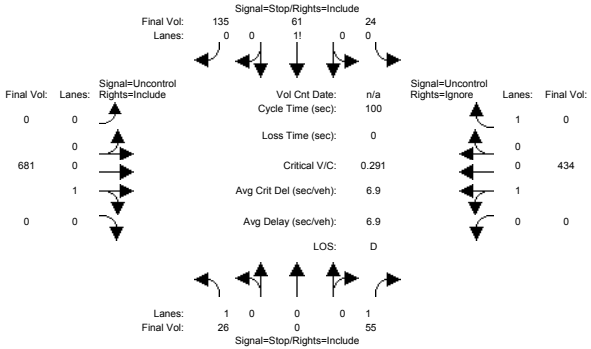
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Road 24 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   66   44     0     0   30   536   354    0    98     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             676
Minor Approach Volume:           452
Minor Approach Volume Threshold: 324
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #6: SR-99 SB Ramps-Road 23 / Avenue 18 1/2




```
Street Name:      SR-99 SB Ramps-Road 23                Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26    0    55    24   61   135     0  681     0     0  434    78
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26    0    55    24   61   135     0  681     0     0  434    78
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26    0    55    24   61   135     0  681     0     0  434    78
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:    26    0    55    24   61   135     0  681     0     0  434     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26    0    55    24   61   135     0  681     0     0  434     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1 xxxx   6.2   7.1  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1213 xxxx   681  1143 1115   434  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  160 xxxx   454   179  210   626  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     97 xxxx   454   157  210   626  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.27 xxxx  0.12  0.15 0.29  0.22  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.0 xxxx   0.4  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 55.0 xxxx  14.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    F    *     B     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  334 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  4.4 xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 34.4 xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx
Shared LOS:     *    *     *     *    D     *     *    *     *     A    *     *
ApproachDel:      27.2             34.4            xxxxxx           xxxxxx
ApproachLOS:         D                D                 *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:   26    0    55    24   61   135     0  681     0     0  434    78
ApproachDel:      27.2             34.4            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=81]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1494]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=220]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1494]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:   26    0    55    24   61   135     0  681     0     0  434    78
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1193
Minor Approach Volume:           220
Minor Approach Volume Threshold: 224
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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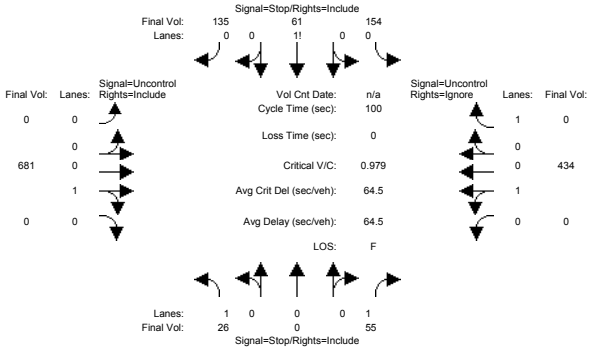
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #6: SR-99 SB Ramps-Road 23 / Avenue 18 1/2




```
Street Name:      SR-99 SB Ramps-Road 23              Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      26    0    55    24   61   135     0  681     0     0  434    78
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   26    0    55    24   61   135     0  681     0     0  434    78
Added Vol:      0    0     0   130    0     0     0    0     0     0    0   158
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   26    0    55   154   61   135     0  681     0     0  434   236
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:    26    0    55   154   61   135     0  681     0     0  434     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   26    0    55   154   61   135     0  681     0     0  434     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1 xxxx   6.2   7.1  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1213 xxxx   681  1143 1115   434  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  160 xxxx   454   179  210   626  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     97 xxxx   454   157  210   626  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.27 xxxx  0.12  0.98 0.29  0.22  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.0 xxxx   0.4  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 55.0 xxxx  14.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    F    *     B     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  236 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 20.7 xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  278 xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     A    *     *
ApproachDel:      27.2            278.4           xxxxxx           xxxxxx
ApproachLOS:         D                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:   26    0    55   154   61   135     0  681     0     0  434   236
ApproachDel:      27.2            278.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=81]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1782]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=27.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=350]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1782]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:   26    0    55   154   61   135     0  681     0     0  434   236
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1351
Minor Approach Volume:           350
Minor Approach Volume Threshold: 181
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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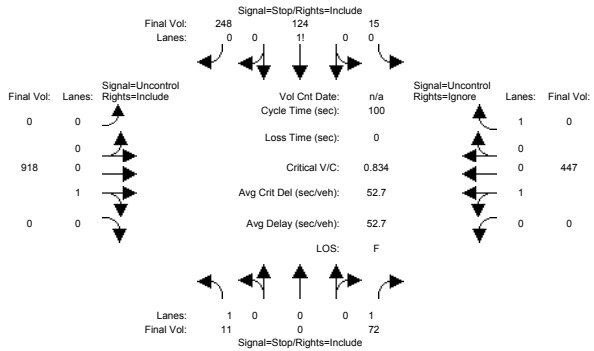
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #6: SR-99 SB Ramps-Road 23 / Avenue 18 1/2




```
Street Name:      SR-99 SB Ramps-Road 23              Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      11    0    72    15  124   248     0  918     0     0  447   120
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   11    0    72    15  124   248     0  918     0     0  447   120
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   11    0    72    15  124   248     0  918     0     0  447   120
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:    11    0    72    15  124   248     0  918     0     0  447     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   11    0    72    15  124   248     0  918     0     0  447     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1 xxxx   6.2   7.1  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1551 xxxx   918  1401 1365   447  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   93 xxxx   332   119  149   616  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     17 xxxx   332    93  149   616  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.66 xxxx  0.22  0.16 0.83  0.40  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.7 xxxx   0.8  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:405.9 xxxx  18.8 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    F    *     C     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  277 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 20.8 xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  235 xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     A    *     *
ApproachDel:      70.1            234.7           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:   11    0    72    15  124   248     0  918     0     0  447   120
ApproachDel:      70.1            234.7           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=83]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1955]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=25.2]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=387]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1955]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:   11    0    72    15  124   248     0  918     0     0  447   120
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1485
Minor Approach Volume:           387
Minor Approach Volume Threshold: 149
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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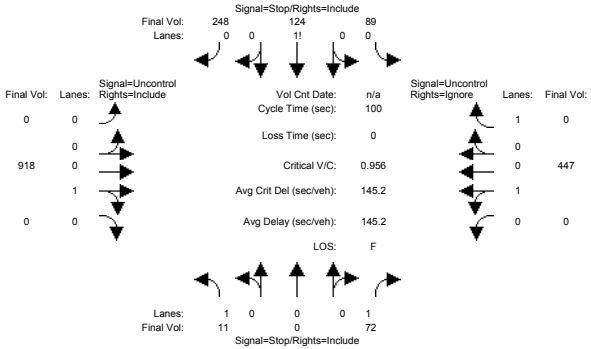
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #6: SR-99 SB Ramps-Road 23 / Avenue 18 1/2




```
Street Name:      SR-99 SB Ramps-Road 23              Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      11    0    72    15  124   248     0  918     0     0  447   120
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   11    0    72    15  124   248     0  918     0     0  447   120
Added Vol:      0    0     0    74    0     0     0    0     0     0    0   280
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   11    0    72    89  124   248     0  918     0     0  447   400
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Volume:    11    0    72    89  124   248     0  918     0     0  447     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   11    0    72    89  124   248     0  918     0     0  447     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1 xxxx   6.2   7.1  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1551 xxxx   918  1401 1365   447  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   93 xxxx   332   119  149   616  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     17 xxxx   332    93  149   616  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.66 xxxx  0.22  0.96 0.83  0.40  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    1.7 xxxx   0.8  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:405.9 xxxx  18.8 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    F    *     C     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  210 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 36.1 xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  589 xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     A    *     *
ApproachDel:      70.1            588.7           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:   11    0    72    89  124   248     0  918     0     0  447   400
ApproachDel:      70.1            588.7           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=83]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2309]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=75.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=461]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2309]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 SR-99 SB Ramps-Road 23 / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1  0  0    0  1  0  0  1
Initial Vol:   11    0    72    89  124   248     0  918     0     0  447   400
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1765
Minor Approach Volume:           461
Minor Approach Volume Threshold: 89 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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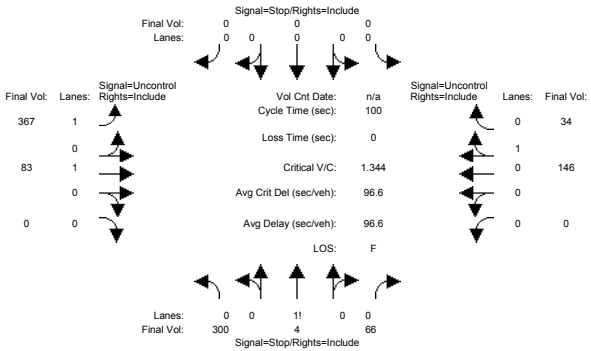
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #7: SR-99 NB Ramps / Avenue 18 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     300    4    66     0    0     0   367   83     0     0  146    34
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  300    4    66     0    0     0   367   83     0     0  146    34
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  300    4    66     0    0     0   367   83     0     0  146    34
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   300    4    66     0    0     0   367   83     0     0  146    34
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  300    4    66     0    0     0   367   83     0     0  146    34
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  980  997    83  xxxx xxxx xxxxx   180 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  279  246   982  xxxx xxxx xxxxx  1408 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    223  182   982  xxxx xxxx xxxxx  1408 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  1.34 0.02  0.07  xxxx xxxx  xxxx  0.26 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  258 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 20.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  253 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     252.6           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  300    4    66     0    0     0   367   83     0     0  146    34
ApproachDel:     252.6           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=26.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=370]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1000]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

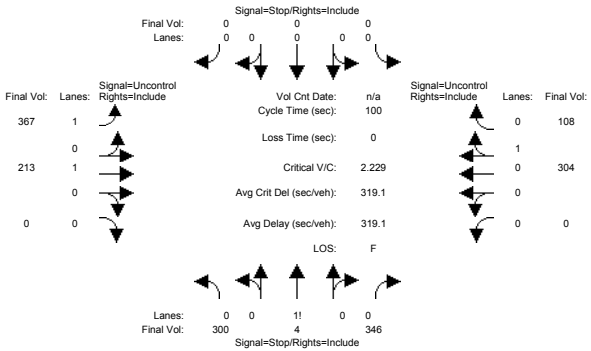
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  300    4    66     0    0     0   367   83     0     0  146    34
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             630
Minor Approach Volume:           370
Minor Approach Volume Threshold: 444
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #7: SR-99 NB Ramps / Avenue 18 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     300    4    66     0    0     0   367   83     0     0  146    34
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  300    4    66     0    0     0   367   83     0     0  146    34
Added Vol:      0    0   280     0    0     0     0  130     0     0  158    74
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  300    4   346     0    0     0   367  213     0     0  304   108
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   300    4   346     0    0     0   367  213     0     0  304   108
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  300    4   346     0    0     0   367  213     0     0  304   108
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1305 1359   213  xxxx xxxx xxxxx   412 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  178  150   832  xxxx xxxx xxxxx  1158 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    135  102   832  xxxx xxxx xxxxx  1158 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  2.23 0.04  0.42  xxxx xxxx  xxxx  0.32 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  242 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 55.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  801 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     800.6           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  300    4   346     0    0     0   367  213     0     0  304   108
ApproachDel:     800.6           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=144.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=650]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1642]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

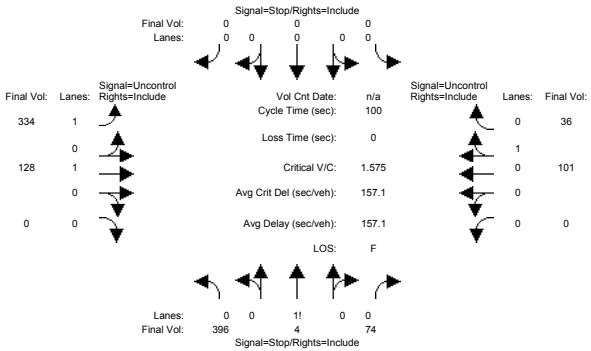
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  300    4   346     0    0     0   367  213     0     0  304   108
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             992
Minor Approach Volume:           650
Minor Approach Volume Threshold: 288
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #7: SR-99 NB Ramps / Avenue 18 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     396    4    74     0    0     0   334  128     0     0  101    36
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  396    4    74     0    0     0   334  128     0     0  101    36
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  396    4    74     0    0     0   334  128     0     0  101    36
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   396    4    74     0    0     0   334  128     0     0  101    36
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  396    4    74     0    0     0   334  128     0     0  101    36
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  915  933   128  xxxx xxxx xxxxx   137 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  305  268   927  xxxx xxxx xxxxx  1459 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    251  207   927  xxxx xxxx xxxxx  1459 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  1.57 0.02  0.08  xxxx xxxx  xxxx  0.23 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  283 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 29.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  350 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:     349.8           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  396    4    74     0    0     0   334  128     0     0  101    36
ApproachDel:     349.8           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=46.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=474]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1073]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

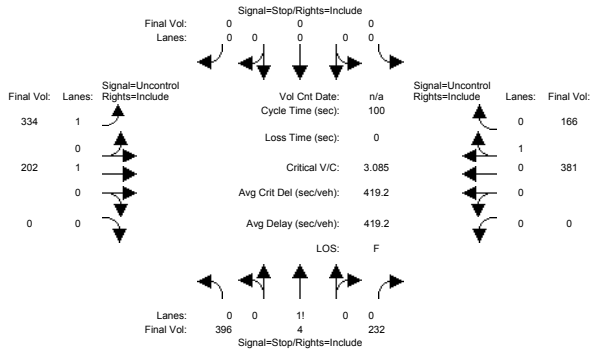
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  396    4    74     0    0     0   334  128     0     0  101    36
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             599
Minor Approach Volume:           474
Minor Approach Volume Threshold: 461
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #7: SR-99 NB Ramps / Avenue 18 1/2




```
Street Name:           SR-99 NB Ramps                    Avenue 18 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     396    4    74     0    0     0   334  128     0     0  101    36
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  396    4    74     0    0     0   334  128     0     0  101    36
Added Vol:      0    0   158     0    0     0     0   74     0     0  280   130
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  396    4   232     0    0     0   334  202     0     0  381   166
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   396    4   232     0    0     0   334  202     0     0  381   166
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  396    4   232     0    0     0   334  202     0     0  381   166
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1334 1417   202  xxxx xxxx xxxxx   547 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  171  138   844  xxxx xxxx xxxxx  1033 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    128   94   844  xxxx xxxx xxxxx  1033 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  3.08 0.04  0.27  xxxx xxxx  xxxx  0.32 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.1 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  186 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx 59.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 1132 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:    1132.2           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  396    4   232     0    0     0   334  202     0     0  381   166
ApproachDel:    1132.2           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=198.8]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=632]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1715]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 NB Ramps / Avenue 18 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:  396    4   232     0    0     0   334  202     0     0  381   166
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1083
Minor Approach Volume:           632
Minor Approach Volume Threshold: 257
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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HEAVY MANTENANCE FACILITY ANALYSIS – GORDON SHAW

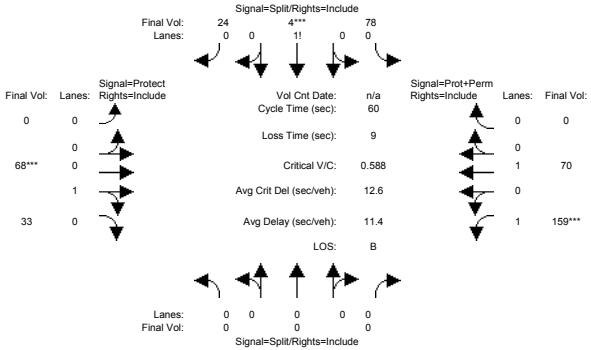
2035 WITH MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #1: SR-99 SB Ramps / Avenue 20 1/2



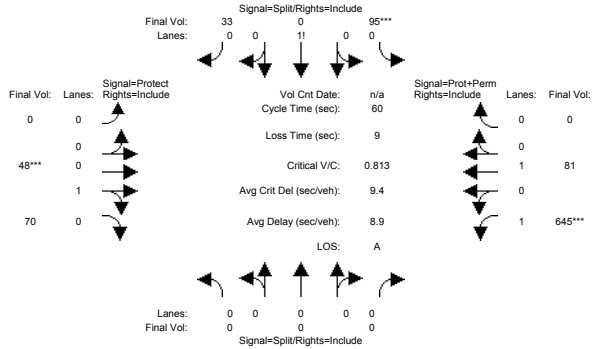
Street Name:	SR-99 SB Ramps						Avenue 20 1/2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	22	4	24	0	68	33	159	70	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	22	4	24	0	68	33	159	70	0
Added Vol:	0	0	0	56	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	78	4	24	0	68	33	159	70	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	78	4	24	0	68	33	159	70	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	78	4	24	0	68	33	159	70	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	78	4	24	0	68	33	159	70	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.87	0.87	0.87	1.00	0.96	0.96	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.73	0.04	0.23	0.00	0.67	0.33	1.00	1.00	0.00
Final Sat.:	0	0	0	1221	63	376	0	1223	593	1805	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.06	0.06	0.06	0.00	0.06	0.06	0.09	0.04	0.00
Crit Moves:					****			****		****		
Green Time:	0.0	0.0	0.0	15.7	15.7	15.7	0.0	13.7	13.7	38.3	35.3	0.0
Volume/Cap:	0.00	0.00	0.00	0.24	0.24	0.24	0.00	0.24	0.24	0.15	0.06	0.00
Delay/Veh:	0.0	0.0	0.0	17.8	17.8	17.8	0.0	19.3	19.3	4.9	5.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	17.8	17.8	17.8	0.0	19.3	19.3	4.9	5.3	0.0
LOS by Move:	A	A	A	B	B	B	A	B	B	A	A	A
HCM2kAvgQ:	0	0	0	2	2	2	0	2	2	1	1	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #1: SR-99 SB Ramps / Avenue 20 1/2



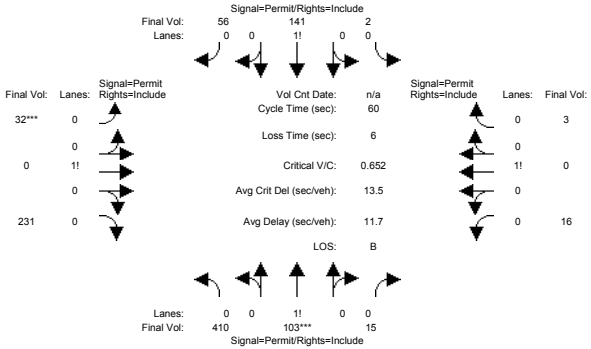
Street Name:	SR-99 SB Ramps						Avenue 20 1/2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	63	0	33	0	48	70	645	81	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	63	0	33	0	48	70	645	81	0
Added Vol:	0	0	0	32	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	95	0	33	0	48	70	645	81	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	95	0	33	0	48	70	645	81	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	95	0	33	0	48	70	645	81	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	95	0	33	0	48	70	645	81	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.93	1.00	0.93	1.00	0.92	0.92	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.74	0.00	0.26	0.00	0.41	0.59	1.00	1.00	0.00
Final Sat.:	0	0	0	1312	0	456	0	711	1037	1805	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.07	0.00	0.07	0.00	0.07	0.07	0.36	0.04	0.00
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	0.0	10.0	10.0	44.0	41.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.43	0.00	0.43	0.00	0.41	0.41	0.50	0.06	0.00
Delay/Veh:	0.0	0.0	0.0	23.5	0.0	23.5	0.0	23.3	23.3	4.1	3.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	23.5	0.0	23.5	0.0	23.3	23.3	4.1	3.2	0.0
LOS by Move:	A	A	A	C	A	C	A	C	C	A	A	A
HCM2kAvgQ:	0	0	0	3	0	3	0	2	2	6	1	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #4: Road 24 / Avenue 19



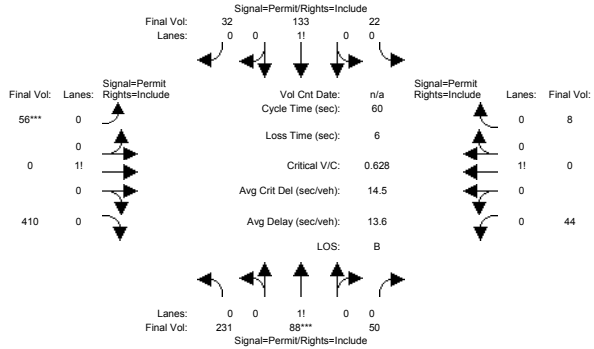
Street Name:	Road 24						Avenue 19					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	103	15	2	141	0	0	0	0	16	0	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	103	15	2	141	0	0	0	0	16	0	3
Added Vol:	410	0	0	0	0	56	32	0	231	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	410	103	15	2	141	56	32	0	231	16	0	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	410	103	15	2	141	56	32	0	231	16	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	410	103	15	2	141	56	32	0	231	16	0	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	410	103	15	2	141	56	32	0	231	16	0	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.66	0.66	0.66	0.96	0.96	0.96	0.85	1.00	0.85	0.80	1.00	0.80
Lanes:	0.78	0.19	0.03	0.01	0.71	0.28	0.12	0.00	0.88	0.84	0.00	0.16
Final Sat.:	967	243	35	18	1291	513	197	0	1420	1278	0	240
Capacity Analysis Module:												
Vol/Sat:	0.42	0.42	0.42	0.11	0.11	0.11	0.16	0.00	0.16	0.01	0.00	0.01
Crit Moves:		****					****					
Green Time:	39.0	39.0	39.0	39.0	39.0	39.0	15.0	0.0	15.0	15.0	0.0	15.0
Volume/Cap:	0.65	0.65	0.65	0.17	0.17	0.17	0.65	0.00	0.65	0.05	0.00	0.05
Delay/Veh:	8.3	8.3	8.3	4.2	4.2	4.2	24.0	0.0	24.0	17.2	0.0	17.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.3	8.3	8.3	4.2	4.2	4.2	24.0	0.0	24.0	17.2	0.0	17.2
LOS by Move:	A	A	A	A	A	A	C	A	C	B	A	B
HCM2kAvgQ:	6	6	6	2	2	2	6	0	6	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #4: Road 24 / Avenue 19



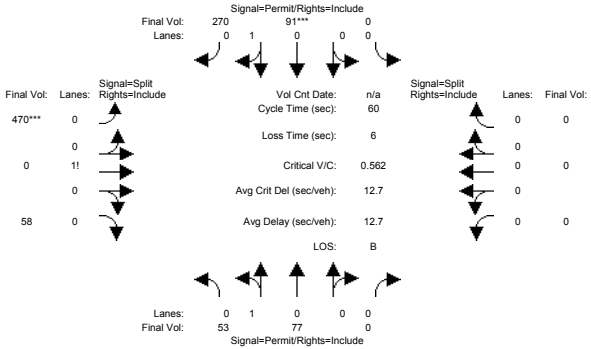
Street Name:	Road 24						Avenue 19					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	88	50	22	133	0	0	0	0	44	0	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	88	50	22	133	0	0	0	0	44	0	8
Added Vol:	231	0	0	0	0	32	56	0	410	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	231	88	50	22	133	32	56	0	410	44	0	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	231	88	50	22	133	32	56	0	410	44	0	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	231	88	50	22	133	32	56	0	410	44	0	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	231	88	50	22	133	32	56	0	410	44	0	8
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.70	0.70	0.70	0.92	0.92	0.92	0.85	1.00	0.85	0.66	1.00	0.66
Lanes:	0.63	0.24	0.13	0.12	0.71	0.17	0.12	0.00	0.88	0.85	0.00	0.15
Final Sat.:	836	318	181	206	1248	300	194	0	1418	1065	0	194
Capacity Analysis Module:												
Vol/Sat:	0.28	0.28	0.28	0.11	0.11	0.11	0.29	0.00	0.29	0.04	0.00	0.04
Crit Moves:		****					****					
Green Time:	26.4	26.4	26.4	26.4	26.4	26.4	27.6	0.0	27.6	27.6	0.0	27.6
Volume/Cap:	0.63	0.63	0.63	0.24	0.24	0.24	0.63	0.00	0.63	0.09	0.00	0.09
Delay/Veh:	15.2	15.2	15.2	10.7	10.7	10.7	14.0	0.0	14.0	9.2	0.0	9.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.2	15.2	15.2	10.7	10.7	10.7	14.0	0.0	14.0	9.2	0.0	9.2
LOS by Move:	B	B	B	B	B	B	B	A	B	A	A	A
HCM2kAvgQ:	5	5	5	2	2	2	8	0	8	1	0	1

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #5: Road 24 / Avenue 18 1/2



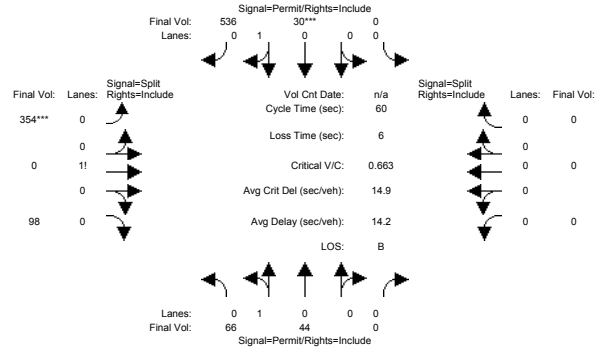
Street Name:	Road 24						Avenue 18 1/2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	77	0	0	91	39	60	0	58	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	77	0	0	91	39	60	0	58	0	0	0
Added Vol:	0	0	0	0	0	231	410	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	77	0	0	91	270	470	0	58	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	77	0	0	91	270	470	0	58	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	77	0	0	91	270	470	0	58	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	77	0	0	91	270	470	0	58	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.82	0.82	1.00	1.00	0.90	0.90	0.94	1.00	0.94	1.00	1.00	1.00
Lanes:	0.41	0.59	0.00	0.00	0.25	0.75	0.89	0.00	0.11	0.00	0.00	0.00
Final Sat.:	635	923	0	0	431	1278	1594	0	197	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.00	0.00	0.21	0.21	0.29	0.00	0.29	0.00	0.00	0.00
Crit Moves:					****		****					
Green Time:	22.5	22.5	0.0	0.0	22.5	22.5	31.5	0.0	31.5	0.0	0.0	0.0
Volume/Cap:	0.22	0.22	0.00	0.00	0.56	0.56	0.56	0.00	0.56	0.00	0.00	0.00
Delay/Veh:	12.9	12.9	0.0	0.0	16.0	16.0	10.4	0.0	10.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.9	12.9	0.0	0.0	16.0	16.0	10.4	0.0	10.4	0.0	0.0	0.0
LOS by Move:	B	B	A	A	B	B	B	A	B	A	A	A
HCM2kAvgQ:	2	2	0	0	5	5	7	0	7	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #5: Road 24 / Avenue 18 1/2



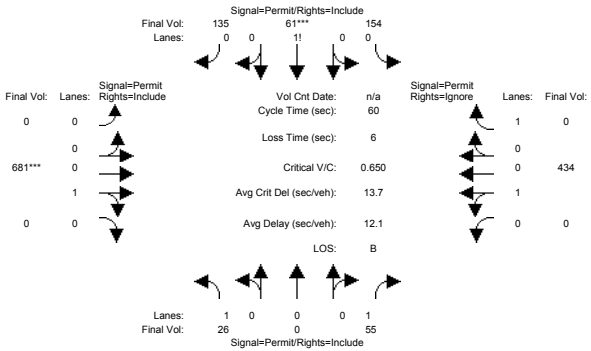
Street Name:	Road 24						Avenue 18 1/2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	66	44	0	0	30	126	123	0	98	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	66	44	0	0	30	126	123	0	98	0	0	0
Added Vol:	0	0	0	0	0	410	231	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	66	44	0	0	30	536	354	0	98	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	66	44	0	0	30	536	354	0	98	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	66	44	0	0	30	536	354	0	98	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	66	44	0	0	30	536	354	0	98	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.68	0.68	1.00	1.00	0.87	0.87	0.93	1.00	0.93	1.00	1.00	1.00
Lanes:	0.60	0.40	0.00	0.00	0.05	0.95	0.78	0.00	0.22	0.00	0.00	0.00
Final Sat.:	777	518	0	0	88	1569	1390	0	385	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.00	0.00	0.34	0.34	0.25	0.00	0.25	0.00	0.00	0.00
Crit Moves:					****		****					
Green Time:	30.9	30.9	0.0	0.0	30.9	30.9	23.1	0.0	23.1	0.0	0.0	0.0
Volume/Cap:	0.16	0.16	0.00	0.00	0.66	0.66	0.66	0.00	0.66	0.00	0.00	0.00
Delay/Veh:	7.8	7.8	0.0	0.0	12.7	12.7	17.7	0.0	17.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.8	7.8	0.0	0.0	12.7	12.7	17.7	0.0	17.7	0.0	0.0	0.0
LOS by Move:	A	A	A	A	B	B	B	A	B	A	A	A
HCM2kAvgQ:	1	1	0	0	8	8	7	0	7	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #6: SR-99 SB Ramps-Road 23 / Avenue 18 1/2



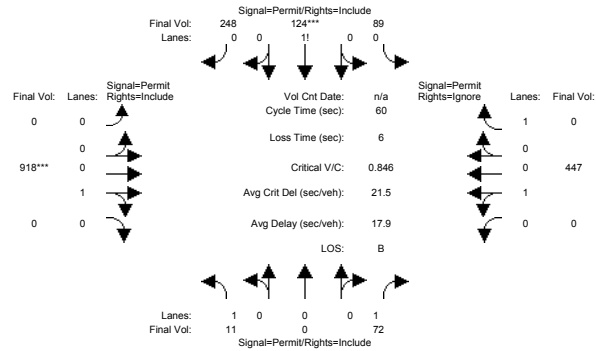
Street Name:	SR-99 SB Ramps-Road 23												Avenue 18 1/2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	10	0	10	10	10	10	0	10	0	0	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	26	0	55	24	61	135	0	681	0	0	434	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	0	55	24	61	135	0	681	0	0	434	78
Added Vol:	0	0	0	130	0	0	0	0	0	0	0	158
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	0	55	154	61	135	0	681	0	0	434	236
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	26	0	55	154	61	135	0	681	0	0	434	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	0	55	154	61	135	0	681	0	0	434	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	26	0	55	154	61	135	0	681	0	0	434	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.75	1.00	0.85	0.81	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.44	0.17	0.39	0.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	1421	0	1615	681	270	597	0	1900	0	0	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.02	0.00	0.03	0.23	0.23	0.23	0.00	0.36	0.00	0.00	0.23	0.00
Crit Moves:					****			****				
Green Time:	20.9	0.0	20.9	20.9	20.9	20.9	0.0	33.1	0.0	0.0	33.1	0.0
Volume/Cap:	0.05	0.00	0.10	0.65	0.65	0.65	0.00	0.65	0.00	0.00	0.41	0.00
Delay/Veh:	13.0	0.0	13.3	19.3	19.3	19.3	0.0	10.8	0.0	0.0	8.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.0	0.0	13.3	19.3	19.3	19.3	0.0	10.8	0.0	0.0	8.1	0.0
LOS by Move:	B	A	B	B	B	B	A	B	A	A	A	A
HCM2kAvgQ:	0	0	1	7	7	7	0	10	0	0	5	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #6: SR-99 SB Ramps-Road 23 / Avenue 18 1/2



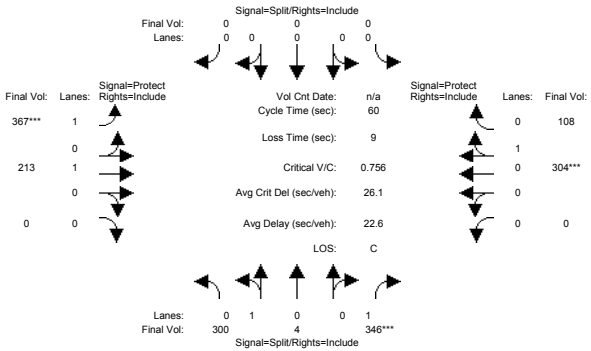
Street Name:	SR-99 SB Ramps-Road 23												Avenue 18 1/2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	10	0	10	10	10	10	0	10	0	0	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	11	0	72	15	124	248	0	918	0	0	447	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	0	72	15	124	248	0	918	0	0	447	120
Added Vol:	0	0	0	74	0	0	0	0	0	0	0	280
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	0	72	89	124	248	0	918	0	0	447	400
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	11	0	72	89	124	248	0	918	0	0	447	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	72	89	124	248	0	918	0	0	447	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	11	0	72	89	124	248	0	918	0	0	447	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	1.00	0.85	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.19	0.27	0.54	0.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	1539	0	1615	320	446	892	0	1900	0	0	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.04	0.28	0.28	0.28	0.00	0.48	0.00	0.00	0.24	0.00
Crit Moves:					****			****				
Green Time:	19.7	0.0	19.7	19.7	19.7	19.7	0.0	34.3	0.0	0.0	34.3	0.0
Volume/Cap:	0.02	0.00	0.14	0.85	0.85	0.85	0.00	0.85	0.00	0.00	0.41	0.00
Delay/Veh:	13.6	0.0	14.3	30.4	30.4	30.4	0.0	17.0	0.0	0.0	7.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.6	0.0	14.3	30.4	30.4	30.4	0.0	17.0	0.0	0.0	7.5	0.0
LOS by Move:	B	A	B	C	C	C	A	B	A	A	A	A
HCM2kAvgQ:	0	0	1	11	11	11	0	17	0	0	5	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM_Mitigation

Intersection #7: SR-99 NB Ramps / Avenue 18 1/2



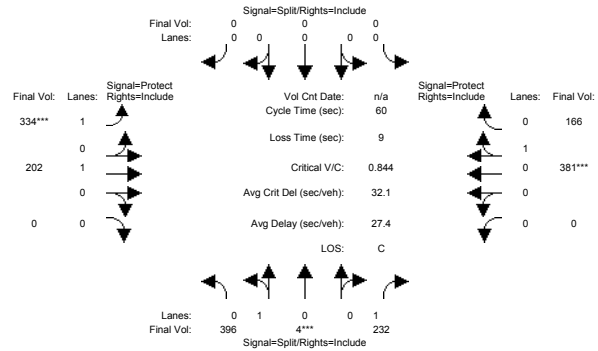
Street Name:	SR-99 NB Ramps						Avenue 18 1/2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	300	4	66	0	0	0	367	83	0	0	146	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	4	66	0	0	0	367	83	0	0	146	34
Added Vol:	0	0	280	0	0	0	0	130	0	0	158	74
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	4	346	0	0	0	367	213	0	0	304	108
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	4	346	0	0	0	367	213	0	0	304	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	4	346	0	0	0	367	213	0	0	304	108
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	4	346	0	0	0	367	213	0	0	304	108
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.85	1.00	1.00	1.00	0.95	1.00	1.00	1.00	0.97	0.97
Lanes:	0.99	0.01	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.74	0.26
Final Sat.:	1746	23	1615	0	0	0	1805	1900	0	0	1353	481
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.21	0.00	0.00	0.00	0.20	0.11	0.00	0.00	0.22	0.22
Crit Moves:			****				****				****	
Green Time:	17.0	17.0	17.0	0.0	0.0	0.0	16.1	34.0	0.0	0.0	17.8	17.8
Volume/Cap:	0.61	0.61	0.76	0.00	0.00	0.00	0.76	0.20	0.00	0.00	0.76	0.76
Delay/Veh:	20.7	20.7	26.7	0.0	0.0	0.0	26.8	6.4	0.0	0.0	25.1	25.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.7	20.7	26.7	0.0	0.0	0.0	26.8	6.4	0.0	0.0	25.1	25.1
LOS by Move:	C	C	C	A	A	A	C	A	A	A	C	C
HCM2kAvgQ:	6	6	8	0	0	0	8	2	0	0	7	7

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 5 - GORDON SHAW

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM_Mitigation

Intersection #7: SR-99 NB Ramps / Avenue 18 1/2



Street Name:	SR-99 NB Ramps						Avenue 18 1/2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	396	4	74	0	0	0	334	128	0	0	101	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	396	4	74	0	0	0	334	128	0	0	101	36
Added Vol:	0	0	158	0	0	0	0	74	0	0	280	130
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	396	4	232	0	0	0	334	202	0	0	381	166
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	396	4	232	0	0	0	334	202	0	0	381	166
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	396	4	232	0	0	0	334	202	0	0	381	166
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	396	4	232	0	0	0	334	202	0	0	381	166
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.91	0.91	0.85	1.00	1.00	1.00	0.95	1.00	1.00	1.00	0.96	0.96
Lanes:	0.99	0.01	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.70	0.30
Final Sat.:	1704	17	1615	0	0	0	1805	1900	0	0	1269	553
Capacity Analysis Module:												
Vol/Sat:	0.23	0.23	0.14	0.00	0.00	0.00	0.19	0.11	0.00	0.00	0.30	0.30
Crit Moves:		****					****				****	
Green Time:	16.5	16.5	16.5	0.0	0.0	0.0	13.2	34.5	0.0	0.0	21.3	21.3
Volume/Cap:	0.84	0.84	0.52	0.00	0.00	0.00	0.84	0.18	0.00	0.00	0.84	0.84
Delay/Veh:	33.6	33.6	19.5	0.0	0.0	0.0	37.7	6.2	0.0	0.0	27.7	27.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.6	33.6	19.5	0.0	0.0	0.0	37.7	6.2	0.0	0.0	27.7	27.7
LOS by Move:	C	C	B	A	A	A	D	A	A	A	C	C
HCM2kAvgQ:	10	10	4	0	0	0	9	2	0	0	10	10

Note: Queue reported is the number of cars per lane.

HEAVY MANTENANCE FACILITY ANALYSIS – FAGUNDES

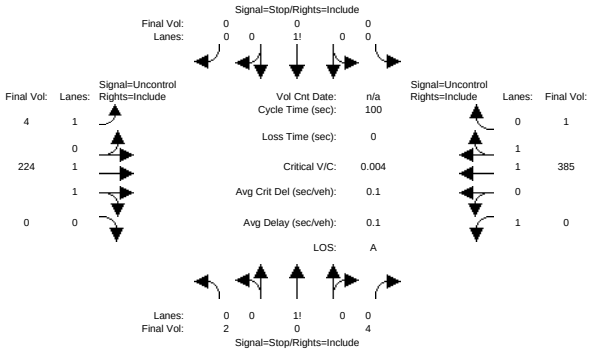
EXISTING CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1: Road 12/ SR 152-Ave 23

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Street Name:             Road 12                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    0     4     0    0     0     4  224     0     0  385     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    0     4     0    0     0     4  224     0     0  385     1
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    0     4     0    0     0     4  224     0     0  385     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    0     4     0    0     0     4  224     0     0  385     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    0     4     0    0     0     4  224     0     0  385     1
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  425  618   112   506  618   193   386 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  563  408   926   454  408   822  1184 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    562  406   926   451  407   822  1184 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.00 0.00  0.00  0.00 0.00  0.00  0.00 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A     *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  761 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  9.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    A     *     *    *     *     *     *     *     *    *     *
ApproachDel:       9.8           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         A                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    0     4     0    0     0     4  224     0     0  385     1
ApproachDel:       9.8           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=620]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

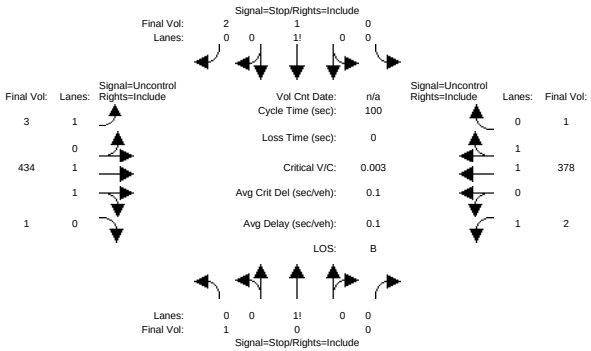
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    0     4     0    0     0     4  224     0     0  385     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             614
Minor Approach Volume:           6
Minor Approach Volume Threshold: 453
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1: Road 12/ SR 152-Ave 23




```
Street Name:              Road 12                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1    0     0     0    1     2     3  434     1     2  378     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1    0     0     0    1     2     3  434     1     2  378     1
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1    0     0     0    1     2     3  434     1     2  378     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1    0     0     0    1     2     3  434     1     2  378     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1    0     0     0    1     2     3  434     1     2  378     1
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5 xxxx xxxxx xxxxx  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx xxxxx xxxxx  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  634 xxxx xxxxx  xxxx  824   190   379 xxxx xxxxx   435 xxxx xxxxx
Potent Cap.:  368 xxxx xxxxx  xxxx  311   826  1191 xxxx xxxxx  1135 xxxx xxxxx
Move Cap.:    365 xxxx xxxxx  xxxx  309   826  1191 xxxx xxxxx  1135 xxxx xxxxx
Volume/Cap:  0.00 xxxx  xxxx  xxxx 0.00  0.00  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del: 14.9 xxxx xxxxx xxxxx xxxx xxxxx   8.0 xxxx xxxxx   8.2 xxxx xxxxx
LOS by Move:    B    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx   531  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx   0.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx  11.8 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     B     *    *     *     *    *     *
ApproachDel:      14.9             11.8            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  0    0  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1    0     0     0    1     2     3  434     1     2  378     1
ApproachDel:      14.9             11.8            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=1]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=823]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=3]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=823]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

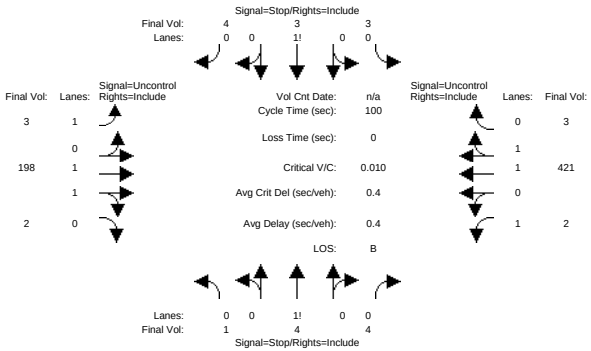
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  0    0  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1    0     0     0    1     2     3  434     1     2  378     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             819
Minor Approach Volume:           3
Minor Approach Volume Threshold: 354
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #2: Road 13/ SR 152-Ave 23




```
Street Name:              Road 13                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1    4     4     3    3     4     3  198     2     2  421     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1    4     4     3    3     4     3  198     2     2  421     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1    4     4     3    3     4     3  198     2     2  421     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1    4     4     3    3     4     3  198     2     2  421     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1    4     4     3    3     4     3  198     2     2  421     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  421  633   100   534  633   212   424 xxxx xxxxx   200 xxxx xxxxx
Potent Cap.:  521  400   943   434  400   800  1146 xxxx xxxxx  1384 xxxx xxxxx
Move Cap.:    514  398   943   427  398   800  1146 xxxx xxxxx  1384 xxxx xxxxx
Volume/Cap:  0.00 0.01  0.00  0.01 0.01  0.01  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx   7.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  554 xxxxx  xxxx  511 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.0 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 11.6 xxxxx xxxxx 12.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    B     *     *    *     *     *    *     *
ApproachDel:      11.6             12.2            xxxxxx           xxxxxx
ApproachLOS:         B                B                 *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1    4     4     3    3     4     3  198     2     2  421     3
ApproachDel:      11.6             12.2            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=648]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=10]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=648]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

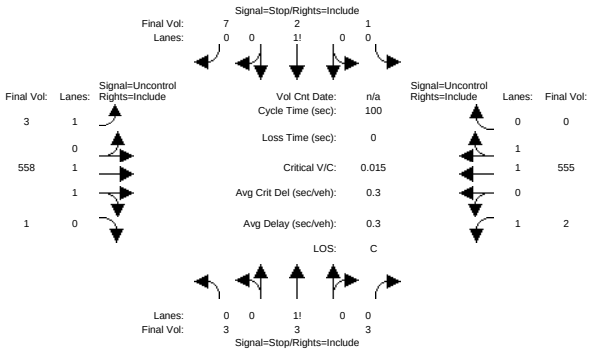
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1    4     4     3    3     4     3  198     2     2  421     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             629
Minor Approach Volume:           10
Minor Approach Volume Threshold: 445
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #2: Road 13/ SR 152-Ave 23




```
Street Name:              Road 13                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3    3     3     1    2     7     3  558     1     2  555     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3    3     3     1    2     7     3  558     1     2  555     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    3    3     3     1    2     7     3  558     1     2  555     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3    3     3     1    2     7     3  558     1     2  555     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    3    3     3     1    2     7     3  558     1     2  555     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  847 1124   280   846 1124   278   555 xxxx xxxxx   559 xxxx xxxxx
Potent Cap.:  259  207   724   259  207   726  1026 xxxx xxxxx  1022 xxxx xxxxx
Move Cap.:    253  206   724   254  206   726  1026 xxxx xxxxx  1022 xxxx xxxxx
Volume/Cap:  0.01 0.01  0.00  0.00 0.01  0.01  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  295 xxxxx  xxxx  430 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.1 xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 17.6 xxxxx xxxxx 13.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    B     *     *    *     *     *    *     *
ApproachDel:      17.6             13.6            xxxxxx           xxxxxx
ApproachLOS:         C                B                 *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    3    3     3     1    2     7     3  558     1     2  555     0
ApproachDel:      17.6             13.6            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1138]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=10]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1138]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

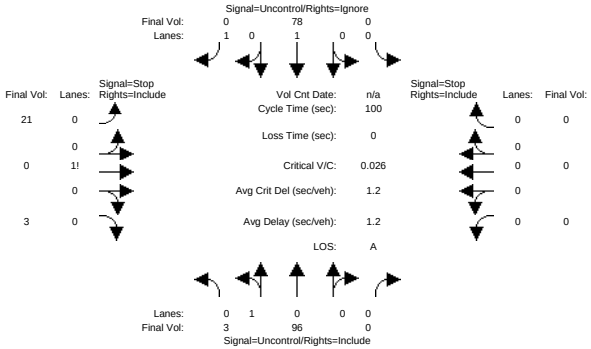
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    3    3     3     1    2     7     3  558     1     2  555     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1119
Minor Approach Volume:           10
Minor Approach Volume Threshold: 246
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #3: Robertson-SR233/SR152 EB Ramps




```
Street Name:         Robertson-SR233                    SR152 EB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3   96     0     0   78    17    21    0     3     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3   96     0     0   78    17    21    0     3     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    3   96     0     0   78    17    21    0     3     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3   96     0     0   78     0    21    0     3     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    3   96     0     0   78     0    21    0     3     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   78 xxxx xxxxx  xxxx xxxx xxxxx   180  180    78  xxxx xxxx xxxxx
Potent Cap.: 1533 xxxx xxxxx  xxxx xxxx xxxxx   814  717   988  xxxx xxxx xxxxx
Move Cap.:   1533 xxxx xxxxx  xxxx xxxx xxxxx   813  716   988  xxxx xxxx xxxxx
Volume/Cap:  0.00 xxxx  xxxx  xxxx xxxx  xxxx  0.03 0.00  0.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  831 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.1 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.5 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              9.5           xxxxxx
ApproachLOS:         *                *               A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    3   96     0     0   78    17    21    0     3     0    0     0
ApproachDel:    xxxxxx           xxxxxx              9.5           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=24]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=218]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    3   96     0     0   78    17    21    0     3     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             194
Minor Approach Volume:           24
Minor Approach Volume Threshold: 850
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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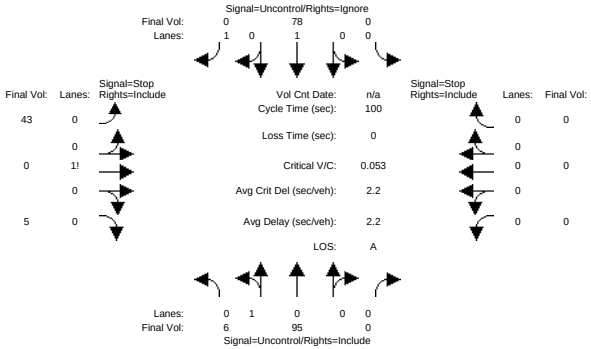
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #3: Robertson-SR233/SR152 EB Ramps




```
Street Name:         Robertson-SR233                    SR152 EB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   95     0     0   78    22    43    0     5     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   95     0     0   78    22    43    0     5     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6   95     0     0   78    22    43    0     5     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6   95     0     0   78     0    43    0     5     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6   95     0     0   78     0    43    0     5     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   78 xxxx xxxxx  xxxx xxxx xxxxx   185  185    78  xxxx xxxx xxxxx
Potent Cap.: 1533 xxxx xxxxx  xxxx xxxx xxxxx   809  713   988  xxxx xxxx xxxxx
Move Cap.:   1533 xxxx xxxxx  xxxx xxxx xxxxx   806  710   988  xxxx xxxx xxxxx
Volume/Cap:  0.00 xxxx  xxxx  xxxx xxxx  xxxx  0.05 0.00  0.01  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  822 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.2 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.6 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              9.6           xxxxxx
ApproachLOS:         *                *               A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    6   95     0     0   78    22    43    0     5     0    0     0
ApproachDel:    xxxxxx           xxxxxx              9.6           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=48]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=249]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    6   95     0     0   78    22    43    0     5     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             201
Minor Approach Volume:           48
Minor Approach Volume Threshold: 838
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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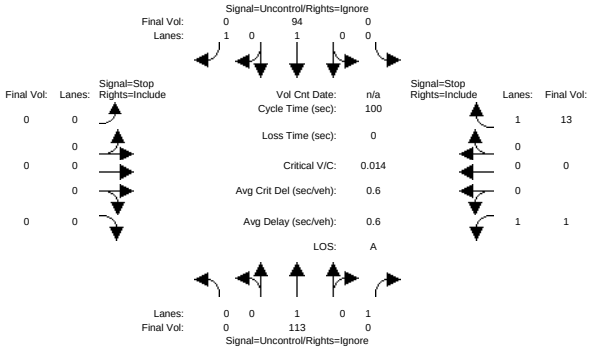
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #4: Robertson-SR233/SR152 WB Ramps




```
Street Name:         Robertson-SR233                    SR152 WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  113     4     0   94    61     0    0     0     1    0    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  113     4     0   94    61     0    0     0     1    0    13
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  113     4     0   94    61     0    0     0     1    0    13
User Adj:    1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  113     0     0   94     0     0    0     0     1    0    13
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  113     0     0   94     0     0    0     0     1    0    13
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   207 xxxx   113
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   786 xxxx   945
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   786 xxxx   945
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.00 xxxx  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx   0.0
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.6 xxxx   8.9
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              8.9
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  113     4     0   94    61     0    0     0     1    0    13
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              8.9
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=14]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=286]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  113     4     0   94    61     0    0     0     1    0    13
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             272
Minor Approach Volume:           14
Minor Approach Volume Threshold: 934
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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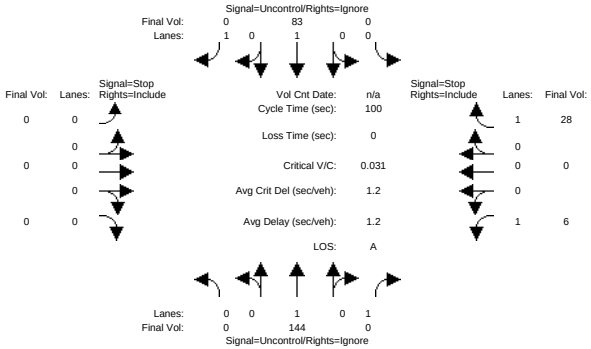
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #4: Robertson-SR233/SR152 WB Ramps




```
Street Name:         Robertson-SR233                    SR152 WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  144     3     0   83    39     0    0     0     6    0    28
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  144     3     0   83    39     0    0     0     6    0    28
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  144     3     0   83    39     0    0     0     6    0    28
User Adj:    1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  144     0     0   83     0     0    0     0     6    0    28
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  144     0     0   83     0     0    0     0     6    0    28
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   227 xxxx   144
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   766 xxxx   909
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   766 xxxx   909
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.01 xxxx  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx   0.1
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.7 xxxx   9.1
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.2
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  144     3     0   83    39     0    0     0     6    0    28
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.2
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=34]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=303]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

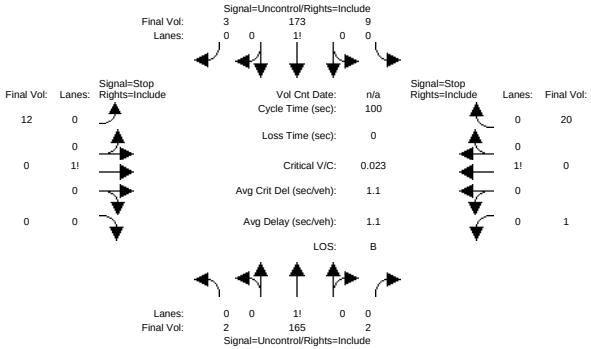
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  144     3     0   83    39     0    0     0     6    0    28
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             269
Minor Approach Volume:           34
Minor Approach Volume Threshold: 939
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #5: Robertson-SR233/Ave 24 1/2




```
Street Name:          Robertson-SR233                        Ave 24 1/2
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2  165     2     9  173     3    12    0     0     1    0    20
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2  165     2     9  173     3    12    0     0     1    0    20
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2  165     2     9  173     3    12    0     0     1    0    20
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2  165     2     9  173     3    12    0     0     1    0    20
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2  165     2     9  173     3    12    0     0     1    0    20
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1 xxxx xxxxx   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  176 xxxx xxxxx   167 xxxx xxxxx   373 xxxx xxxxx   363  364   166
Potent Cap.: 1412 xxxx xxxxx  1423 xxxx xxxxx   588 xxxx xxxxx   597  567   884
Move Cap.:   1412 xxxx xxxxx  1423 xxxx xxxxx   571 xxxx xxxxx   594  563   884
Volume/Cap:  0.00 xxxx  xxxx  0.01 xxxx  xxxx  0.02 xxxx  xxxx  0.00 0.00  0.02
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx   0.0 xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.6 xxxx xxxxx   7.5 xxxx xxxxx  11.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  863 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.3 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    A     *
ApproachDel:    xxxxxx           xxxxxx             11.4             9.3
ApproachLOS:         *                *                B               A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  0  0  0    0  0  1! 0  0
Initial Vol:    2  165     2     9  173     3    12    0     0     1    0    20
ApproachDel:    xxxxxx           xxxxxx             11.4             9.3
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=387]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=21]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=387]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

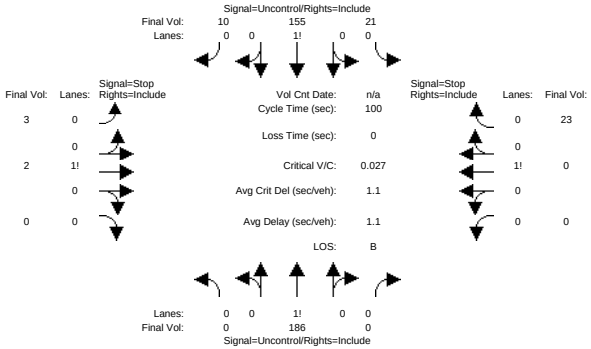
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  0  0  0    0  0  1! 0  0
Initial Vol:    2  165     2     9  173     3    12    0     0     1    0    20
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             354
Minor Approach Volume:           21
Minor Approach Volume Threshold: 496
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #5: Robertson-SR233/Ave 24 1/2




```
Street Name:          Robertson-SR233                        Ave 24 1/2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  186     0    21  155    10     3    2     0     0    0    23
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  186     0    21  155    10     3    2     0     0    0    23
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  186     0    21  155    10     3    2     0     0    0    23
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  186     0    21  155    10     3    2     0     0    0    23
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  186     0    21  155    10     3    2     0     0    0    23
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5 xxxxx xxxxx xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0 xxxxx xxxxx xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   186 xxxx xxxxx   400  388 xxxxx  xxxx xxxx   186
Potent Cap.: xxxx xxxx xxxxx  1401 xxxx xxxxx   565  550 xxxxx  xxxx xxxx   861
Move Cap.:   xxxx xxxx xxxxx  1401 xxxx xxxxx   543  542 xxxxx  xxxx xxxx   861
Volume/Cap:  xxxx xxxx  xxxx  0.01 xxxx  xxxx  0.01 0.00  xxxx  xxxx xxxx  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1
Control Del:xxxxx xxxx xxxxx   7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   9.3
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   542 xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.7 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     B    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             11.7              9.3
ApproachLOS:         *                *                B                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  0  1
Initial Vol:    0  186     0    21  155    10     3    2     0     0    0    23
ApproachDel:    xxxxxx           xxxxxx              11.7              9.3
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=400]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=400]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

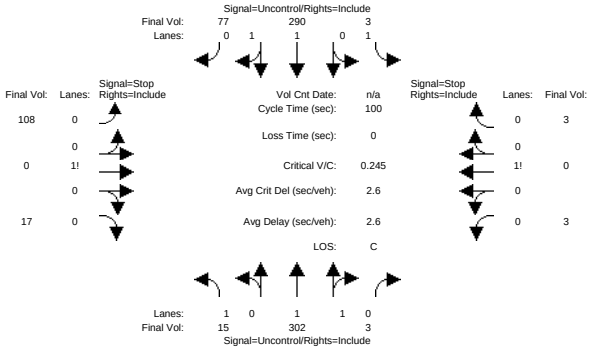
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  0  1
Initial Vol:    0  186     0    21  155    10     3    2     0     0    0    23
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             372
Minor Approach Volume:            23
Minor Approach Volume Threshold: 483
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #6: Robertson-SR233/Ave 25




```
Street Name:         Robertson-SR233                        Ave 25
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15  302     3     3  290    77   108    0    17     3    0     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15  302     3     3  290    77   108    0    17     3    0     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   15  302     3     3  290    77   108    0    17     3    0     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    15  302     3     3  290    77   108    0    17     3    0     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   15  302     3     3  290    77   108    0    17     3    0     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  367 xxxx xxxxx   305 xxxx xxxxx   516  670   184   485  707   153
Potent Cap.: 1203 xxxx xxxxx  1267 xxxx xxxxx   447  381   834   470  363   873
Move Cap.:   1203 xxxx xxxxx  1267 xxxx xxxxx   440  375   834   455  357   873
Volume/Cap:  0.01 xxxx  xxxx  0.00 xxxx  xxxx  0.25 0.00  0.02  0.01 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.0 xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  470 xxxxx  xxxx  598 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  1.1 xxxxx xxxxx  0.0 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 15.4 xxxxx xxxxx 11.1 xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             15.4            11.1
ApproachLOS:         *                *                C               B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   15  302     3     3  290    77   108    0    17     3    0     3
ApproachDel:    xxxxxx           xxxxxx             15.4            11.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=125]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=821]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=821]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

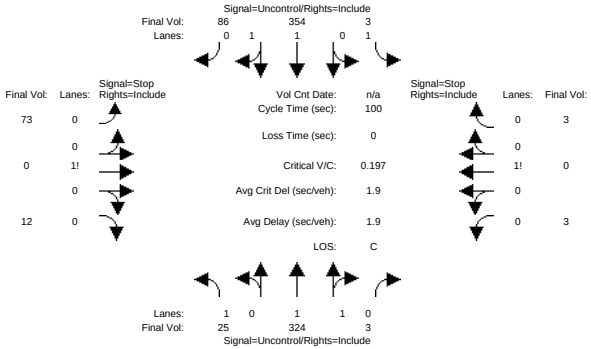
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   15  302     3     3  290    77   108    0    17     3    0     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             690
Minor Approach Volume:           125
Minor Approach Volume Threshold: 413
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #6: Robertson-SR233/Ave 25




```
Street Name:         Robertson-SR233                        Ave 25
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      25  324     3     3  354    86    73    0    12     3    0     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   25  324     3     3  354    86    73    0    12     3    0     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   25  324     3     3  354    86    73    0    12     3    0     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    25  324     3     3  354    86    73    0    12     3    0     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   25  324     3     3  354    86    73    0    12     3    0     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  440 xxxx xxxxx   327 xxxx xxxxx   615  780   220   559  822   164
Potent Cap.: 1131 xxxx xxxxx  1244 xxxx xxxxx   379  329   790   416  311   859
Move Cap.:   1131 xxxx xxxxx  1244 xxxx xxxxx   371  321   790   402  304   859
Volume/Cap:  0.02 xxxx  xxxx  0.00 xxxx  xxxx  0.20 0.00  0.02  0.01 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.3 xxxx xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  401 xxxxx  xxxx  548 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.8 xxxxx xxxxx  0.0 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 16.4 xxxxx xxxxx 11.6 xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             16.4            11.6
ApproachLOS:         *                *                C               B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   25  324     3     3  354    86    73    0    12     3    0     3
ApproachDel:    xxxxxx           xxxxxx             16.4            11.6
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=85]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=886]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=886]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

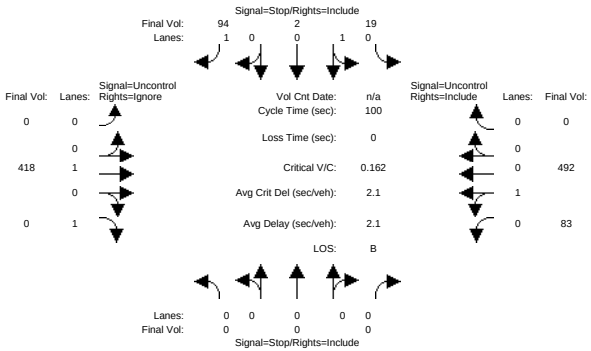
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   25  324     3     3  354    86    73    0    12     3    0     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             795
Minor Approach Volume:           85
Minor Approach Volume Threshold: 364
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #7: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    19    2    94     0  418   286    83  492     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    19    2    94     0  418   286    83  492     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    19    2    94     0  418   286    83  492     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Volume:     0    0     0    19    2    94     0  418     0    83  492     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    19    2    94     0  418     0    83  492     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1076 1076   492  xxxx xxxx xxxxx   418 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   245  221   581  xxxx xxxx xxxxx  1152 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   231  204   581  xxxx xxxx xxxxx  1152 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.08 0.01  0.16  xxxx xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.6  xxxx xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  12.4 xxxxx xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   228 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.3 xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  22.4 xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx
Shared LOS:     *    *     *     C    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx             14.2           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0    19    2    94     0  418   286    83  492     0
ApproachDel:    xxxxxx             14.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=115]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1394]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

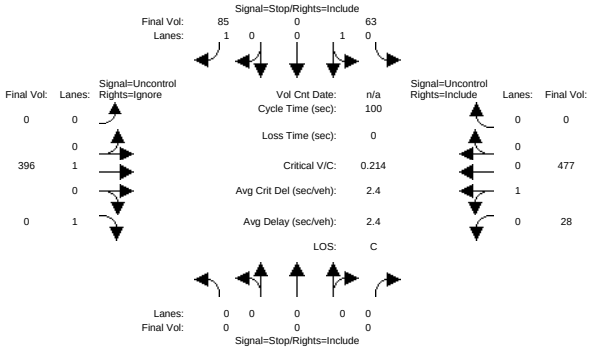
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0    19    2    94     0  418   286    83  492     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1279
Minor Approach Volume:           115
Minor Approach Volume Threshold: 268
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #7: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    63    0    85     0  396   198    28  477     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    63    0    85     0  396   198    28  477     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    63    0    85     0  396   198    28  477     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Volume:     0    0     0    63    0    85     0  396     0    28  477     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    63    0    85     0  396     0    28  477     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   929  929   477  xxxx xxxx xxxxx   396 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   300  270   592  xxxx xxxx xxxxx  1174 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   294  263   592  xxxx xxxx xxxxx  1174 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.21 0.00  0.14  xxxx xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   0.5  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  12.1 xxxxx xxxx xxxxx   8.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   294 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.8 xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  20.6 xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx
Shared LOS:     *    *     *     C    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx             15.7           xxxxxx           xxxxxx
ApproachLOS:         *                C                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0    63    0    85     0  396   198    28  477     0
ApproachDel:    xxxxxx             15.7           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=148]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1247]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

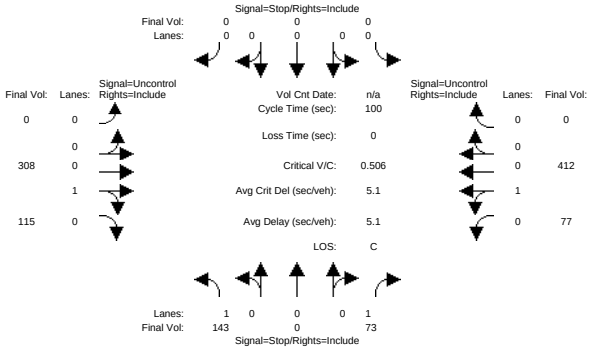
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0    63    0    85     0  396   198    28  477     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1099
Minor Approach Volume:           148
Minor Approach Volume Threshold: 333
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #8: SR-99 NB Ramps / Robertson Avenue 26




```
Street Name:          SR-99 NB Ramps                    Robertson Avenue 26
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     143    0    73     0    0     0     0  308   115    77  412     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  143    0    73     0    0     0     0  308   115    77  412     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  143    0    73     0    0     0     0  308   115    77  412     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   143    0    73     0    0     0     0  308   115    77  412     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  143    0    73     0    0     0     0  308   115    77  412     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  932 xxxx   366  xxxx xxxx xxxxx  xxxx xxxx xxxxx   423 xxxx xxxxx
Potent Cap.:  299 xxxx   684  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1147 xxxx xxxxx
Move Cap.:    283 xxxx   684  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1147 xxxx xxxxx
Volume/Cap:  0.51 xxxx  0.11  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.7 xxxx   0.4  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx
Control Del: 30.1 xxxx  10.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    D    *     B     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.4 xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     A    *     *
ApproachDel:      23.6           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         C                  *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  143    0    73     0    0     0     0  308   115    77  412     0
ApproachDel:      23.6           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=216]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1128]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

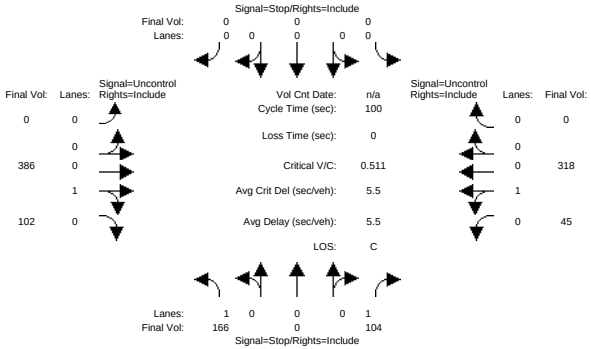
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  143    0    73     0    0     0     0  308   115    77  412     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             912
Minor Approach Volume:           216
Minor Approach Volume Threshold: 321
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #8: SR-99 NB Ramps / Robertson Avenue 26




```
Street Name:         SR-99 NB Ramps                    Robertson Avenue 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     166    0   104     0    0     0     0  386   102    45  318     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  166    0   104     0    0     0     0  386   102    45  318     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  166    0   104     0    0     0     0  386   102    45  318     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   166    0   104     0    0     0     0  386   102    45  318     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  166    0   104     0    0     0     0  386   102    45  318     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  845 xxxx   437  xxxx xxxx xxxxx  xxxx xxxx xxxxx   488 xxxx xxxxx
Potent Cap.:  336 xxxx   624  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1086 xxxx xxxxx
Move Cap.:    325 xxxx   624  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1086 xxxx xxxxx
Volume/Cap:  0.51 xxxx  0.17  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.8 xxxx   0.6  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del: 27.1 xxxx  11.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    D    *     B     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     A    *     *
ApproachDel:      21.3           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         C                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  166    0   104     0    0     0     0  386   102    45  318     0
ApproachDel:      21.3           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=270]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1121]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  166    0   104     0    0     0     0  386   102    45  318     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             851
Minor Approach Volume:           270
Minor Approach Volume Threshold: 343
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

HEAVY MANTENANCE FACILITY ANALYSIS – FAGUNDES

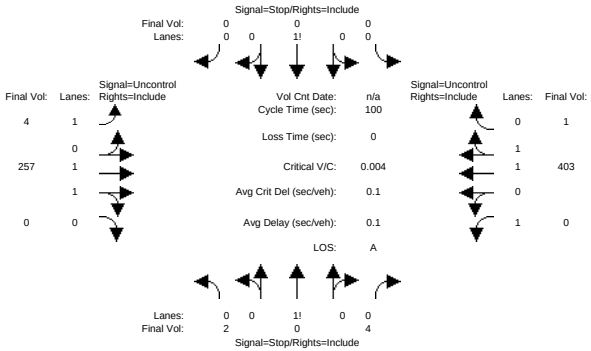
EXISTING WITH PROJECT CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #1: Road 12/ SR 152-Ave 23




```
Street Name:             Road 12                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    0     4     0    0     0     4  224     0     0  385     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    0     4     0    0     0     4  224     0     0  385     1
Added Vol:      0    0     0     0    0     0     0   33     0     0   18     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    0     4     0    0     0     4  257     0     0  403     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    0     4     0    0     0     4  257     0     0  403     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    0     4     0    0     0     4  257     0     0  403     1
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  467  669   129   540  669   202   404 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  530  381   904   429  381   811  1166 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    529  380   904   426  380   811  1166 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.00 0.00  0.00  0.00 0.00  0.00  0.00 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A     *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  731 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 10.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    A     *     *    *     *     *     *     *     *    *     *
ApproachDel:      10.0           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         A                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    0     4     0    0     0     4  257     0     0  403     1
ApproachDel:      10.0           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=671]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

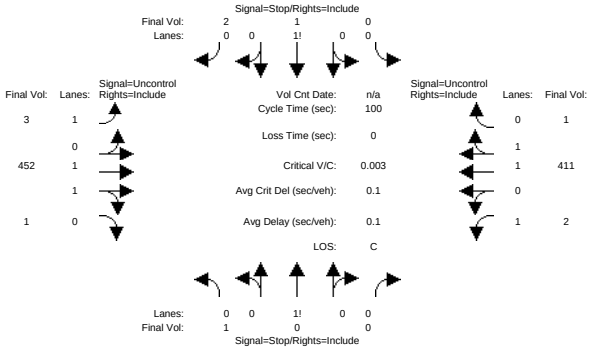
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    0     4     0    0     0     4  257     0     0  403     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             665
Minor Approach Volume:           6
Minor Approach Volume Threshold: 425
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #1: Road 12/ SR 152-Ave 23




```
Street Name:              Road 12                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1    0     0     0    1     2     3  434     1     2  378     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1    0     0     0    1     2     3  434     1     2  378     1
Added Vol:      0    0     0     0    0     0     0   18     0     0   33     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1    0     0     0    1     2     3  452     1     2  411     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1    0     0     0    1     2     3  452     1     2  411     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1    0     0     0    1     2     3  452     1     2  411     1
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5 xxxx xxxxx xxxxx  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx xxxxx xxxxx  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  669 xxxx xxxxx  xxxx  875   206   412 xxxx xxxxx   453 xxxx xxxxx
Potent Cap.:  347 xxxx xxxxx  xxxx  290   807  1158 xxxx xxxxx  1118 xxxx xxxxx
Move Cap.:    345 xxxx xxxxx  xxxx  289   807  1158 xxxx xxxxx  1118 xxxx xxxxx
Volume/Cap:  0.00 xxxx  xxxx  xxxx 0.00  0.00  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  669 xxxx xxxxx  xxxx  875   206   412 xxxx xxxxx   453 xxxx xxxxx
Potent Cap.:  347 xxxx xxxxx  xxxx  290   807  1158 xxxx xxxxx  1118 xxxx xxxxx
Move Cap.:    345 xxxx xxxxx  xxxx  289   807  1158 xxxx xxxxx  1118 xxxx xxxxx
Volume/Cap:  0.00 xxxx  xxxx  xxxx 0.00  0.00  0.00 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del: 15.5 xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx   8.2 xxxx xxxxx
LOS by Move:    C    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx   505  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx   0.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx  12.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     B     *    *     *     *    *     *
ApproachDel:      15.5             12.2            xxxxxx           xxxxxx
ApproachLOS:         C                B                 *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  0    0  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1    0     0     0    1     2     3  452     1     2  411     1
ApproachDel:      15.5             12.2            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=1]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=874]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=3]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=874]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

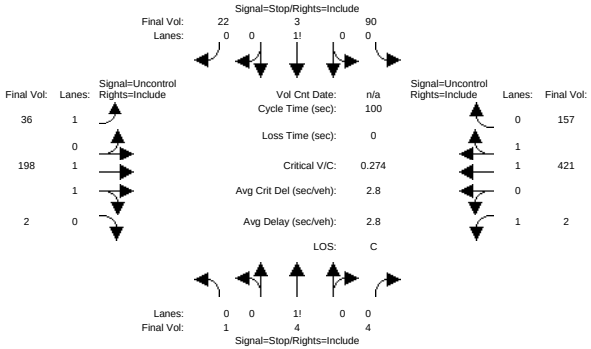
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  0    0  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1    0     0     0    1     2     3  452     1     2  411     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             870
Minor Approach Volume:           3
Minor Approach Volume Threshold: 333
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #2: Road 13/ SR 152-Ave 23




```
Street Name:              Road 13                          SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1    4     4     3    3     4     3  198     2     2  421     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1    4     4     3    3     4     3  198     2     2  421     3
Added Vol:      0    0     0    87    0    18    33    0     0     0    0   154
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1    4     4    90    3    22    36  198     2     2  421   157
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1    4     4    90    3    22    36  198     2     2  421   157
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    1    4     4    90    3    22    36  198     2     2  421   157
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  487  853   100   677  776   289   578 xxxx xxxxx   200 xxxx xxxxx
Potent Cap.:  468  299   943   343  331   714  1006 xxxx xxxxx  1384 xxxx xxxxx
Move Cap.:    438  287   943   328  319   714  1006 xxxx xxxxx  1384 xxxx xxxxx
Volume/Cap:  0.00 0.01  0.00  0.27 0.01  0.03  0.04 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.7 xxxx xxxxx   7.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  440 xxxxx  xxxx  366 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.1 xxxxx xxxxx  1.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 13.3 xxxxx xxxxx 19.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    B     *     *    C     *     *    *     *     *    *     *
ApproachDel:      13.3             19.3           xxxxxx           xxxxxx
ApproachLOS:         B                C                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1    4     4    90    3    22    36  198     2     2  421   157
ApproachDel:      13.3             19.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=940]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=115]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=940]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

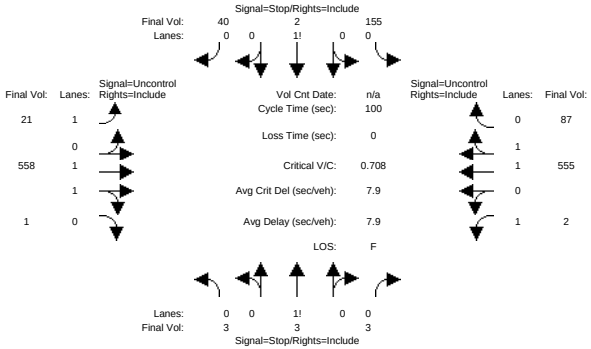
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    1    4     4    90    3    22    36  198     2     2  421   157
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             816
Minor Approach Volume:           115
Minor Approach Volume Threshold: 355
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #2: Road 13/ SR 152-Ave 23




```
Street Name:              Road 13                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3    3     3     1    2     7     3  558     1     2  555     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3    3     3     1    2     7     3  558     1     2  555     0
Added Vol:      0    0     0   154    0    33    18    0     0     0    0    87
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    3    3     3   155    2    40    21  558     1     2  555    87
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3    3     3   155    2    40    21  558     1     2  555    87
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    3    3     3   155    2    40    21  558     1     2  555    87
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  883 1247   280   925 1204   321   642 xxxx xxxxx   559 xxxx xxxxx
Potent Cap.:  243  175   724   227  186   681   952 xxxx xxxxx  1022 xxxx xxxxx
Move Cap.:    223  171   724   219  181   681   952 xxxx xxxxx  1022 xxxx xxxxx
Volume/Cap:  0.01 0.02  0.00  0.71 0.01  0.06  0.02 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.9 xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  256 xxxxx  xxxx  253 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.1 xxxxx xxxxx  5.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 19.6 xxxxx xxxxx 55.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    F     *     *    *     *     *    *     *
ApproachDel:      19.6             55.6           xxxxxx           xxxxxx
ApproachLOS:         C                F                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    3    3     3   155    2    40    21  558     1     2  555    87
ApproachDel:      19.6             55.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1430]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=197]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1430]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

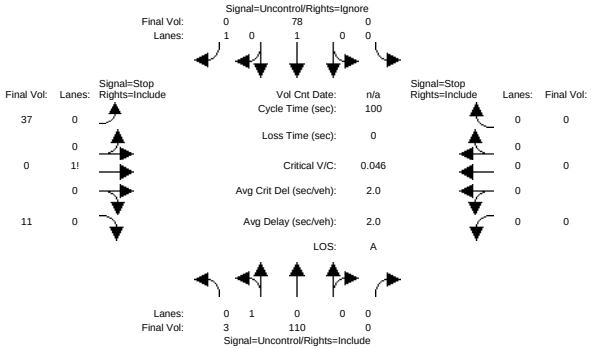
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    3    3     3   155    2    40    21  558     1     2  555    87
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1224
Minor Approach Volume:           197
Minor Approach Volume Threshold: 215
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #3: Robertson-SR233/SR152 EB Ramps




```
Street Name:         Robertson-SR233                    SR152 EB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3   96     0     0   78    17    21    0     3     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3   96     0     0   78    17    21    0     3     0    0     0
Added Vol:      0   14     0     0    0     0    16    0     8     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    3  110     0     0   78    17    37    0    11     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     3  110     0     0   78     0    37    0    11     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    3  110     0     0   78     0    37    0    11     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   78 xxxx xxxxx  xxxx xxxx xxxxx   194  194    78  xxxx xxxx xxxxx
Potent Cap.: 1533 xxxx xxxxx  xxxx xxxx xxxxx   799  705   988  xxxx xxxx xxxxx
Move Cap.:   1533 xxxx xxxxx  xxxx xxxx xxxxx   798  703   988  xxxx xxxx xxxxx
Volume/Cap:  0.00 xxxx  xxxx  xxxx xxxx  xxxx  0.05 0.00  0.01  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  835 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.2 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.6 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              9.6           xxxxxx
ApproachLOS:         *                *               A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    3  110     0     0   78    17    37    0    11     0    0     0
ApproachDel:    xxxxxx           xxxxxx               9.6           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=48]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=256]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

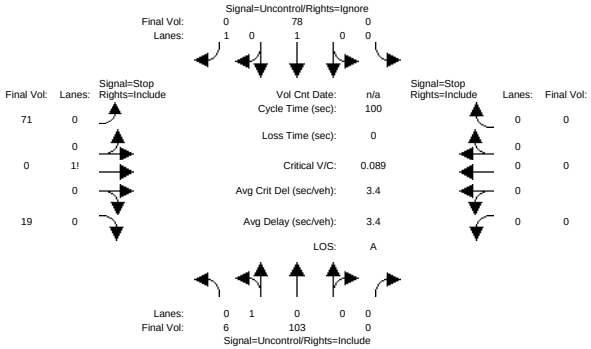
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    3  110     0     0   78    17    37    0    11     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             208
Minor Approach Volume:           48
Minor Approach Volume Threshold: 826
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #3: Robertson-SR233/SR152 EB Ramps




```
Street Name:          Robertson-SR233                    SR152 EB Ramps
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       6   95     0     0   78    22    43    0     5     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6   95     0     0   78    22    43    0     5     0    0     0
Added Vol:      0    8     0     0    0     0    28    0    14     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    6  103     0     0   78    22    71    0    19     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     6  103     0     0   78     0    71    0    19     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    6  103     0     0   78     0    71    0    19     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:   78 xxxx xxxxx  xxxx xxxx xxxxx   193  193    78  xxxx xxxx xxxxx
Potent Cap.: 1533 xxxx xxxxx  xxxx xxxx xxxxx   800  706   988  xxxx xxxx xxxxx
Move Cap.:   1533 xxxx xxxxx  xxxx xxxx xxxxx   798  703   988  xxxx xxxx xxxxx
Volume/Cap:  0.00 xxxx  xxxx  xxxx xxxx  xxxx  0.09 0.00  0.02  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  832 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.4 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.9 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    A     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              9.9           xxxxxx
ApproachLOS:         *                *                A                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    6  103     0     0   78    22    71    0    19     0    0     0
ApproachDel:    xxxxxx           xxxxxx               9.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=90]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=299]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

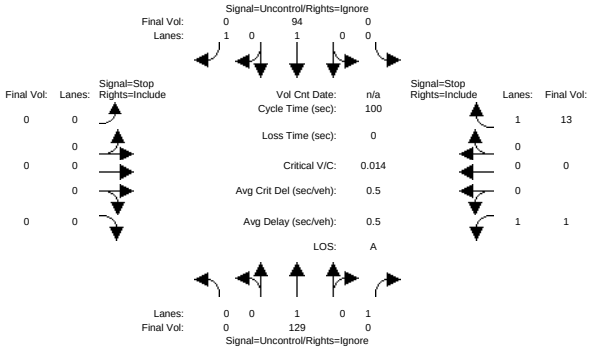
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    6  103     0     0   78    22    71    0    19     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             209
Minor Approach Volume:           90
Minor Approach Volume Threshold: 824
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #4: Robertson-SR233/SR152 WB Ramps




```
Street Name:         Robertson-SR233                    SR152 WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  113     4     0   94    61     0    0     0     1    0    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  113     4     0   94    61     0    0     0     1    0    13
Added Vol:      0   16    14     0    0    28     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  129    18     0   94    89     0    0     0     1    0    13
User Adj:    1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  129     0     0   94     0     0    0     0     1    0    13
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  129     0     0   94     0     0    0     0     1    0    13
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   223 xxxx   129
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   770 xxxx   926
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   770 xxxx   926
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.00 xxxx  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx   0.0
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.7 xxxx   8.9
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.0
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  129    18     0   94    89     0    0     0     1    0    13
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.0
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=14]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=344]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

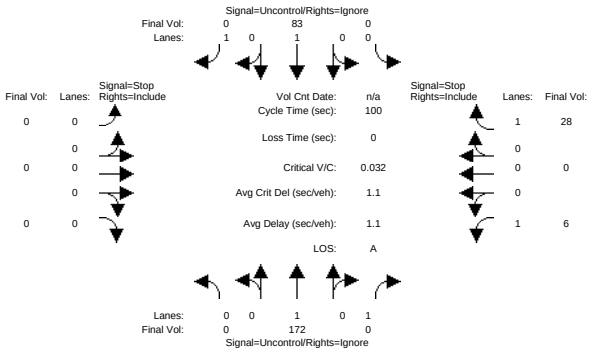
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  129    18     0   94    89     0    0     0     1    0    13
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             330
Minor Approach Volume:           14
Minor Approach Volume Threshold: 851
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #4: Robertson-SR233/SR152 WB Ramps




```
Street Name:         Robertson-SR233                    SR152 WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  144     3     0   83    39     0    0     0     6    0    28
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  144     3     0   83    39     0    0     0     6    0    28
Added Vol:      0   28     8     0    0    16     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  172    11     0   83    55     0    0     0     6    0    28
User Adj:    1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  172     0     0   83     0     0    0     0     6    0    28
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  172     0     0   83     0     0    0     0     6    0    28
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   255 xxxx   172
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   738 xxxx   877
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   738 xxxx   877
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.01 xxxx  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx   0.1
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.9 xxxx   9.2
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.4
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  172    11     0   83    55     0    0     0     6    0    28
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.4
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=34]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=355]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

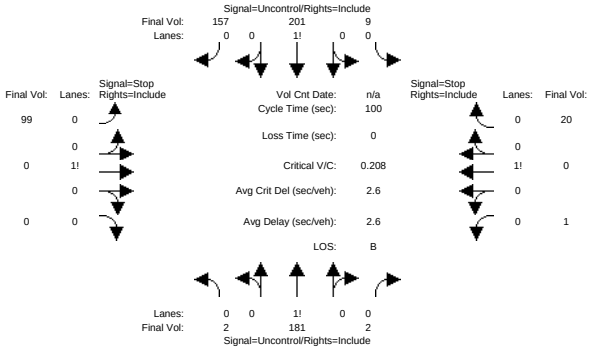
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  172    11     0   83    55     0    0     0     6    0    28
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             321
Minor Approach Volume:           34
Minor Approach Volume Threshold: 863
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #5: Robertson-SR233/Ave 24 1/2




```
Street Name:          Robertson-SR233                        Ave 24 1/2
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2  165     2     9  173     3    12    0     0     1    0    20
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2  165     2     9  173     3    12    0     0     1    0    20
Added Vol:      0   16     0     0   28   154    87    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2  181     2     9  201   157    99    0     0     1    0    20
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2  181     2     9  201   157    99    0     0     1    0    20
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2  181     2     9  201   157    99    0     0     1    0    20
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1 xxxx xxxxx   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  358 xxxx xxxxx   183 xxxx xxxxx   494 xxxx xxxxx   484  562   182
Potent Cap.: 1212 xxxx xxxxx  1404 xxxx xxxxx   489 xxxx xxxxx   497  439   866
Move Cap.:   1212 xxxx xxxxx  1404 xxxx xxxxx   475 xxxx xxxxx   494  435   866
Volume/Cap:  0.00 xxxx  xxxx  0.01 xxxx  xxxx  0.21 xxxx  xxxx  0.00 0.00  0.02
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx   0.0 xxxx xxxxx   0.8 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.0 xxxx xxxxx   7.6 xxxx xxxxx  14.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  836 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  9.4 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    A     *
ApproachDel:    xxxxxx           xxxxxx             14.6             9.4
ApproachLOS:         *                *                B               A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  0  0  0    0  0  1! 0  0
Initial Vol:    2  181     2     9  201   157    99    0     0     1    0    20
ApproachDel:    xxxxxx           xxxxxx             14.6             9.4
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=99]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=672]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=21]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=672]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

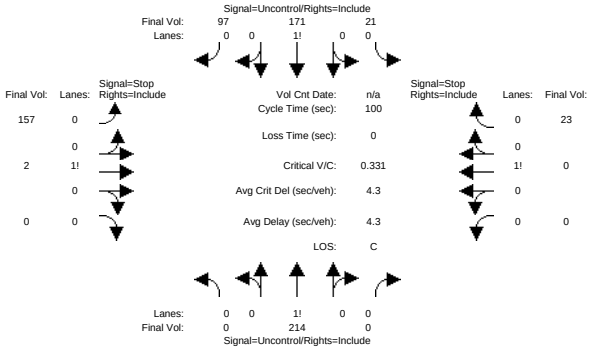
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  0  0  0    0  0  1! 0  0
Initial Vol:    2  181     2     9  201   157    99    0     0     1    0    20
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             552
Minor Approach Volume:           99
Minor Approach Volume Threshold: 378
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #5: Robertson-SR233/Ave 24 1/2




```
Street Name:          Robertson-SR233                        Ave 24 1/2
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  186     0    21  155    10     3    2     0     0    0    23
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  186     0    21  155    10     3    2     0     0    0    23
Added Vol:      0   28     0     0   16    87   154    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  214     0    21  171    97   157    2     0     0    0    23
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  214     0    21  171    97   157    2     0     0    0    23
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  214     0    21  171    97   157    2     0     0    0    23
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5 xxxxx xxxxx xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0 xxxxx xxxxx xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   214 xxxx xxxxx   487  476 xxxxx  xxxx xxxx   214
Potent Cap.: xxxx xxxx xxxxx  1368 xxxx xxxxx   494  491 xxxxx  xxxx xxxx   831
Move Cap.:   xxxx xxxx xxxxx  1368 xxxx xxxxx   475  483 xxxxx  xxxx xxxx   831
Volume/Cap:  xxxx xxxx  xxxx  0.02 xxxx  xxxx  0.33 0.00  xxxx  xxxx xxxx  0.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1
Control Del:xxxxx xxxx xxxxx   7.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   9.5
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   475 xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   1.5 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  16.3 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     C    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             16.3             9.5
ApproachLOS:         *                *                C                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  0  1
Initial Vol:    0  214     0    21  171    97   157    2     0     0    0    23
ApproachDel:    xxxxxx           xxxxxx             16.3             9.5
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=159]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=685]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=685]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

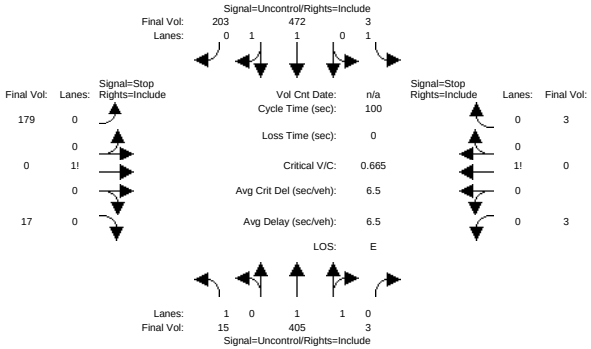
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  0  1
Initial Vol:    0  214     0    21  171    97   157    2     0     0    0    23
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             503
Minor Approach Volume:           159
Minor Approach Volume Threshold: 403
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #6: Robertson-SR233/Ave 25




```
Street Name:         Robertson-SR233                        Ave 25
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15  302     3     3  290    77   108    0    17     3    0     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   15  302     3     3  290    77   108    0    17     3    0     3
Added Vol:      0  103     0     0  182   126    71    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   15  405     3     3  472   203   179    0    17     3    0     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    15  405     3     3  472   203   179    0    17     3    0     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   15  405     3     3  472   203   179    0    17     3    0     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  675 xxxx xxxxx   408 xxxx xxxxx   812 1018   338   679 1118   204
Potent Cap.:  926 xxxx xxxxx  1162 xxxx xxxxx   274  239   664   342  209   809
Move Cap.:    926 xxxx xxxxx  1162 xxxx xxxxx   269  235   664   328  205   809
Volume/Cap:  0.02 xxxx  xxxx  0.00 xxxx  xxxx  0.67 0.00  0.03  0.01 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.0 xxxx xxxxx   8.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  284 xxxxx  xxxx  467 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  4.7 xxxxx xxxxx  0.0 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 41.8 xxxxx xxxxx 12.8 xxxxx
Shared LOS:     *    *     *     *    *     *     *    E     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             41.8             12.8
ApproachLOS:         *                *                E                B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   15  405     3     3  472   203   179    0    17     3    0     3
ApproachDel:    xxxxxx           xxxxxx             41.8             12.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=196]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1303]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1303]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   15  405     3     3  472   203   179    0    17     3    0     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1101
Minor Approach Volume:           196
Minor Approach Volume Threshold: 252
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
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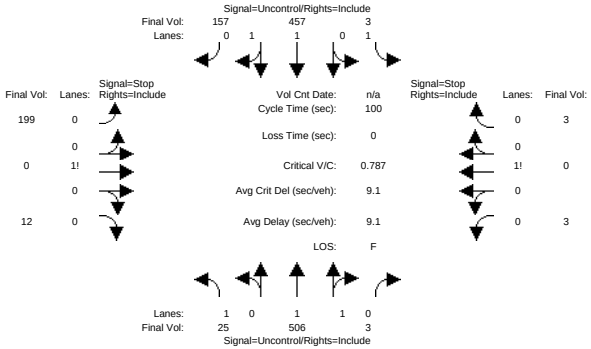
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #6: Robertson-SR233/Ave 25




```
Street Name:         Robertson-SR233                        Ave 25
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      25  324     3     3  354    86    73    0    12     3    0     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   25  324     3     3  354    86    73    0    12     3    0     3
Added Vol:      0  182     0     0  103    71   126    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   25  506     3     3  457   157   199    0    12     3    0     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    25  506     3     3  457   157   199    0    12     3    0     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   25  506     3     3  457   157   199    0    12     3    0     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  614 xxxx xxxxx   509 xxxx xxxxx   845 1101   307   792 1178   255
Potent Cap.:  975 xxxx xxxxx  1066 xxxx xxxxx   260  214   695   283  193   751
Move Cap.:    975 xxxx xxxxx  1066 xxxx xxxxx   253  208   695   272  187   751
Volume/Cap:  0.03 xxxx  xxxx  0.00 xxxx  xxxx  0.79 0.00  0.02  0.01 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.8 xxxx xxxxx   8.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  262 xxxxx  xxxx  400 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  6.2 xxxxx xxxxx  0.0 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 57.7 xxxxx xxxxx 14.1 xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             57.7             14.1
ApproachLOS:         *                *                F                B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   25  506     3     3  457   157   199    0    12     3    0     3
ApproachDel:    xxxxxx           xxxxxx             57.7             14.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=211]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1368]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1368]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   25  506     3     3  457   157   199    0    12     3    0     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1151
Minor Approach Volume:           211
Minor Approach Volume Threshold: 236
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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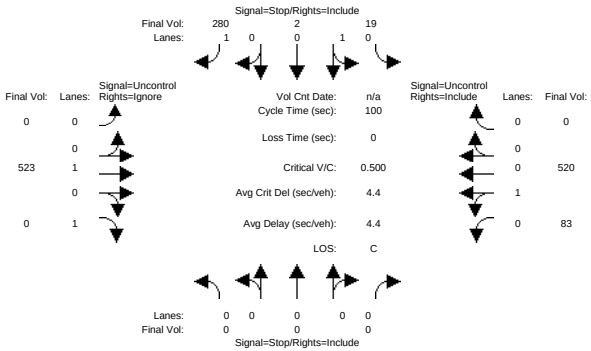
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #7: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    19    2    94     0  418   286    83  492     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    19    2    94     0  418   286    83  492     0
Added Vol:      0    0     0     0    0   186     0  105    16     0   28     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    19    2   280     0  523   302    83  520     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Volume:     0    0     0    19    2   280     0  523     0    83  520     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    19    2   280     0  523     0    83  520     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1209 1209   520  xxxx xxxx xxxxx   523 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   204  184   560  xxxx xxxx xxxxx  1054 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   191  169   560  xxxx xxxx xxxxx  1054 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.10 0.01  0.50  xxxx xxxx  xxxx  0.08 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   2.8  xxxx xxxx xxxxx   0.3 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  17.7 xxxxx xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     C     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   189 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   0.4 xxxx xxxxx xxxxx xxxx xxxxx   0.3 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  26.5 xxxx xxxxx xxxxx xxxx xxxxx   8.7 xxxx xxxxx
Shared LOS:     *    *     *     D    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx             18.3           xxxxxx           xxxxxx
ApproachLOS:         *                C                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0    19    2   280     0  523   302    83  520     0
ApproachDel:    xxxxxx             18.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=301]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1729]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

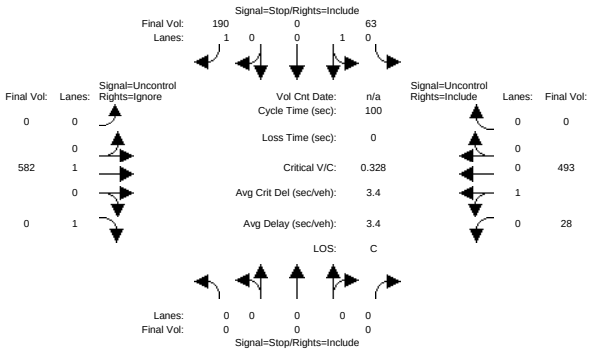
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0    19    2   280     0  523   302    83  520     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1428
Minor Approach Volume:           301
Minor Approach Volume Threshold: 221
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #7: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    63    0   85     0  396  198    28  477     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    63    0   85     0  396  198    28  477     0
Added Vol:      0    0     0     0    0  105     0  186   28     0   16     0
PasserByVol:    0    0     0     0    0    0     0    0    0     0    0     0
Initial Fut:    0    0     0    63    0  190     0  582  226    28  493     0
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00 1.00  1.00 1.00 0.00  1.00 1.00  1.00
PHF Volume:     0    0     0    63    0  190     0  582    0    28  493     0
Reduct Vol:     0    0     0     0    0    0     0    0    0     0    0     0
FinalVolume:    0    0     0    63    0  190     0  582    0    28  493     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1131 1131   493  xxxx xxxx xxxxx   582 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   227  205   580  xxxx xxxx xxxxx  1002 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   222  199   580  xxxx xxxx xxxxx  1002 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.28 0.00  0.33  xxxx xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   1.4  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  14.2 xxxxx xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   222 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   1.1 xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  27.5 xxxx xxxxx xxxxx xxxx xxxxx   8.7 xxxx xxxxx
Shared LOS:     *    *     *     D    *     *     *    *     *     A    *     *
ApproachDel:    xxxxxx             17.5           xxxxxx           xxxxxx
ApproachLOS:         *                C                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0    63    0  190     0  582  226    28  493     0
ApproachDel:    xxxxxx             17.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=253]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1582]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

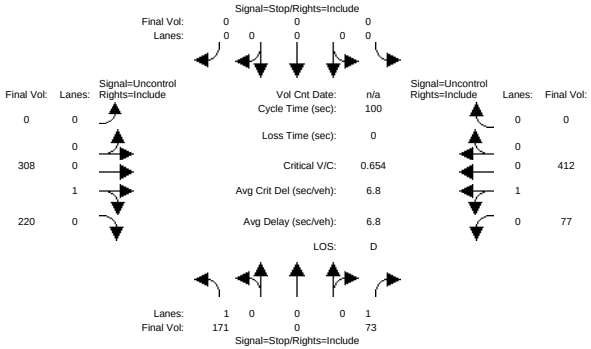
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  1  0  1    0  1  0  0  0
Initial Vol:    0    0     0    63    0  190     0  582  226    28  493     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1329
Minor Approach Volume:           253
Minor Approach Volume Threshold: 252
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj AM

Intersection #8: SR-99 NB Ramps / Robertson Avenue 26




```
Street Name:          SR-99 NB Ramps                    Robertson Avenue 26
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     143    0    73     0    0     0     0  308   115    77  412     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  143    0    73     0    0     0     0  308   115    77  412     0
Added Vol:     28    0     0     0    0     0     0    0   105     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  171    0    73     0    0     0     0  308   220    77  412     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   171    0    73     0    0     0     0  308   220    77  412     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  171    0    73     0    0     0     0  308   220    77  412     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  984 xxxx   418  xxxx xxxx xxxxx  xxxx xxxx xxxxx   528 xxxx xxxxx
Potent Cap.:  278 xxxx   639  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1049 xxxx xxxxx
Move Cap.:    262 xxxx   639  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1049 xxxx xxxxx
Volume/Cap:  0.65 xxxx  0.11  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    4.1 xxxx   0.4  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx
Control Del: 41.4 xxxx  11.4 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    E    *     B     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.7 xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     A    *     *
ApproachDel:      32.4           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         D                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  171    0    73     0    0     0     0  308   220    77  412     0
ApproachDel:      32.4           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.2]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=244]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1261]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

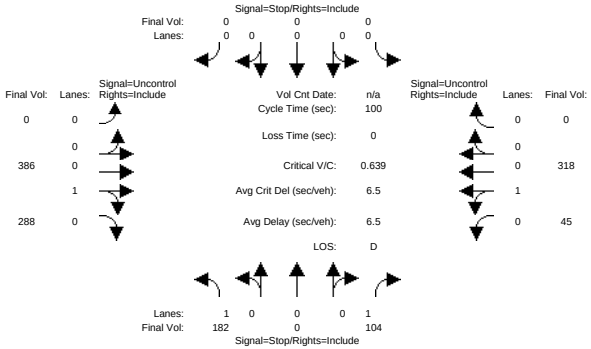
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  171    0    73     0    0     0     0  308   220    77  412     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1017
Minor Approach Volume:           244
Minor Approach Volume Threshold: 287
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ext+Prj PM

Intersection #8: SR-99 NB Ramps / Robertson Avenue 26




```
Street Name:         SR-99 NB Ramps                    Robertson Avenue 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     166    0   104     0    0     0     0  386   102    45  318     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  166    0   104     0    0     0     0  386   102    45  318     0
Added Vol:     16    0     0     0    0     0     0    0   186     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  182    0   104     0    0     0     0  386   288    45  318     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   182    0   104     0    0     0     0  386   288    45  318     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  182    0   104     0    0     0     0  386   288    45  318     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  938 xxxx   530  xxxx xxxx xxxxx  xxxx xxxx xxxxx   674 xxxx xxxxx
Potent Cap.:  296 xxxx   553  xxxx xxxx xxxxx  xxxx xxxx xxxxx   927 xxxx xxxxx
Move Cap.:    285 xxxx   553  xxxx xxxx xxxxx  xxxx xxxx xxxxx   927 xxxx xxxxx
Volume/Cap:  0.64 xxxx  0.19  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    4.0 xxxx   0.7  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx
Control Del: 37.6 xxxx  13.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.1 xxxx xxxxx
LOS by Move:    E    *     B     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.1 xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     A    *     *
ApproachDel:      28.7           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         D                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  182    0   104     0    0     0     0  386   288    45  318     0
ApproachDel:      28.7           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=286]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1323]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
Initial Vol:  182    0   104     0    0     0     0  386   288    45  318     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1037
Minor Approach Volume:           286
Minor Approach Volume Threshold: 281
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

HEAVY MANTENANCE FACILITY ANALYSIS – FAGUNDES

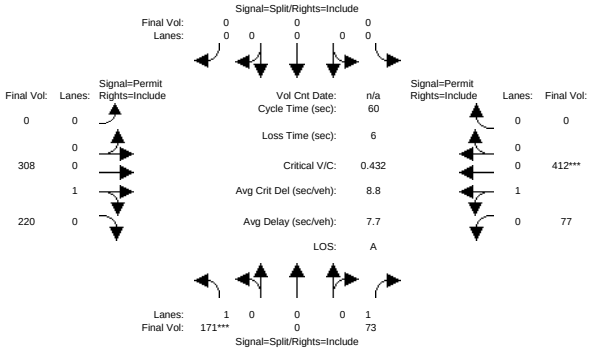
EXISTING WITH PROJECT_MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj AM

Intersection #8: SR-99 NB Ramps / Robertson Avenue 26



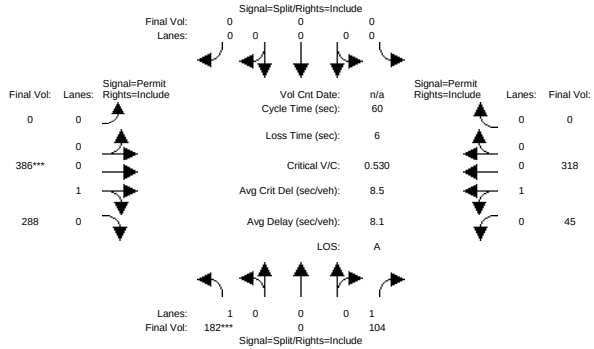
Street Name:	SR-99 NB Ramps						Robertson Avenue 26					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	10	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	143	0	73	0	0	0	0	308	115	77	412	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	143	0	73	0	0	0	0	308	115	77	412	0
Added Vol:	28	0	0	0	0	0	0	0	105	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	171	0	73	0	0	0	0	308	220	77	412	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	171	0	73	0	0	0	0	308	220	77	412	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	171	0	73	0	0	0	0	308	220	77	412	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	171	0	73	0	0	0	0	308	220	77	412	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.94	0.94	0.87	0.87	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.58	0.42	0.16	0.84	0.00
Final Sat.:	1805	0	1615	0	0	0	0	1046	747	261	1399	0
Capacity Analysis Module:												
Vol/Sat:	0.09	0.00	0.05	0.00	0.00	0.00	0.00	0.29	0.29	0.29	0.29	0.00
Crit Moves:	****										****	
Green/Cycle:	0.22	0.00	0.22	0.00	0.00	0.00	0.00	0.68	0.68	0.68	0.68	0.00
Volume/Cap:	0.43	0.00	0.21	0.00	0.00	0.00	0.00	0.43	0.43	0.43	0.43	0.00
Delay/Veh:	21.0	0.0	19.5	0.0	0.0	0.0	0.0	4.6	4.6	4.6	4.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.0	0.0	19.5	0.0	0.0	0.0	0.0	4.6	4.6	4.6	4.6	0.0
LOS by Move:	C	A	B	A	A	A	A	A	A	A	A	A
HCM2kAvgQ:	3	0	1	0	0	0	0	5	5	4	4	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ext+Prj PM

Intersection #8: SR-99 NB Ramps / Robertson Avenue 26



Street Name:	SR-99 NB Ramps						Robertson Avenue 26					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	10	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	166	0	104	0	0	0	0	386	102	45	318	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	166	0	104	0	0	0	0	386	102	45	318	0
Added Vol:	16	0	0	0	0	0	0	0	186	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	182	0	104	0	0	0	0	386	288	45	318	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	182	0	104	0	0	0	0	386	288	45	318	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	182	0	104	0	0	0	0	386	288	45	318	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	182	0	104	0	0	0	0	386	288	45	318	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.94	0.94	0.90	0.90	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.57	0.43	0.12	0.88	0.00
Final Sat.:	1805	0	1615	0	0	0	0	1025	765	211	1490	0
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.06	0.00	0.00	0.00	0.00	0.38	0.38	0.21	0.21	0.00
Crit Moves:	****							****				
Green/Cycle:	0.19	0.00	0.19	0.00	0.00	0.00	0.00	0.71	0.71	0.71	0.71	0.00
Volume/Cap:	0.53	0.00	0.34	0.00	0.00	0.00	0.00	0.53	0.53	0.30	0.30	0.00
Delay/Veh:	23.5	0.0	21.7	0.0	0.0	0.0	0.0	4.5	4.5	3.4	3.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.5	0.0	21.7	0.0	0.0	0.0	0.0	4.5	4.5	3.4	3.4	0.0
LOS by Move:	C	A	C	A	A	A	A	A	A	A	A	A
HCM2kAvgQ:	4	0	2	0	0	0	0	6	6	3	3	0

Note: Queue reported is the number of cars per lane.

HEAVY MANTENANCE FACILITY ANALYSIS – FAGUNDES

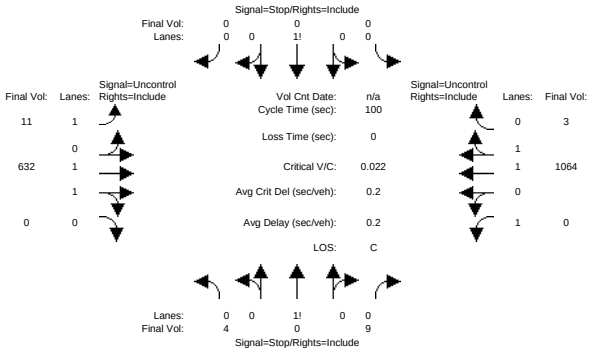
2035 NOBUILD CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #1: Road 12/ SR 152-Ave 23




```
Street Name:             Road 12                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    0     9     0    0     0    11  632     0     0 1064     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4    0     9     0    0     0    11  632     0     0 1064     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4    0     9     0    0     0    11  632     0     0 1064     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4    0     9     0    0     0    11  632     0     0 1064     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4    0     9     0    0     0    11  632     0     0 1064     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1186 1721   316  1404 1720   534  1067 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  184   90   686   101   90   496   661 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    182   89   686    99   89   496   661 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.02 0.00  0.01  0.00 0.00  0.00  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B     *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  370 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 15.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *     *     *     *    *     *
ApproachDel:      15.1           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    4    0     9     0    0     0    11  632     0     0 1064     3
ApproachDel:      15.1           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=13]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1723]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    4    0     9     0    0     0    11  632     0     0 1064     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1710
Minor Approach Volume:           13
Minor Approach Volume Threshold: 100
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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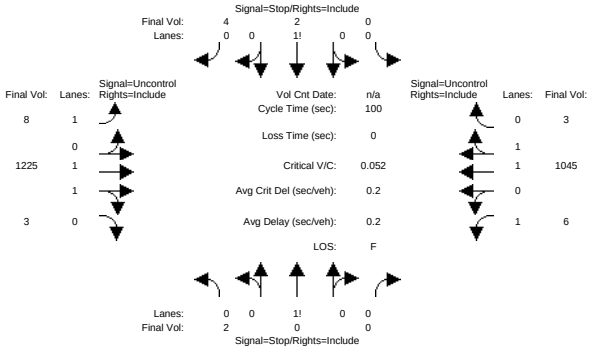
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #1: Road 12/ SR 152-Ave 23




```
Street Name:              Road 12                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    0     0     0    2     4     8 1225     3     6 1045     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    0     0     0    2     4     8 1225     3     6 1045     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    0     0     0    2     4     8 1225     3     6 1045     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    0     0     0    2     4     8 1225     3     6 1045     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    0     0     0    2     4     8 1225     3     6 1045     3
------------||---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5 xxxx xxxxx xxxxx  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx xxxxx xxxxx  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------||---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1778 xxxx xxxxx  xxxx 2303   524  1048 xxxx xxxxx  1228 xxxx xxxxx
Potent Cap.:   53 xxxx xxxxx  xxxx   39   503   672 xxxx xxxxx   575 xxxx xxxxx
Move Cap.:     50 xxxx xxxxx  xxxx   38   503   672 xxxx xxxxx   575 xxxx xxxxx
Volume/Cap:  0.04 xxxx  xxxx  xxxx 0.05  0.01  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------||---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del: 80.2 xxxx xxxxx xxxxx xxxx xxxxx  10.4 xxxx xxxxx  11.3 xxxx xxxxx
LOS by Move:    F    *     *     *    *     *     B    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx    99  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx   0.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx  43.5 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     E     *    *     *     *    *     *
ApproachDel:      80.2             43.5           xxxxxx           xxxxxx
ApproachLOS:         F                E                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  0    0  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    0     0     0    2     4     8 1225     3     6 1045     3
ApproachDel:      80.2             43.5           xxxxxx           xxxxxx
------------||---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=2]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2298]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2298]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

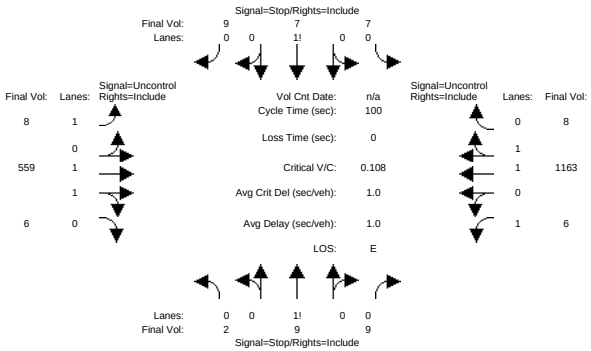
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------||---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------||---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  0    0  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    0     0     0    2     4     8 1225     3     6 1045     3
------------||---------------||---------------||---------------||---------------|
Major Street Volume:             2290
Minor Approach Volume:           6
Minor Approach Volume Threshold: -1 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #2: Road 13/ SR 152-Ave 23




```
Street Name:              Road 13                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    9     9     7    7     9     8  559     6     6 1163     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    9     9     7    7     9     8  559     6     6 1163     8
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    9     9     7    7     9     8  559     6     6 1163     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    9     9     7    7     9     8  559     6     6 1163     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    9     9     7    7     9     8  559     6     6 1163     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1175 1761   283  1479 1760   586  1171 xxxx xxxxx   565 xxxx xxxxx
Potent Cap.:  149   85   721    89   85   459   604 xxxx xxxxx  1017 xxxx xxxxx
Move Cap.:    135   84   721    80   84   459   604 xxxx xxxxx  1017 xxxx xxxxx
Volume/Cap:  0.01 0.11  0.01  0.09 0.08  0.02  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.0 xxxx xxxxx   8.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  148 xxxxx  xxxx  120 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.5 xxxxx xxxxx  0.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 33.0 xxxxx xxxxx 41.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    E     *     *    *     *     *    *     *
ApproachDel:      33.0             41.9            xxxxxx           xxxxxx
ApproachLOS:         D                E                 *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    9     9     7    7     9     8  559     6     6 1163     8
ApproachDel:      33.0             41.9            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=20]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1793]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1793]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

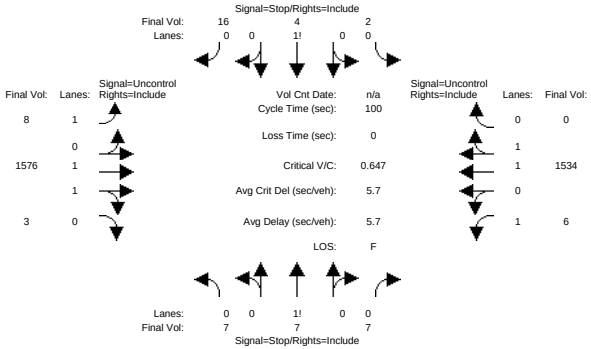
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    9     9     7    7     9     8  559     6     6 1163     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1750
Minor Approach Volume:           23
Minor Approach Volume Threshold: 92 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #2: Road 13/ SR 152-Ave 23




```
Street Name:              Road 13                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7    7     7     2    4    16     8 1576     3     6 1534     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7    7     7     2    4    16     8 1576     3     6 1534     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7    7     7     2    4    16     8 1576     3     6 1534     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7    7     7     2    4    16     8 1576     3     6 1534     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7    7     7     2    4    16     8 1576     3     6 1534     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2375 3140   790  2354 3141   767  1534 xxxx xxxxx  1579 xxxx xxxxx
Potent Cap.:   19   11   338    19   11   349   439 xxxx xxxxx   422 xxxx xxxxx
Move Cap.:     12   11   338     9   11   349   439 xxxx xxxxx   422 xxxx xxxxx
Volume/Cap:  0.56 0.65  0.02  0.22 0.37  0.05  0.02 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  13.3 xxxx xxxxx  13.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   17 xxxxx  xxxx   34 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.1 xxxxx xxxxx  2.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  613 xxxxx xxxxx  220 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     *    *     *     *    *     *
ApproachDel:     613.5            220.0           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    7    7     7     2    4    16     8 1576     3     6 1534     0
ApproachDel:     613.5            220.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=21]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3170]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=22]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3170]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

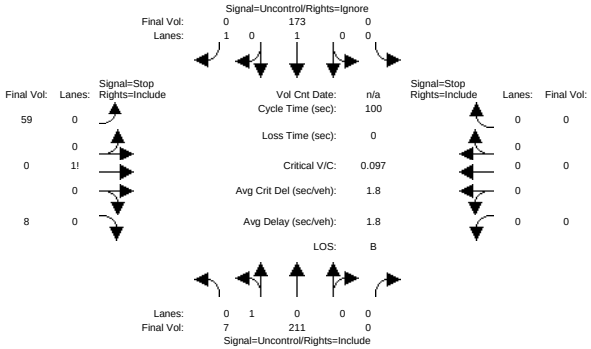
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    7    7     7     2    4    16     8 1576     3     6 1534     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3127
Minor Approach Volume:           22
Minor Approach Volume Threshold: -108 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #3: Robertson-SR233/SR152 EB Ramps




```
Street Name:         Robertson-SR233                    SR152 EB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  211     0     0  173    38    59    0     8     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7  211     0     0  173    38    59    0     8     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7  211     0     0  173    38    59    0     8     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7  211     0     0  173     0    59    0     8     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7  211     0     0  173     0    59    0     8     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  173 xxxx xxxxx  xxxx xxxx xxxxx   398  398   173  xxxx xxxx xxxxx
Potent Cap.: 1416 xxxx xxxxx  xxxx xxxx xxxxx   611  543   876  xxxx xxxx xxxxx
Move Cap.:   1416 xxxx xxxxx  xxxx xxxx xxxxx   609  540   876  xxxx xxxx xxxxx
Volume/Cap:  0.00 xxxx  xxxx  xxxx xxxx  xxxx  0.10 0.00  0.01  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  632 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.4 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 11.4 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    B     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             11.4           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    7  211     0     0  173    38    59    0     8     0    0     0
ApproachDel:    xxxxxx           xxxxxx              11.4           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=67]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=496]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

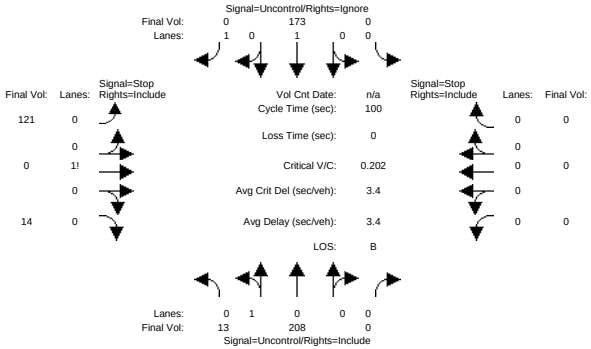
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    7  211     0     0  173    38    59    0     8     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             429
Minor Approach Volume:           67
Minor Approach Volume Threshold: 576
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #3: Robertson-SR233/SR152 EB Ramps




```
Street Name:          Robertson-SR233                    SR152 EB Ramps
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      13  208     0     0  173    49   121    0    14     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   13  208     0     0  173    49   121    0    14     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   13  208     0     0  173    49   121    0    14     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    13  208     0     0  173     0   121    0    14     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   13  208     0     0  173     0   121    0    14     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  173 xxxx xxxxx  xxxx xxxx xxxxx   407  407   173  xxxx xxxx xxxxx
Potent Cap.: 1416 xxxx xxxxx  xxxx xxxx xxxxx   604  537   876  xxxx xxxx xxxxx
Move Cap.:   1416 xxxx xxxxx  xxxx xxxx xxxxx   600  532   876  xxxx xxxx xxxxx
Volume/Cap:  0.01 xxxx  xxxx  xxxx xxxx  xxxx  0.20 0.00  0.02  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  620 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.8 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 12.4 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    B     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             12.4           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   13  208     0     0  173    49   121    0    14     0    0     0
ApproachDel:    xxxxxx           xxxxxx              12.4           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=135]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=578]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

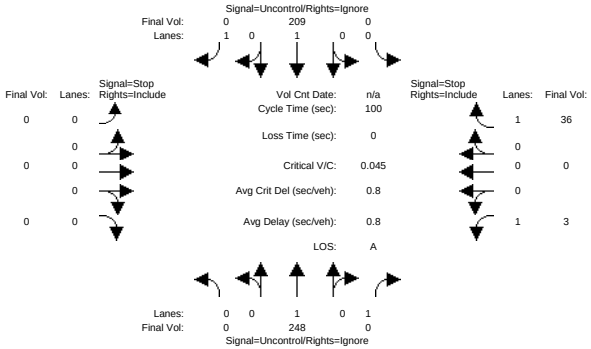
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   13  208     0     0  173    49   121    0    14     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             443
Minor Approach Volume:           135
Minor Approach Volume Threshold: 565
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #4: Robertson-SR233/SR152 WB Ramps




```
Street Name:         Robertson-SR233                    SR152 WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  248     9     0  209   136     0    0     0     3    0    36
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  248     9     0  209   136     0    0     0     3    0    36
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  248     9     0  209   136     0    0     0     3    0    36
User Adj:    1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  248     0     0  209     0     0    0     0     3    0    36
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  248     0     0  209     0     0    0     0     3    0    36
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   457 xxxx   248
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   565 xxxx   796
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   565 xxxx   796
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.01 xxxx  0.05
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx   0.1
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.4 xxxx   9.7
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.9
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  248     9     0  209   136     0    0     0     3    0    36
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.9
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=39]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=641]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  248     9     0  209   136     0    0     0     3    0    36
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             602
Minor Approach Volume:           39
Minor Approach Volume Threshold: 592
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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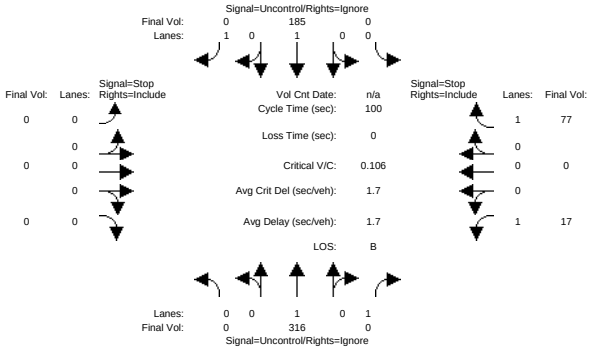
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #4: Robertson-SR233/SR152 WB Ramps




```
Street Name:         Robertson-SR233                    SR152 WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  316     7     0  185    87     0    0     0    17    0    77
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  316     7     0  185    87     0    0     0    17    0    77
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  316     7     0  185    87     0    0     0    17    0    77
User Adj:    1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  316     0     0  185     0     0    0     0    17    0    77
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  316     0     0  185     0     0    0     0    17    0    77
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   501 xxxx   316
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   533 xxxx   729
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   533 xxxx   729
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.03 xxxx  0.11
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx   0.4
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  12.0 xxxx  10.5
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             10.8
ApproachLOS:         *                *                *                B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  316     7     0  185    87     0    0     0    17    0    77
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             10.8
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=94]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=689]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

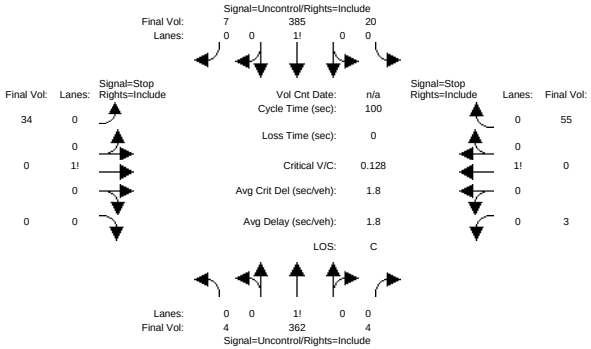
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  316     7     0  185    87     0    0     0    17    0    77
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             595
Minor Approach Volume:           94
Minor Approach Volume Threshold: 597
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #5: Robertson-SR233/Ave 24 1/2




```
Street Name:          Robertson-SR233                        Ave 24 1/2
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4  362     4    20  385     7    34    0     0     3    0    55
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4  362     4    20  385     7    34    0     0     3    0    55
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4  362     4    20  385     7    34    0     0     3    0    55
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4  362     4    20  385     7    34    0     0     3    0    55
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4  362     4    20  385     7    34    0     0     3    0    55
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1 xxxx xxxxx   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  392 xxxx xxxxx   366 xxxx xxxxx   828 xxxx xxxxx   801  804   364
Potent Cap.: 1178 xxxx xxxxx  1204 xxxx xxxxx   293 xxxx xxxxx   305  319   685
Move Cap.:   1178 xxxx xxxxx  1204 xxxx xxxxx   265 xxxx xxxxx   301  312   685
Volume/Cap:  0.00 xxxx  xxxx  0.02 xxxx  xxxx  0.13 xxxx  xxxx  0.01 0.00  0.08
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx   0.1 xxxx xxxxx   0.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.1 xxxx xxxxx   8.0 xxxx xxxxx  20.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     C    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  643 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.3 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 11.2 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             20.6            11.2
ApproachLOS:         *                *                C               B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  0  0  0    0  0  1! 0  0
Initial Vol:    4  362     4    20  385     7    34    0     0     3    0    55
ApproachDel:    xxxxxx           xxxxxx             20.6            11.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=34]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=874]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=58]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=874]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  0  0  0    0  0  1! 0  0
Initial Vol:    4  362     4    20  385     7    34    0     0     3    0    55
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             782
Minor Approach Volume:           58
Minor Approach Volume Threshold: 285
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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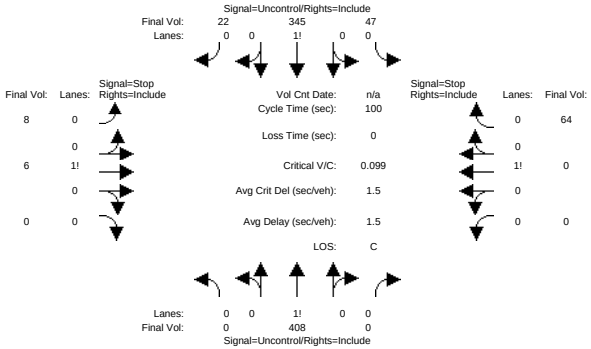
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #5: Robertson-SR233/Ave 24 1/2




```
Street Name:          Robertson-SR233                        Ave 24 1/2
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  408     0    47  345    22     8    6     0     0    0    64
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  408     0    47  345    22     8    6     0     0    0    64
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  408     0    47  345    22     8    6     0     0    0    64
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  408     0    47  345    22     8    6     0     0    0    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  408     0    47  345    22     8    6     0     0    0    64
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5 xxxxx xxxxx xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0 xxxxx xxxxx xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   408 xxxx xxxxx   890  858 xxxxx  xxxx xxxx   408
Potent Cap.: xxxx xxxx xxxxx  1162 xxxx xxxxx   266  297 xxxxx  xxxx xxxx   648
Move Cap.:   xxxx xxxx xxxxx  1162 xxxx xxxxx   232  284 xxxxx  xxxx xxxx   648
Volume/Cap:  xxxx xxxx  xxxx  0.04 xxxx  xxxx  0.03 0.02  xxxx  xxxx xxxx  0.10
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.3
Control Del:xxxxx xxxx xxxxx   8.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  11.2
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   252 xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  20.1 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     C    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             20.1            11.2
ApproachLOS:         *                *                C               B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  0  1
Initial Vol:    0  408     0    47  345    22     8    6     0     0    0    64
ApproachDel:    xxxxxx           xxxxxx             20.1            11.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=14]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=900]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=64]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=900]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

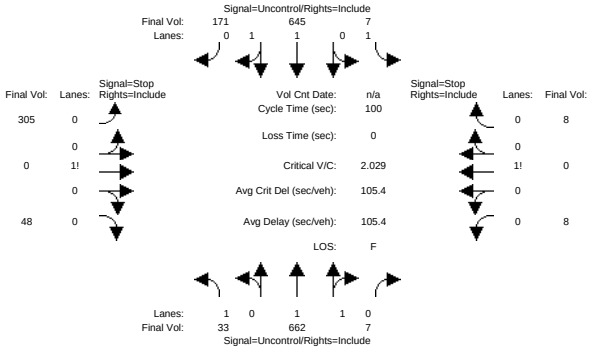
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  0  1
Initial Vol:    0  408     0    47  345    22     8    6     0     0    0    64
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             822
Minor Approach Volume:            64
Minor Approach Volume Threshold: 272
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #6: Robertson-SR233/Ave 25




```
Street Name:         Robertson-SR233                        Ave 25
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33  662     7     7  645   171   305    0    48     8    0     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   33  662     7     7  645   171   305    0    48     8    0     8
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   33  662     7     7  645   171   305    0    48     8    0     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    33  662     7     7  645   171   305    0    48     8    0     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   33  662     7     7  645   171   305    0    48     8    0     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  816 xxxx xxxxx   669 xxxx xxxxx  1142 1480   408  1068 1562   335
Potent Cap.:  820 xxxx xxxxx   931 xxxx xxxxx   158  127   598   179  113   667
Move Cap.:    820 xxxx xxxxx   931 xxxx xxxxx   150  121   598   158  108   667
Volume/Cap:  0.04 xxxx  xxxx  0.01 xxxx  xxxx  2.03 0.00  0.08  0.05 0.00  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  9.6 xxxx xxxxx   8.9 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  167 xxxxx  xxxx  256 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 27.9 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  564 xxxxx xxxxx 20.0 xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx            563.5            20.0
ApproachLOS:         *                *                F                C
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   33  662     7     7  645   171   305    0    48     8    0     8
ApproachDel:    xxxxxx           xxxxxx            563.5            20.0
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=55.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=353]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1894]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=16]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1894]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

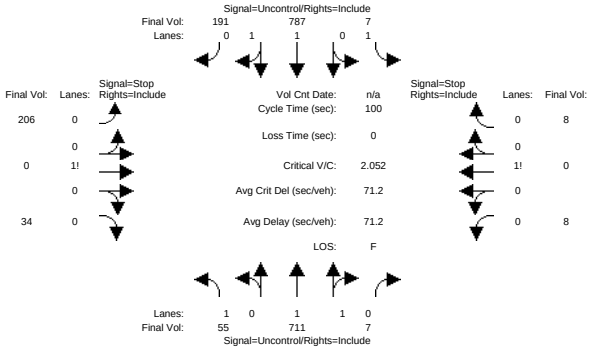
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   33  662     7     7  645   171   305    0    48     8    0     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1525
Minor Approach Volume:           353
Minor Approach Volume Threshold: 139
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #6: Robertson-SR233/Ave 25




```
Street Name:         Robertson-SR233                        Ave 25
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      55  711     7     7  787   191   206    0    34     8    0     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   55  711     7     7  787   191   206    0    34     8    0     8
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   55  711     7     7  787   191   206    0    34     8    0     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    55  711     7     7  787   191   206    0    34     8    0     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   55  711     7     7  787   191   206    0    34     8    0     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  978 xxxx xxxxx   718 xxxx xxxxx  1362 1725   489  1232 1817   359
Potent Cap.:  714 xxxx xxxxx   892 xxxx xxxxx   109   90   530   136   79   643
Move Cap.:    714 xxxx xxxxx   892 xxxx xxxxx   100   82   530   119   72   643
Volume/Cap:  0.08 xxxx  xxxx  0.01 xxxx  xxxx  2.05 0.00  0.06  0.07 0.00  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.2 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.5 xxxx xxxxx   9.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  113 xxxxx  xxxx  200 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 20.3 xxxxx xxxxx  0.3 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  593 xxxxx xxxxx 24.5 xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx            593.1            24.5
ApproachLOS:         *                *                F               C
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   55  711     7     7  787   191   206    0    34     8    0     8
ApproachDel:    xxxxxx           xxxxxx            593.1            24.5
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=39.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=240]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2014]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=16]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2014]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

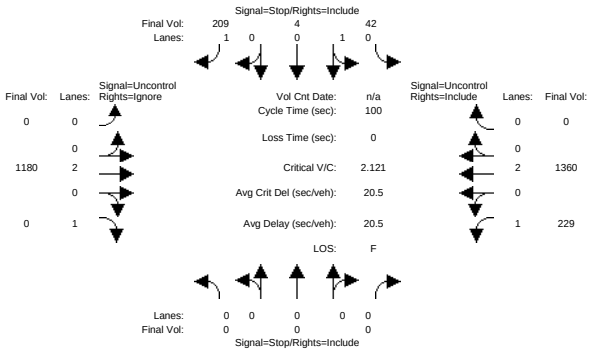
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   55  711     7     7  787   191   206    0    34     8    0     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1758
Minor Approach Volume:           240
Minor Approach Volume Threshold: 90 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #7: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    42    4   209     0 1180   808   229 1360     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    42    4   209     0 1180   808   229 1360     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    42    4   209     0 1180   808   229 1360     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Volume:     0    0     0    42    4   209     0 1180     0   229 1360     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    42    4   209     0 1180     0   229 1360     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  2408 2998   680  xxxx xxxx xxxxx  1180 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    28   14   398  xxxx xxxx xxxxx   599 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    20    9   398  xxxx xxxx xxxxx   599 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  2.12 0.47  0.52  xxxx xxxx  xxxx  0.38 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   2.9  xxxx xxxx xxxxx   1.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  23.6 xxxxx xxxx xxxxx  14.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     C     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx    18 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   6.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  1168 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     F    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            230.0           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0    42    4   209     0 1180   808   229 1360     0
ApproachDel:    xxxxxx            230.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=16.3]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=255]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3832]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

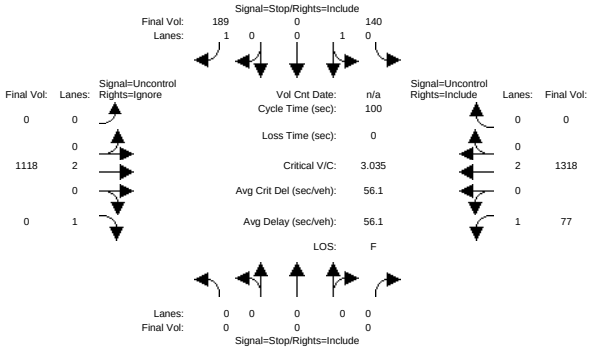
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0    42    4   209     0 1180   808   229 1360     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3577
Minor Approach Volume:           255
Minor Approach Volume Threshold: -174 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #7: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   140    0   189     0 1118   559    77 1318     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   140    0   189     0 1118   559    77 1318     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   140    0   189     0 1118   559    77 1318     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Volume:     0    0     0   140    0   189     0 1118     0    77 1318     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   140    0   189     0 1118     0    77 1318     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  2031 2590   659  xxxx xxxx xxxxx  1118 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    51   26   411  xxxx xxxx xxxxx   632 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    46   22   411  xxxx xxxx xxxxx   632 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  3.04 0.00  0.46  xxxx xxxx  xxxx  0.12 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   2.4  xxxx xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  21.0 xxxxx xxxx xxxxx  11.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     C     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx    46 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx  15.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  1103 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     F    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            481.6           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0   140    0   189     0 1118   559    77 1318     0
ApproachDel:    xxxxxx            481.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=44.0]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=329]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3401]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

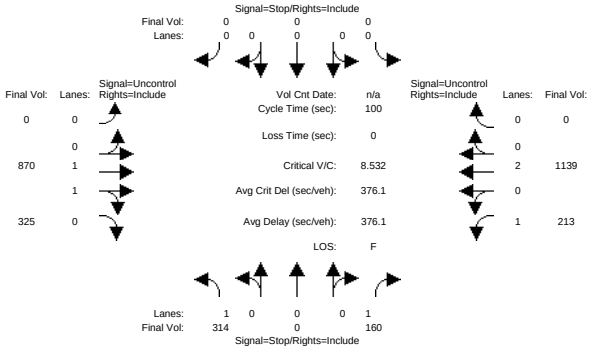
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0   140    0   189     0 1118   559    77 1318     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3072
Minor Approach Volume:           329
Minor Approach Volume Threshold: -109 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild AM

Intersection #8: SR-99 NB Ramps / Robertson Avenue 26




```
Street Name:         SR-99 NB Ramps                    Robertson Avenue 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     314    0   160      0    0      0      0  870   325   213 1139     0
Growth Adj:  1.00 1.00  1.00   1.00 1.00   1.00   1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  314    0   160      0    0      0      0  870   325   213 1139     0
Added Vol:      0    0     0      0    0      0      0    0     0     0    0     0
PasserByVol:    0    0     0      0    0      0      0    0     0     0    0     0
Initial Fut:  314    0   160      0    0      0      0  870   325   213 1139     0
User Adj:    1.00 1.00  1.00   1.00 1.00   1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00   1.00 1.00   1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   314    0   160      0    0      0      0  870   325   213 1139     0
Reduct Vol:     0    0     0      0    0      0      0    0     0     0    0     0
FinalVolume:  314    0   160      0    0      0      0  870   325   213 1139     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2028 xxxx   598  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1195 xxxx xxxxx
Potent Cap.:   51 xxxx   451  xxxx xxxx xxxxx  xxxx xxxx xxxxx   591 xxxx xxxxx
Move Cap.:     37 xxxx   451  xxxx xxxx xxxxx  xxxx xxxx xxxxx   591 xxxx xxxxx
Volume/Cap:  8.53 xxxx  0.35  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.36 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   37.8 xxxx   1.6  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.6 xxxx xxxxx
Control Del: 3600 xxxx  17.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.5 xxxx xxxxx
LOS by Move:    F    *     C      *    *      *      *    *      *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *      *    *      *      *    *      *     *    *     *
ApproachDel:    2390.5           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                  *                  *                  *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  314    0   160      0    0      0      0  870   325   213 1139     0
ApproachDel:    2390.5           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=314.7]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=474]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3021]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

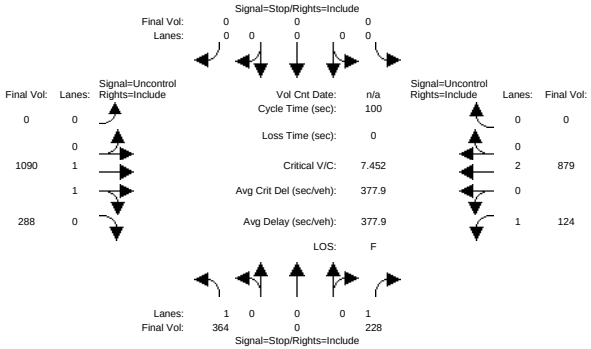
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  314    0   160      0    0      0      0  870   325   213 1139     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2547
Minor Approach Volume:           474
Minor Approach Volume Threshold: -28 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Nobuild PM

Intersection #8: SR-99 NB Ramps / Robertson Avenue 26




```
Street Name:         SR-99 NB Ramps                    Robertson Avenue 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     364    0   228     0    0     0     0 1090   288   124  879     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  364    0   228     0    0     0     0 1090   288   124  879     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  364    0   228     0    0     0     0 1090   288   124  879     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   364    0   228     0    0     0     0 1090   288   124  879     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  364    0   228     0    0     0     0 1090   288   124  879     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1922 xxxx   689  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1378 xxxx xxxxx
Potent Cap.:   60 xxxx   393  xxxx xxxx xxxxx  xxxx xxxx xxxxx   504 xxxx xxxxx
Move Cap.:     49 xxxx   393  xxxx xxxx xxxxx  xxxx xxxx xxxxx   504 xxxx xxxxx
Volume/Cap:  7.45 xxxx  0.58  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.25 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   42.6 xxxx   3.5  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx
Control Del: 3065 xxxx  26.1 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.5 xxxx xxxxx
LOS by Move:    F    *     D     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    1894.6           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  364    0   228     0    0     0     0 1090   288   124  879     0
ApproachDel:    1894.6           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=311.6]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=592]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2973]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

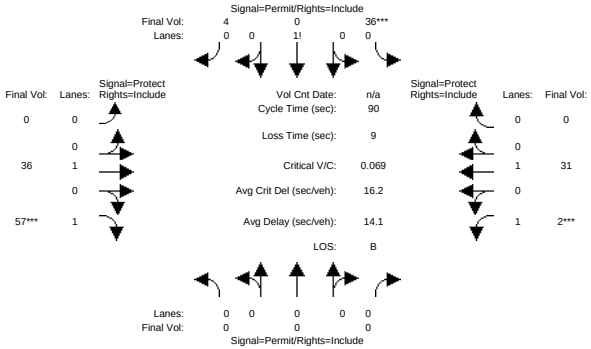
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  364    0   228     0    0     0     0 1090   288   124  879     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2381
Minor Approach Volume:           592
Minor Approach Volume Threshold: 1 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #9: SR-99 SB Ramps/Sandy Mush Rd



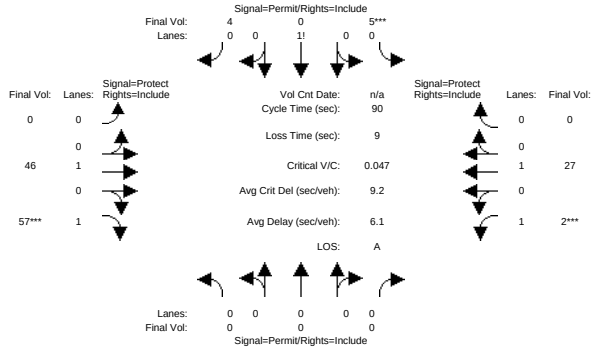
Street Name:	SR-99 SB Ramps									Sandy Mush Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	36	0	4	0	36	57	2	31	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	36	0	4	0	36	57	2	31	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	36	0	4	0	36	57	2	31	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	36	0	4	0	36	57	2	31	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	36	0	4	0	36	57	2	31	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	36	0	4	0	36	57	2	31	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.81	1.00	0.81	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.90	0.00	0.10	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	1392	0	155	0	1900	1615	1805	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.02	0.04	0.00	0.02	0.00
Crit Moves:				****					****	****		
Green/Cycle:	0.00	0.00	0.00	0.35	0.00	0.35	0.00	0.47	0.47	0.08	0.55	0.00
Volume/Cap:	0.00	0.00	0.00	0.07	0.00	0.07	0.00	0.04	0.07	0.01	0.03	0.00
Delay/Veh:	0.0	0.0	0.0	19.7	0.0	19.7	0.0	12.7	12.9	38.4	9.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	19.7	0.0	19.7	0.0	12.7	12.9	38.4	9.2	0.0
LOS by Move:	A	A	A	B	A	B	A	B	B	D	A	A
HCM2kAvgQ:	0	0	0	1	0	1	0	1	1	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #9: SR-99 SB Ramps/Sandy Mush Rd



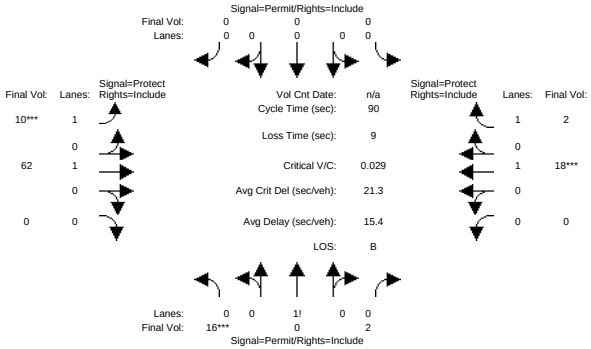
Street Name:	SR-99 SB Ramps									Sandy Mush Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	5	0	4	0	46	57	2	27	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	4	0	46	57	2	27	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	5	0	4	0	46	57	2	27	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	5	0	4	0	46	57	2	27	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	5	0	4	0	46	57	2	27	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	5	0	4	0	46	57	2	27	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.84	1.00	0.84	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.56	0.00	0.44	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	888	0	710	0	1900	1615	1805	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.04	0.00	0.01	0.00
Crit Moves:				****					****	****		
Green/Cycle:	0.00	0.00	0.00	0.11	0.00	0.11	0.00	0.71	0.71	0.08	0.79	0.00
Volume/Cap:	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.03	0.05	0.01	0.02	0.00
Delay/Veh:	0.0	0.0	0.0	35.7	0.0	35.7	0.0	3.9	4.0	38.4	2.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	35.7	0.0	35.7	0.0	3.9	4.0	38.4	2.1	0.0
LOS by Move:	A	A	A	D	A	D	A	A	A	D	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild AM

Intersection #10: SR-99 NB Ramps/Sandy Mush Rd



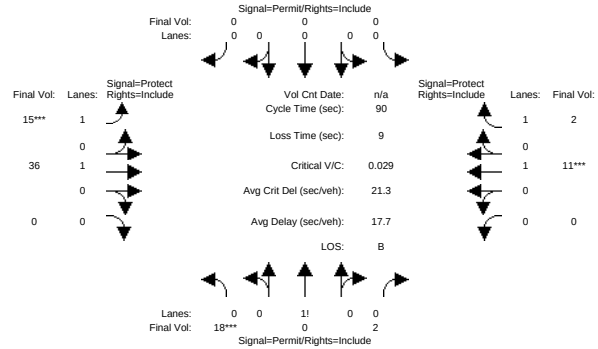
Street Name:	SR-99 NB Ramps						Sandy Mush Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	16	0	2	0	0	0	10	62	0	0	18	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	0	2	0	0	0	10	62	0	0	18	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	16	0	2	0	0	0	10	62	0	0	18	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	0	2	0	0	0	10	62	0	0	18	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	0	2	0	0	0	10	62	0	0	18	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	0	2	0	0	0	10	62	0	0	18	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.86	1.00	0.86	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.89	0.00	0.11	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	1451	0	181	0	0	0	1805	1900	0	0	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.01	0.00
Crit Moves:	****						****				****	
Green/Cycle:	0.38	0.00	0.38	0.00	0.00	0.00	0.19	0.52	0.00	0.00	0.33	0.33
Volume/Cap:	0.03	0.00	0.03	0.00	0.00	0.00	0.03	0.06	0.00	0.00	0.03	0.00
Delay/Veh:	17.4	0.0	17.4	0.0	0.0	0.0	29.6	10.8	0.0	0.0	20.6	20.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.4	0.0	17.4	0.0	0.0	0.0	29.6	10.8	0.0	0.0	20.6	20.4
LOS by Move:	B	A	B	A	A	A	C	B	A	A	C	C
HCM2kAvgQ:	0	0	0	0	0	0	0	1	0	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Nobuild PM

Intersection #10: SR-99 NB Ramps/Sandy Mush Rd



Street Name:	SR-99 NB Ramps						Sandy Mush Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	18	0	2	0	0	0	15	36	0	0	11	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	18	0	2	0	0	0	15	36	0	0	11	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	18	0	2	0	0	0	15	36	0	0	11	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	0	2	0	0	0	15	36	0	0	11	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	0	2	0	0	0	15	36	0	0	11	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	0	2	0	0	0	15	36	0	0	11	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.86	1.00	0.86	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.90	0.00	0.10	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	1463	0	163	0	0	0	1805	1900	0	0	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.01	0.00
Crit Moves:	****						****				****	
Green/Cycle:	0.42	0.00	0.42	0.00	0.00	0.00	0.28	0.48	0.00	0.00	0.20	0.20
Volume/Cap:	0.03	0.00	0.03	0.00	0.00	0.00	0.03	0.04	0.00	0.00	0.03	0.01
Delay/Veh:	15.4	0.0	15.4	0.0	0.0	0.0	23.3	12.4	0.0	0.0	29.2	29.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.4	0.0	15.4	0.0	0.0	0.0	23.3	12.4	0.0	0.0	29.2	29.0
LOS by Move:	B	A	B	A	A	A	C	B	A	A	C	C
HCM2kAvgQ:	0	0	0	0	0	0	0	1	0	0	0	0

Note: Queue reported is the number of cars per lane.

HEAVY MANTENANCE FACILITY ANALYSIS – FAGUNDES

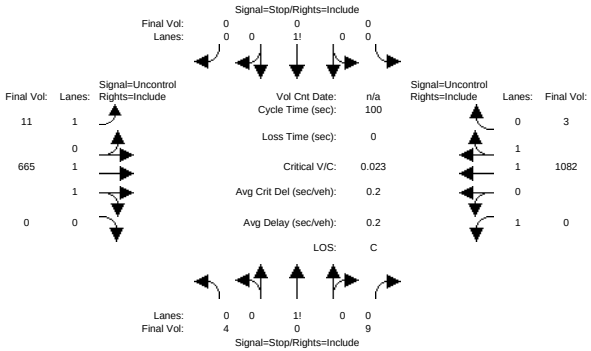
2035 BUILD CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #1: Road 12/ SR 152-Ave 23




```
Street Name:             Road 12                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    0     9     0    0     0    11  632     0     0 1064     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4    0     9     0    0     0    11  632     0     0 1064     3
Added Vol:      0    0     0     0    0     0     0   33     0     0   18     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4    0     9     0    0     0    11  665     0     0 1082     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4    0     9     0    0     0    11  665     0     0 1082     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4    0     9     0    0     0    11  665     0     0 1082     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1228 1772   333  1438 1771   543  1085 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  173   84   669    95   84   489   651 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    171   83   669    93   83   489   651 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.02 0.00  0.01  0.00 0.00  0.00  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B     *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  353 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 15.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *     *     *     *    *     *
ApproachDel:      15.6           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         C                *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    4    0     9     0    0     0    11  665     0     0 1082     3
ApproachDel:      15.6           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=13]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1774]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

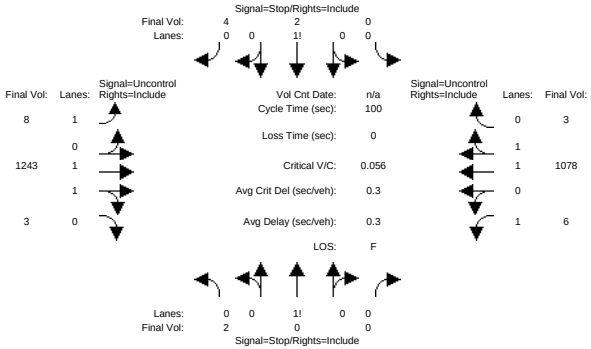
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    4    0     9     0    0     0    11  665     0     0 1082     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1761
Minor Approach Volume:           13
Minor Approach Volume Threshold: 90 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #1: Road 12/ SR 152-Ave 23




```
Street Name:              Road 12                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    0     0     0    2     4     8 1225     3     6 1045     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    0     0     0    2     4     8 1225     3     6 1045     3
Added Vol:      0    0     0     0    0     0     0   18     0     0   33     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    0     0     0    2     4     8 1243     3     6 1078     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    0     0     0    2     4     8 1243     3     6 1078     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    0     0     0    2     4     8 1243     3     6 1078     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5 xxxx xxxxx xxxxx  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx xxxxx xxxxx  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1813 xxxx xxxxx  xxxx 2354   541  1081 xxxx xxxxx  1246 xxxx xxxxx
Potent Cap.:   50 xxxx xxxxx  xxxx   36   491   653 xxxx xxxxx   566 xxxx xxxxx
Move Cap.:     47 xxxx xxxxx  xxxx   35   491   653 xxxx xxxxx   566 xxxx xxxxx
Volume/Cap:  0.04 xxxx  xxxx  xxxx 0.06  0.01  0.01 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx   0.0 xxxx xxxxx
Control Del: 85.4 xxxx xxxxx xxxxx xxxx xxxxx  10.6 xxxx xxxxx  11.4 xxxx xxxxx
LOS by Move:    F    *     *     *    *     *     B    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx    93  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx   0.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx  46.4 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     E     *    *     *     *    *     *
ApproachDel:      85.4             46.4            xxxxxx           xxxxxx
ApproachLOS:         F                E                 *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  0    0  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    0     0     0    2     4     8 1243     3     6 1078     3
ApproachDel:      85.4             46.4            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=2]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2349]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2349]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

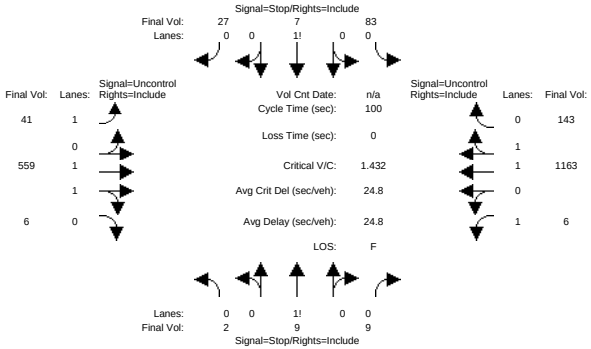
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #1 Road 12/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  0    0  0  0  1  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    0     0     0    2     4     8 1243     3     6 1078     3
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2341
Minor Approach Volume:           6
Minor Approach Volume Threshold: -8 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #2: Road 13/ SR 152-Ave 23




```
Street Name:              Road 13                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    9     9     7    7     9     8  559     6     6 1163     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    9     9     7    7     9     8  559     6     6 1163     8
Added Vol:      0    0     0    76    0    18    33    0     0     0    0   135
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    9     9    83    7    27    41  559     6     6 1163   143
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    9     9    83    7    27    41  559     6     6 1163   143
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    9     9    83    7    27    41  559     6     6 1163   143
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1241 1962   283  1613 1894   653  1306 xxxx xxxxx   565 xxxx xxxxx
Potent Cap.:  133   64   721    71   71   415   537 xxxx xxxxx  1017 xxxx xxxxx
Move Cap.:    107   59   721    58   65   415   537 xxxx xxxxx  1017 xxxx xxxxx
Volume/Cap:  0.02 0.15  0.01  1.43 0.11  0.07  0.08 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  12.3 xxxx xxxxx   8.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  109 xxxxx  xxxx   73 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx  9.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 45.5 xxxxx xxxxx  424 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *     *    F     *     *    *     *     *    *     *
ApproachDel:      45.5            423.5           xxxxxx           xxxxxx
ApproachLOS:         E                F                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    9     9    83    7    27    41  559     6     6 1163   143
ApproachDel:      45.5            423.5           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=20]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2055]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=13.8]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=117]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2055]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

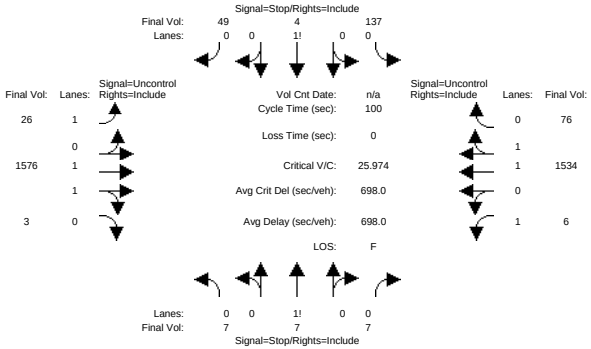
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    2    9     9    83    7    27    41  559     6     6 1163   143
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1918
Minor Approach Volume:           117
Minor Approach Volume Threshold: 60 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #2: Road 13/ SR 152-Ave 23




```
Street Name:              Road 13                        SR 152-Ave 23
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7    7     7     2    4    16     8 1576     3     6 1534     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7    7     7     2    4    16     8 1576     3     6 1534     0
Added Vol:      0    0     0   135    0    33    18    0     0     0    0    76
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7    7     7   137    4    49    26 1576     3     6 1534    76
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7    7     7   137    4    49    26 1576     3     6 1534    76
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7    7     7   137    4    49    26 1576     3     6 1534    76
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2411 3252   790  2428 3215   805  1610 xxxx xxxxx  1579 xxxx xxxxx
Potent Cap.:   18    9   338    17   10   330   411 xxxx xxxxx   422 xxxx xxxxx
Move Cap.:      9    9   338     5    9   330   411 xxxx xxxxx   422 xxxx xxxxx
Volume/Cap:  0.75 0.80  0.02 25.97 0.43  0.15  0.06 xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.4 xxxx xxxxx  13.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   13 xxxxx  xxxx    7 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.3 xxxxx xxxxx 25.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  860 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    F     *     *    *     *     *    *     *
ApproachDel:     859.7           xxxxxx            xxxxxx           xxxxxx
ApproachLOS:         F                F                 *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    7    7     7   137    4    49    26 1576     3     6 1534    76
ApproachDel:     859.7           xxxxxx            xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=21]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3432]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=660.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=190]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3432]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

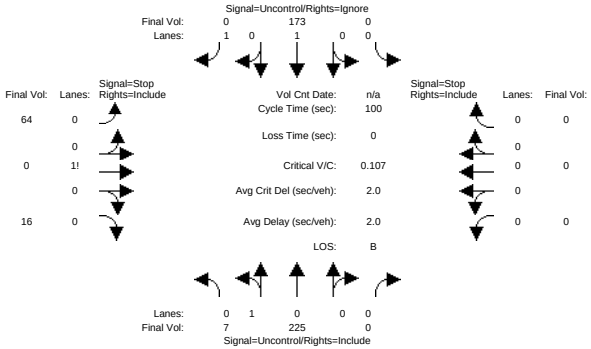
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #2 Road 13/ SR 152-Ave 23
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
Initial Vol:    7    7     7   137    4    49    26 1576     3     6 1534    76
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3221
Minor Approach Volume:           190
Minor Approach Volume Threshold: -118 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #3: Robertson-SR233/SR152 EB Ramps




```
Street Name:         Robertson-SR233                    SR152 EB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7  211     0     0  173    38    59    0     8     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    7  211     0     0  173    38    59    0     8     0    0     0
Added Vol:      0   14     0     0    0     0     5    0     8     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    7  225     0     0  173    38    64    0    16     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     7  225     0     0  173     0    64    0    16     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    7  225     0     0  173     0    64    0    16     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  173 xxxx xxxxx  xxxx xxxx xxxxx   412  412   173  xxxx xxxx xxxxx
Potent Cap.: 1416 xxxx xxxxx  xxxx xxxx xxxxx   600  533   876  xxxx xxxx xxxxx
Move Cap.:   1416 xxxx xxxxx  xxxx xxxx xxxxx   598  530   876  xxxx xxxx xxxxx
Volume/Cap:  0.00 xxxx  xxxx  xxxx xxxx  xxxx  0.11 0.00  0.02  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  638 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.4 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 11.4 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    B     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             11.4           xxxxxx
ApproachLOS:         *                *                B                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    7  225     0     0  173    38    64    0    16     0    0     0
ApproachDel:    xxxxxx           xxxxxx              11.4           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=80]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=523]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

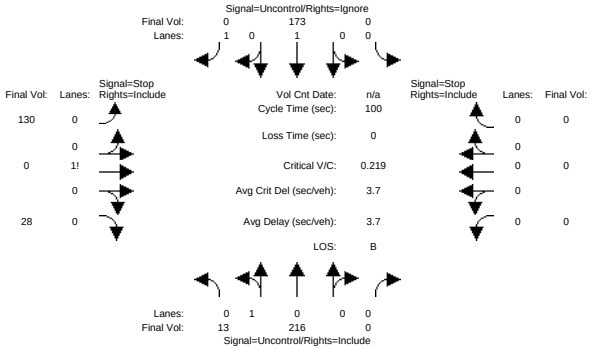
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    7  225     0     0  173    38    64    0    16     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             443
Minor Approach Volume:           80
Minor Approach Volume Threshold: 565
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #3: Robertson-SR233/SR152 EB Ramps




```
Street Name:          Robertson-SR233                    SR152 EB Ramps
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      13  208     0     0  173    49   121    0    14     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   13  208     0     0  173    49   121    0    14     0    0     0
Added Vol:      0    8     0     0    0     0     9    0    14     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   13  216     0     0  173    49   130    0    28     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    13  216     0     0  173     0   130    0    28     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   13  216     0     0  173     0   130    0    28     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  173 xxxx xxxxx  xxxx xxxx xxxxx   415  415   173  xxxx xxxx xxxxx
Potent Cap.: 1416 xxxx xxxxx  xxxx xxxx xxxxx   598  531   876  xxxx xxxx xxxxx
Move Cap.:   1416 xxxx xxxxx  xxxx xxxx xxxxx   593  526   876  xxxx xxxx xxxxx
Volume/Cap:  0.01 xxxx  xxxx  xxxx xxxx  xxxx  0.22 0.00  0.03  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  629 xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx  1.0 xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 12.6 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    B     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             12.6           xxxxxx
ApproachLOS:         *                *               B                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   13  216     0     0  173    49   130    0    28     0    0     0
ApproachDel:    xxxxxx           xxxxxx              12.6           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=158]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=609]
   FAIL - Total volume less than 650 for intersection
          with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

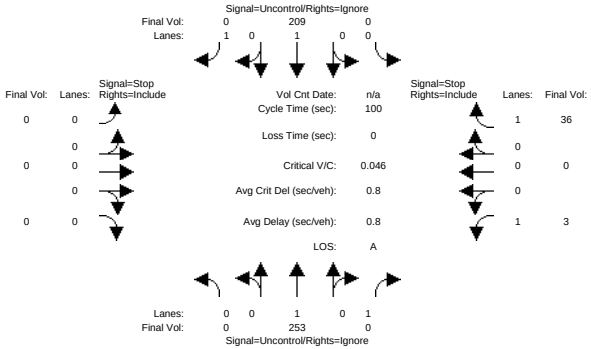
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #3 Robertson-SR233/SR152 EB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   13  216     0     0  173    49   130    0    28     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             451
Minor Approach Volume:           158
Minor Approach Volume Threshold: 559
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #4: Robertson-SR233/SR152 WB Ramps




```
Street Name:         Robertson-SR233                    SR152 WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  248     9     0  209   136     0    0     0     3    0    36
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  248     9     0  209   136     0    0     0     3    0    36
Added Vol:      0    5    14     0    0     9     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  253    23     0  209   145     0    0     0     3    0    36
User Adj:    1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  253     0     0  209     0     0    0     0     3    0    36
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  253     0     0  209     0     0    0     0     3    0    36
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   462 xxxx   253
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   562 xxxx   791
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   562 xxxx   791
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.01 xxxx  0.05
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx   0.1
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.4 xxxx   9.8
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.9
ApproachLOS:         *                *                *                A
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  253    23     0  209   145     0    0     0     3    0    36
ApproachDel:    xxxxxx           xxxxxx           xxxxxx              9.9
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=39]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=669]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

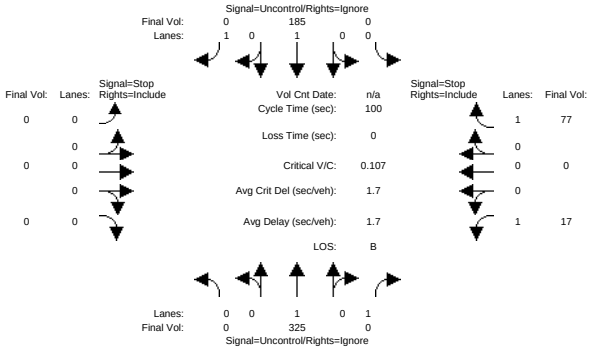
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  253    23     0  209   145     0    0     0     3    0    36
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             630
Minor Approach Volume:           39
Minor Approach Volume Threshold: 573
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #4: Robertson-SR233/SR152 WB Ramps




```
Street Name:         Robertson-SR233                    SR152 WB Ramps
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  316     7     0  185    87     0    0     0    17    0    77
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  316     7     0  185    87     0    0     0    17    0    77
Added Vol:      0    9     8     0    0     5     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  325    15     0  185    92     0    0     0    17    0    77
User Adj:    1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  325     0     0  185     0     0    0     0    17    0    77
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  325     0     0  185     0     0    0     0    17    0    77
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   510 xxxx   325
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   527 xxxx   721
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   527 xxxx   721
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.03 xxxx  0.11
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx   0.4
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  12.1 xxxx  10.6
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             10.9
ApproachLOS:         *                *                *                B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  325    15     0  185    92     0    0     0    17    0    77
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             10.9
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=94]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=711]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

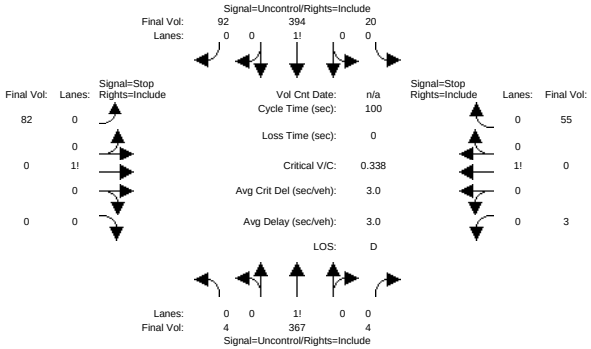
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #4 Robertson-SR233/SR152 WB Ramps
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    0  0  1  0  1    0  0  0  0  0    1  0  0  0  1
Initial Vol:    0  325    15     0  185    92     0    0     0    17    0    77
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             617
Minor Approach Volume:           94
Minor Approach Volume Threshold: 582
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #5: Robertson-SR233/Ave 24 1/2




```
Street Name:          Robertson-SR233                        Ave 24 1/2
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4  362     4    20  385     7    34    0     0     3    0    55
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4  362     4    20  385     7    34    0     0     3    0    55
Added Vol:      0    5     0     0    9    85    48    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4  367     4    20  394    92    82    0     0     3    0    55
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     4  367     4    20  394    92    82    0     0     3    0    55
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    4  367     4    20  394    92    82    0     0     3    0    55
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.1 xxxx xxxxx   7.1  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx xxxxx   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  486 xxxx xxxxx   371 xxxx xxxxx   885 xxxx xxxxx   857  903   369
Potent Cap.: 1087 xxxx xxxxx  1199 xxxx xxxxx   268 xxxx xxxxx   280  279   681
Move Cap.:   1087 xxxx xxxxx  1199 xxxx xxxxx   242 xxxx xxxxx   275  274   681
Volume/Cap:  0.00 xxxx  xxxx  0.02 xxxx  xxxx  0.34 xxxx  xxxx  0.01 0.00  0.08
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx   0.1 xxxx xxxxx   1.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:  8.3 xxxx xxxxx   8.1 xxxx xxxxx  27.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     D    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  633 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  0.3 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 11.3 xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    B     *
ApproachDel:    xxxxxx           xxxxxx             27.3            11.3
ApproachLOS:         *                *                D               B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  0  0  0    0  0  1! 0  0
Initial Vol:    4  367     4    20  394    92    82    0     0     3    0    55
ApproachDel:    xxxxxx           xxxxxx             27.3            11.3
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=82]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1021]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=58]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1021]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

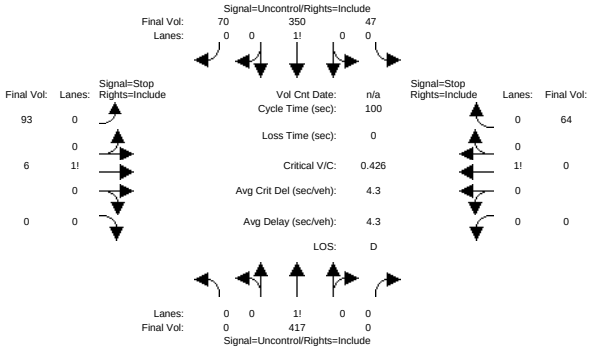
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  0  0  0    0  0  1! 0  0
Initial Vol:    4  367     4    20  394    92    82    0     0     3    0    55
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             881
Minor Approach Volume:           82
Minor Approach Volume Threshold: 253
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #5: Robertson-SR233/Ave 24 1/2




```
Street Name:          Robertson-SR233                        Ave 24 1/2
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  408     0    47  345    22     8    6     0     0    0    64
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  408     0    47  345    22     8    6     0     0    0    64
Added Vol:      0    9     0     0    5    48    85    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  417     0    47  350    70    93    6     0     0    0    64
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  417     0    47  350    70    93    6     0     0    0    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  417     0    47  350    70    93    6     0     0    0    64
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx   7.1  6.5 xxxxx xxxxx xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0 xxxxx xxxxx xxxx   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   417 xxxx xxxxx   928  896 xxxxx  xxxx xxxx   417
Potent Cap.: xxxx xxxx xxxxx  1153 xxxx xxxxx   250  282 xxxxx  xxxx xxxx   640
Move Cap.:   xxxx xxxx xxxxx  1153 xxxx xxxxx   218  270 xxxxx  xxxx xxxx   640
Volume/Cap:  xxxx xxxx  xxxx  0.04 xxxx  xxxx  0.43 0.02  xxxx  xxxx xxxx  0.10
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.3
Control Del:xxxxx xxxx xxxxx   8.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  11.2
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   221 xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.1 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  33.9 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     D    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             33.9            11.2
ApproachLOS:         *                *               D               B
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  0  1
Initial Vol:    0  417     0    47  350    70    93    6     0     0    0    64
ApproachDel:    xxxxxx           xxxxxx             33.9            11.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=99]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1047]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=64]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1047]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

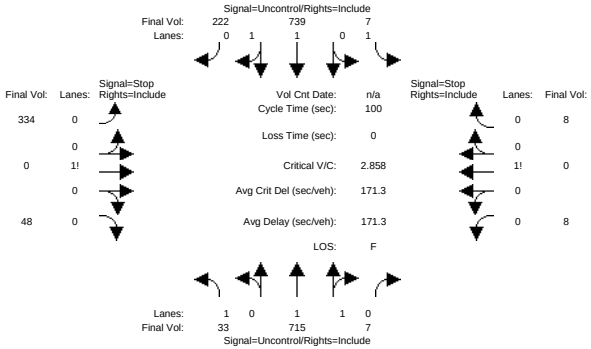
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #5 Robertson-SR233/Ave 24 1/2
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  0  1
Initial Vol:    0  417     0    47  350    70    93    6     0     0    0    64
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             884
Minor Approach Volume:           99
Minor Approach Volume Threshold: 252
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #6: Robertson-SR233/Ave 25




```
Street Name:         Robertson-SR233                        Ave 25
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33  662     7     7  645   171   305    0    48     8    0     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   33  662     7     7  645   171   305    0    48     8    0     8
Added Vol:      0   53     0     0   94    51    29    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   33  715     7     7  739   222   334    0    48     8    0     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    33  715     7     7  739   222   334    0    48     8    0     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   33  715     7     7  739   222   334    0    48     8    0     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  961 xxxx xxxxx   722 xxxx xxxxx  1288 1652   481  1168 1760   361
Potent Cap.:  724 xxxx xxxxx   889 xxxx xxxxx   123  100   537   151   86   641
Move Cap.:    724 xxxx xxxxx   889 xxxx xxxxx   117   94   537   132   81   641
Volume/Cap:  0.05 xxxx  xxxx  0.01 xxxx  xxxx  2.86 0.00  0.09  0.06 0.00  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.1 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.2 xxxx xxxxx   9.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  130 xxxxx  xxxx  219 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 35.6 xxxxx xxxxx  0.2 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx  949 xxxxx xxxxx 22.7 xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    C     *
ApproachDel:    xxxxxx           xxxxxx            949.2            22.7
ApproachLOS:         *                *                F                C
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   33  715     7     7  739   222   334    0    48     8    0     8
ApproachDel:    xxxxxx           xxxxxx            949.2            22.7
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=100.7]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=382]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2121]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=16]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2121]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

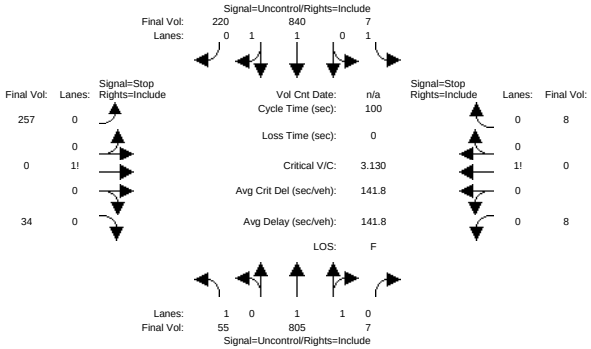
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   33  715     7     7  739   222   334    0    48     8    0     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1723
Minor Approach Volume:           382
Minor Approach Volume Threshold: 97 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #6: Robertson-SR233/Ave 25




```
Street Name:         Robertson-SR233                        Ave 25
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      55  711     7     7  787   191   206    0    34     8    0     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   55  711     7     7  787   191   206    0    34     8    0     8
Added Vol:      0   94     0     0   53    29    51    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   55  805     7     7  840   220   257    0    34     8    0     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    55  805     7     7  840   220   257    0    34     8    0     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   55  805     7     7  840   220   257    0    34     8    0     8
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5  6.5   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1060 xxxx xxxxx   812 xxxx xxxxx  1477 1886   530  1353 1993   406
Potent Cap.:  665 xxxx xxxxx   823 xxxx xxxxx    89   71   499   110   61   600
Move Cap.:    665 xxxx xxxxx   823 xxxx xxxxx    82   65   499    96   56   600
Volume/Cap:  0.08 xxxx  xxxx  0.01 xxxx  xxxx  3.13 0.00  0.07  0.08 0.00  0.01
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.3 xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 10.9 xxxx xxxxx   9.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx   91 xxxxx  xxxx  165 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 28.8 xxxxx xxxxx  0.3 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 1088 xxxxx xxxxx 29.1 xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    D     *
ApproachDel:    xxxxxx           xxxxxx           1088.4             29.1
ApproachLOS:         *                *                F                D
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   55  805     7     7  840   220   257    0    34     8    0     8
ApproachDel:    xxxxxx           xxxxxx           1088.4             29.1
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=88.0]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=291]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2241]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=16]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2241]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

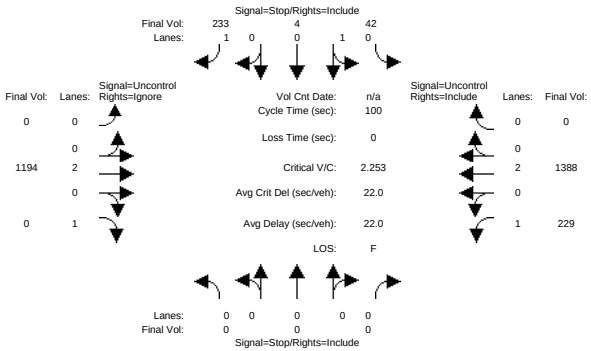
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                  Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #6 Robertson-SR233/Ave 25
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   55  805     7     7  840   220   257    0    34     8    0     8
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1934
Minor Approach Volume:           291
Minor Approach Volume Threshold: 58 [less than minimum of 100]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #7: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    42    4   209     0 1180   808   229 1360     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    42    4   209     0 1180   808   229 1360     0
Added Vol:      0    0     0     0    0    24     0   14    16     0   28     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    42    4   233     0 1194   824   229 1388     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Volume:     0    0     0    42    4   233     0 1194     0   229 1388     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    42    4   233     0 1194     0   229 1388     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  2443 3040   694  xxxx xxxx xxxxx  1194 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    27   13   390  xxxx xxxx xxxxx   592 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    19    8   390  xxxx xxxx xxxxx   592 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  2.25 0.50  0.60  xxxx xxxx  xxxx  0.39 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   3.7  xxxx xxxx xxxxx   1.8 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  27.0 xxxxx xxxx xxxxx  14.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     D     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx    17 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx   6.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  1266 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     F    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            231.3           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0    42    4   233     0 1194   824   229 1388     0
ApproachDel:    xxxxxx            231.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=17.9]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=279]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3914]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

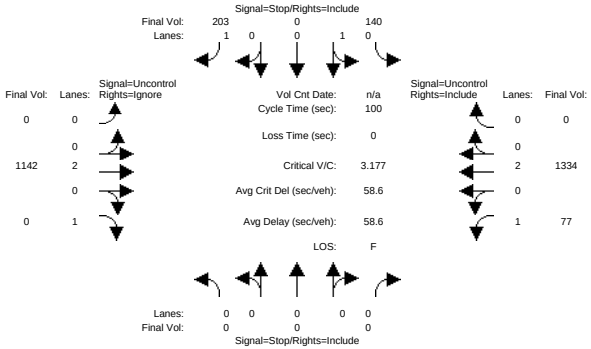
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0    42    4   233     0 1194   824   229 1388     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3635
Minor Approach Volume:           279
Minor Approach Volume Threshold: -181 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #7: SR-99 SB Ramps / Robertson Blvd




```
Street Name:           SR-99 SB Ramps                  Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   140    0   189     0 1118   559    77 1318     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   140    0   189     0 1118   559    77 1318     0
Added Vol:      0    0     0     0    0    14     0   24    28     0   16     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   140    0   203     0 1142   587    77 1334     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Volume:     0    0     0   140    0   203     0 1142     0    77 1334     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   140    0   203     0 1142     0    77 1334     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9 xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  2059 2630   667  xxxx xxxx xxxxx  1142 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    49   24   406  xxxx xxxx xxxxx   619 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    44   21   406  xxxx xxxx xxxxx   619 xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  3.18 0.00  0.50  xxxx xxxx  xxxx  0.12 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   2.7  xxxx xxxx xxxxx   0.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  22.4 xxxxx xxxx xxxxx  11.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     C     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx    44 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx  15.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx  1174 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     F    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            492.3           xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0   140    0   203     0 1142   587    77 1334     0
ApproachDel:    xxxxxx            492.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=46.9]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=343]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3483]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

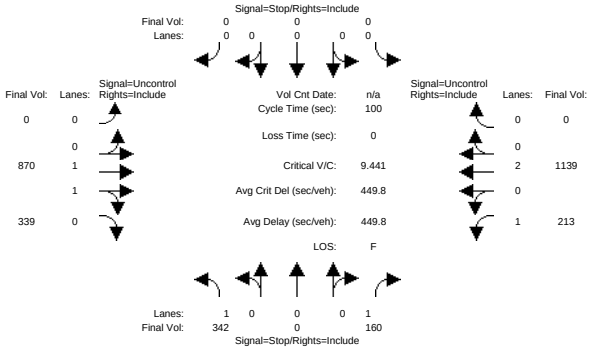
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                    Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 SR-99 SB Ramps / Robertson Blvd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  1  0  0  1    0  0  2  0  1    1  0  2  0  0
Initial Vol:    0    0     0   140    0   203     0 1142   587    77 1334     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3140
Minor Approach Volume:           343
Minor Approach Volume Threshold: -118 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build AM

Intersection #8: SR-99 NB Ramps / Robertson Avenue 26




```
Street Name:          SR-99 NB Ramps                    Robertson Avenue 26
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     314    0   160      0    0      0      0  870   325   213 1139     0
Growth Adj:  1.00 1.00  1.00   1.00 1.00   1.00   1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  314    0   160      0    0      0      0  870   325   213 1139     0
Added Vol:     28    0     0      0    0      0      0    0    14     0    0     0
PasserByVol:    0    0     0      0    0      0      0    0     0     0    0     0
Initial Fut:  342    0   160      0    0      0      0  870   339   213 1139     0
User Adj:    1.00 1.00  1.00   1.00 1.00   1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00   1.00 1.00   1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   342    0   160      0    0      0      0  870   339   213 1139     0
Reduct Vol:     0    0     0      0    0      0      0    0     0     0    0     0
FinalVolume:  342    0   160      0    0      0      0  870   339   213 1139     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2035 xxxx   605  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1209 xxxx xxxxx
Potent Cap.:   51 xxxx   446  xxxx xxxx xxxxx  xxxx xxxx xxxxx   584 xxxx xxxxx
Move Cap.:     36 xxxx   446  xxxx xxxx xxxxx  xxxx xxxx xxxxx   584 xxxx xxxxx
Volume/Cap:  9.44 xxxx  0.36  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.36 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   41.3 xxxx   1.6  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.7 xxxx xxxxx
Control Del: 4011 xxxx  17.5 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.7 xxxx xxxxx
LOS by Move:    F    *     C      *    *      *      *    *      *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *      *    *      *      *    *      *     *    *     *
ApproachDel:    2738.1           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                  *                  *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  342    0   160     0    0      0     0  870   339   213 1139     0
ApproachDel:    2738.1           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=381.8]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=502]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3063]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

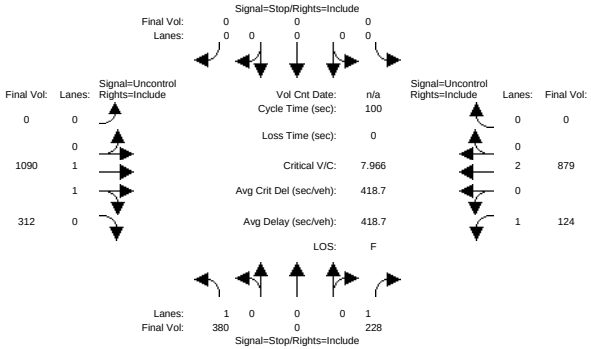
The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  342    0   160     0    0      0     0  870   339   213 1139     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2561
Minor Approach Volume:           502
Minor Approach Volume Threshold: -30 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 Build PM

Intersection #8: SR-99 NB Ramps / Robertson Avenue 26




```
Street Name:         SR-99 NB Ramps                    Robertson Avenue 26
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     364    0   228     0    0     0     0 1090   288   124  879     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  364    0   228     0    0     0     0 1090   288   124  879     0
Added Vol:     16    0     0     0    0     0     0    0    24     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  380    0   228     0    0     0     0 1090   312   124  879     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   380    0   228     0    0     0     0 1090   312   124  879     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  380    0   228     0    0     0     0 1090   312   124  879     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1934 xxxx   701  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1402 xxxx xxxxx
Potent Cap.:   59 xxxx   386  xxxx xxxx xxxxx  xxxx xxxx xxxxx   493 xxxx xxxxx
Move Cap.:     48 xxxx   386  xxxx xxxx xxxxx  xxxx xxxx xxxxx   493 xxxx xxxxx
Volume/Cap:  7.97 xxxx  0.59  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.25 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   44.7 xxxx   3.7  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.0 xxxx xxxxx
Control Del: 3299 xxxx  26.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.7 xxxx xxxxx
LOS by Move:    F    *     D     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    2072.1           xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         F                 *                 *                 *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```



```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  380    0   228     0    0     0     0 1090   312   124  879     0
ApproachDel:    2072.1           xxxxxx            xxxxxx            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=350.0]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=608]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3013]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                     Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #8 SR-99 NB Ramps / Robertson Avenue 26
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
Initial Vol:  380    0   228     0    0     0     0 1090   312   124  879     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2405
Minor Approach Volume:           608
Minor Approach Volume Threshold: -3 [less than minimum of 150]
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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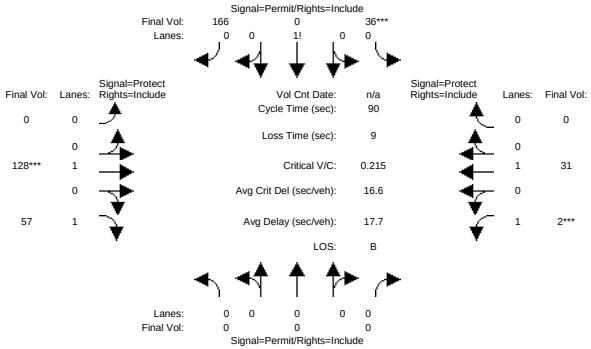
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #9: SR-99 SB Ramps/Sandy Mush Rd



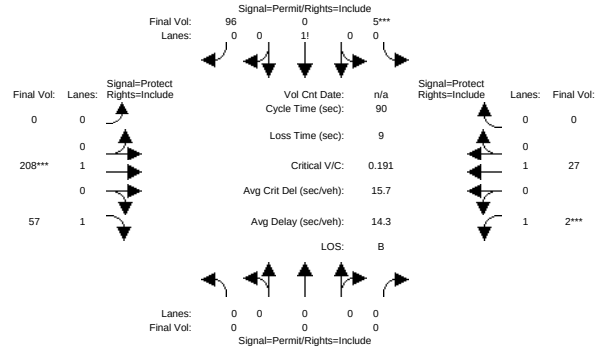
Street Name:	SR-99 SB Ramps									Sandy Mush Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	36	0	4	0	36	57	2	31	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	36	0	4	0	36	57	2	31	0
Added Vol:	0	0	0	0	0	162	0	92	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	36	0	166	0	128	57	2	31	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	36	0	166	0	128	57	2	31	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	36	0	166	0	128	57	2	31	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	36	0	166	0	128	57	2	31	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.85	1.00	0.85	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.18	0.00	0.82	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	288	0	1330	0	1900	1615	1805	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.12	0.00	0.12	0.00	0.07	0.04	0.00	0.02	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.53	0.00	0.53	0.00	0.29	0.29	0.08	0.37	0.00
Volume/Cap:	0.00	0.00	0.00	0.23	0.00	0.23	0.00	0.23	0.12	0.01	0.04	0.00
Delay/Veh:	0.0	0.0	0.0	11.3	0.0	11.3	0.0	24.7	23.8	38.4	18.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	11.3	0.0	11.3	0.0	24.7	23.8	38.4	18.4	0.0
LOS by Move:	A	A	A	B	A	B	A	C	C	D	B	A
HCM2kAvgQ:	0	0	0	3	0	3	0	3	1	0	1	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #9: SR-99 SB Ramps/Sandy Mush Rd



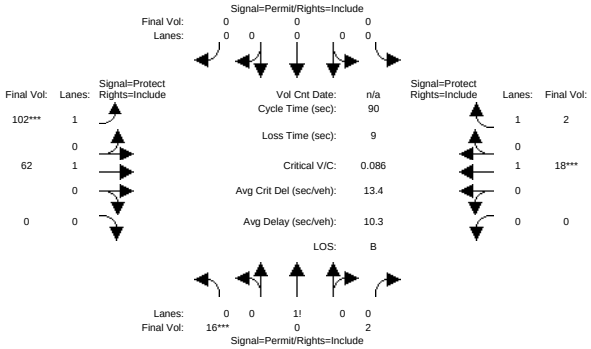
Street Name:	SR-99 SB Ramps									Sandy Mush Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	5	0	4	0	46	57	2	27	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	4	0	46	57	2	27	0
Added Vol:	0	0	0	0	0	92	0	162	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	5	0	96	0	208	57	2	27	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	5	0	96	0	208	57	2	27	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	5	0	96	0	208	57	2	27	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	5	0	96	0	208	57	2	27	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.87	1.00	0.87	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.05	0.00	0.95	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	81	0	1564	0	1900	1615	1805	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.06	0.00	0.11	0.04	0.00	0.01	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.30	0.00	0.30	0.00	0.53	0.53	0.08	0.60	0.00
Volume/Cap:	0.00	0.00	0.00	0.21	0.00	0.21	0.00	0.21	0.07	0.01	0.02	0.00
Delay/Veh:	0.0	0.0	0.0	24.0	0.0	24.0	0.0	11.4	10.5	38.4	7.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	24.0	0.0	24.0	0.0	11.4	10.5	38.4	7.1	0.0
LOS by Move:	A	A	A	C	A	C	A	B	B	D	A	A
HCM2kAvgQ:	0	0	0	2	0	2	0	3	1	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build AM

Intersection #10: SR-99 NB Ramps/Sandy Mush Rd



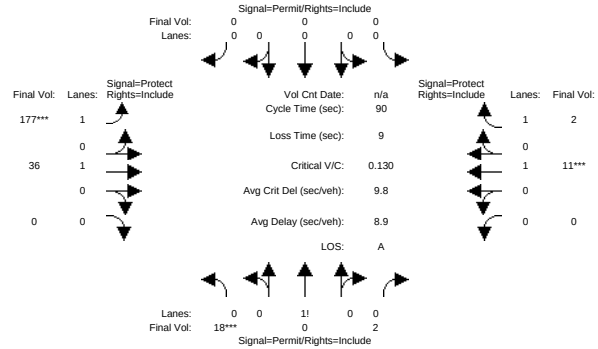
Street Name:	SR-99 NB Ramps						Sandy Mush Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	16	0	2	0	0	0	10	62	0	0	18	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	0	2	0	0	0	10	62	0	0	18	2
Added Vol:	0	0	0	0	0	0	92	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	16	0	2	0	0	0	102	62	0	0	18	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	0	2	0	0	0	102	62	0	0	18	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	0	2	0	0	0	102	62	0	0	18	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	0	2	0	0	0	102	62	0	0	18	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	1.00	0.81	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.89	0.00	0.11	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	1367	0	171	0	0	0	1805	1900	0	0	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.06	0.03	0.00	0.00	0.01	0.00
Crit Moves:	****						****				****	
Green/Cycle:	0.14	0.00	0.14	0.00	0.00	0.00	0.65	0.76	0.00	0.00	0.11	0.11
Volume/Cap:	0.09	0.00	0.09	0.00	0.00	0.00	0.09	0.04	0.00	0.00	0.09	0.01
Delay/Veh:	34.2	0.0	34.2	0.0	0.0	0.0	5.8	2.6	0.0	0.0	36.1	35.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.2	0.0	34.2	0.0	0.0	0.0	5.8	2.6	0.0	0.0	36.1	35.6
LOS by Move:	C	A	C	A	A	A	A	A	A	A	D	D
HCM2kAvgQ:	0	0	0	0	0	0	1	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build PM

Intersection #10: SR-99 NB Ramps/Sandy Mush Rd



Street Name:	SR-99 NB Ramps						Sandy Mush Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	18	0	2	0	0	0	15	36	0	0	11	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	18	0	2	0	0	0	15	36	0	0	11	2
Added Vol:	0	0	0	0	0	0	162	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	18	0	2	0	0	0	177	36	0	0	11	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	0	2	0	0	0	177	36	0	0	11	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	0	2	0	0	0	177	36	0	0	11	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	0	2	0	0	0	177	36	0	0	11	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.79	1.00	0.79	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.90	0.00	0.10	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	1347	0	150	0	0	0	1805	1900	0	0	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.10	0.02	0.00	0.00	0.01	0.00
Crit Moves:	****						****				****	
Green/Cycle:	0.11	0.00	0.11	0.00	0.00	0.00	0.68	0.79	0.00	0.00	0.11	0.11
Volume/Cap:	0.12	0.00	0.12	0.00	0.00	0.00	0.14	0.02	0.00	0.00	0.05	0.01
Delay/Veh:	36.4	0.0	36.4	0.0	0.0	0.0	5.2	2.1	0.0	0.0	35.9	35.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.4	0.0	36.4	0.0	0.0	0.0	5.2	2.1	0.0	0.0	35.9	35.6
LOS by Move:	D	A	D	A	A	A	A	A	A	A	D	D
HCM2kAvgQ:	1	0	1	0	0	0	2	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

HEAVY MANTENANCE FACILITY ANALYSIS – FAGUNDES

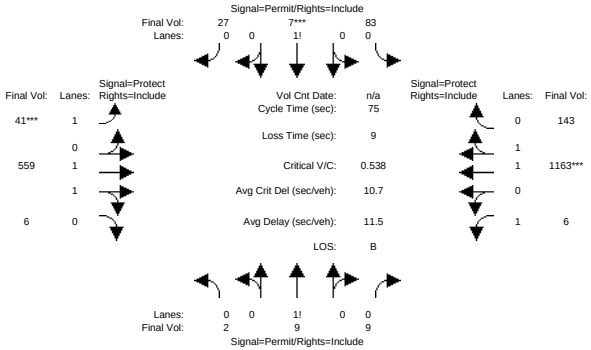
2035 BUILD_MITIGATION CONDITIONS

– LEVEL OF SERVICE SHEETS

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #2: Road 13/ SR 152-Ave 23



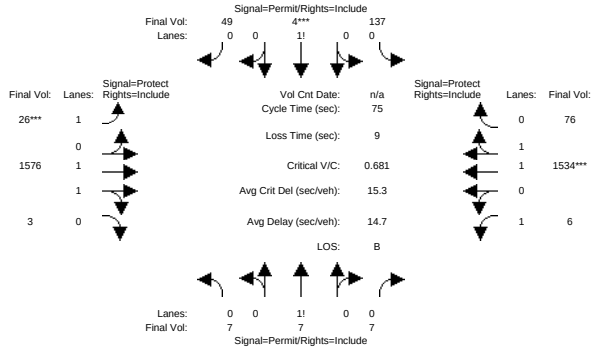
Street Name:	Road 13						SR 152-Ave 23					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	2	9	9	7	7	9	8	559	6	6	1163	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	9	9	7	7	9	8	559	6	6	1163	8
Added Vol:	0	0	0	76	0	18	33	0	0	0	0	135
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	9	9	83	7	27	41	559	6	6	1163	143
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	9	9	83	7	27	41	559	6	6	1163	143
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	9	9	83	7	27	41	559	6	6	1163	143
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	9	9	83	7	27	41	559	6	6	1163	143
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.91	0.91	0.91	0.74	0.74	0.74	0.95	0.95	0.95	0.95	0.93	0.93
Lanes:	0.10	0.45	0.45	0.71	0.06	0.23	1.00	1.98	0.02	1.00	1.78	0.22
Final Sat.:	174	782	782	1000	84	325	1805	3565	38	1805	3163	389
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.08	0.08	0.08	0.02	0.16	0.16	0.00	0.37	0.37
Crit Moves:					****		****				****	
Green/Cycle:	0.14	0.14	0.14	0.14	0.14	0.14	0.09	0.46	0.46	0.27	0.64	0.64
Volume/Cap:	0.08	0.08	0.08	0.57	0.57	0.57	0.24	0.34	0.34	0.01	0.57	0.57
Delay/Veh:	27.9	27.9	27.9	33.8	33.8	33.8	32.3	13.0	13.0	19.8	8.0	8.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.9	27.9	27.9	33.8	33.8	33.8	32.3	13.0	13.0	19.8	8.0	8.0
LOS by Move:	C	C	C	C	C	C	C	B	B	B	A	A
HCM2kAvgQ:	0	0	0	3	3	3	1	4	4	0	9	9

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #2: Road 13/ SR 152-Ave 23



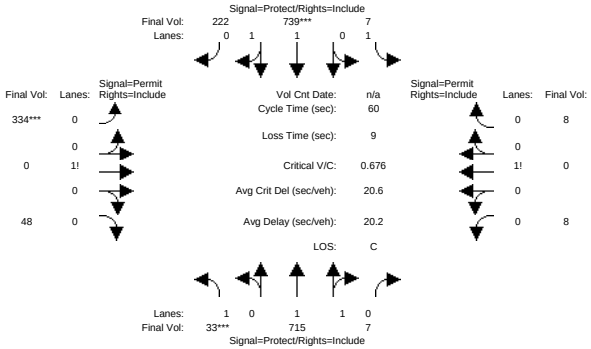
Street Name:	Road 13						SR 152-Ave 23					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	7	7	7	2	4	16	8	1576	3	6	1534	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	7	7	2	4	16	8	1576	3	6	1534	0
Added Vol:	0	0	0	135	0	33	18	0	0	0	0	76
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	7	7	137	4	49	26	1576	3	6	1534	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	7	7	137	4	49	26	1576	3	6	1534	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	7	7	137	4	49	26	1576	3	6	1534	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	7	7	137	4	49	26	1576	3	6	1534	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.89	0.74	0.74	0.74	0.95	0.95	0.95	0.95	0.94	0.94
Lanes:	0.34	0.33	0.33	0.72	0.02	0.26	1.00	1.99	0.01	1.00	1.91	0.09
Final Sat.:	561	561	561	1009	29	361	1805	3603	7	1805	3416	169
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.14	0.14	0.14	0.01	0.44	0.44	0.00	0.45	0.45
Crit Moves:					****		****				****	
Green/Cycle:	0.18	0.18	0.18	0.18	0.18	0.18	0.09	0.57	0.57	0.12	0.60	0.60
Volume/Cap:	0.07	0.07	0.07	0.74	0.74	0.74	0.15	0.76	0.76	0.03	0.74	0.74
Delay/Veh:	25.5	25.5	25.5	40.2	40.2	40.2	31.7	13.8	13.8	29.0	12.1	12.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.5	25.5	25.5	40.2	40.2	40.2	31.7	13.8	13.8	29.0	12.1	12.1
LOS by Move:	C	C	C	D	D	D	C	B	B	C	B	B
HCM2kAvgQ:	0	0	0	6	6	6	1	16	16	0	15	15

Note: Queue reported is the number of cars per lane.

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #6: Robertson-SR233/Ave 25

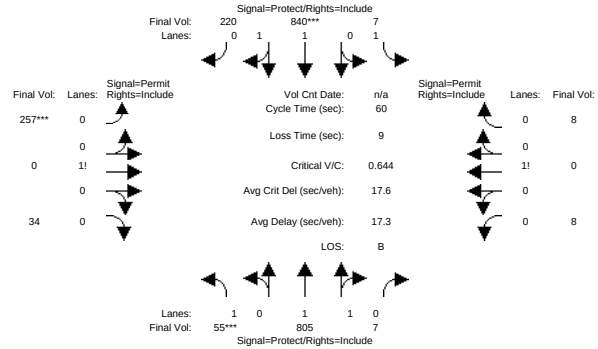



```
Street Name:         Robertson-SR233                        Ave 25
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10    10    0    10    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33  662     7     7  645   171   305    0    48     8    0     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   33  662     7     7  645   171   305    0    48     8    0     8
Added Vol:      0   53     0     0   94    51    29    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   33  715     7     7  739   222   334    0    48     8    0     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    33  715     7     7  739   222   334    0    48     8    0     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   33  715     7     7  739   222   334    0    48     8    0     8
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   33  715     7     7  739   222   334    0    48     8    0     8
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.95  0.95 0.92  0.92  0.72 1.00  0.72  0.81 1.00  0.81
Lanes:       1.00 1.98  0.02  1.00 1.54  0.46  0.87 0.00  0.13  0.50 0.00  0.50
Final Sat.:  1805 3571    35  1805 2679   805  1192    0   171   768    0   768
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.20  0.20  0.00 0.28  0.28  0.28 0.00  0.28  0.01 0.00  0.01
Crit Moves:  ****                 ****        ****
Green/Cycle: 0.12 0.30  0.30  0.18 0.36  0.36  0.37 0.00  0.37  0.37 0.00  0.37
Volume/Cap:  0.16 0.66  0.66  0.02 0.76  0.76  0.76 0.00  0.76  0.03 0.00  0.03
Delay/Veh:   24.2 19.7  19.7  20.4 19.5  19.5  23.1  0.0  23.1  12.1  0.0  12.1
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.2 19.7  19.7  20.4 19.5  19.5  23.1  0.0  23.1  12.1  0.0  12.1
LOS by Move:    C    B     B     C    B     B     C    A     C     B    A     B
HCM2kAvgQ:      1    7     7     0   10    10     8    0     8     0    0     0
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #6: Robertson-SR233/Ave 25

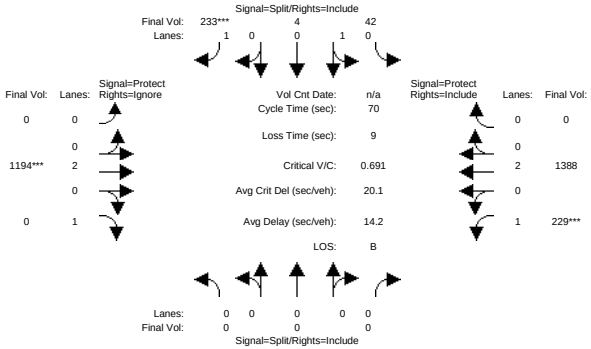



```
Street Name:         Robertson-SR233                        Ave 25
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10    10    0    10    10    0    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      55  711     7     7  787   191   206    0    34     8    0     8
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   55  711     7     7  787   191   206    0    34     8    0     8
Added Vol:      0   94     0     0   53    29    51    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   55  805     7     7  840   220   257    0    34     8    0     8
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    55  805     7     7  840   220   257    0    34     8    0     8
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   55  805     7     7  840   220   257    0    34     8    0     8
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   55  805     7     7  840   220   257    0    34     8    0     8
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.95  0.95 0.92  0.92  0.72 1.00  0.72  0.81 1.00  0.81
Lanes:       1.00 1.98  0.02  1.00 1.58  0.42  0.88 0.00  0.12  0.50 0.00  0.50
Final Sat.:  1805 3575    31  1805 2772   726  1202    0   159   772    0   772
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.23  0.23  0.00 0.30  0.30  0.21 0.00  0.21  0.01 0.00  0.01
Crit Moves:  ****                 ****        ****
Green/Cycle: 0.12 0.36  0.36  0.19 0.43  0.43  0.30 0.00  0.30  0.30 0.00  0.30
Volume/Cap:  0.26 0.63  0.63  0.02 0.70  0.70  0.70 0.00  0.70  0.03 0.00  0.03
Delay/Veh:   24.8 16.8  16.8  20.0 15.5  15.5  24.0  0.0  24.0  14.7  0.0  14.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.8 16.8  16.8  20.0 15.5  15.5  24.0  0.0  24.0  14.7  0.0  14.7
LOS by Move:    C    B     B     B    B     B     C    A     C     B    A     B
HCM2kAvgQ:      1    7     7     0   10    10     6    0     6     0    0     0
Note: Queue reported is the number of cars per lane.
```

CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #7: SR-99 SB Ramps / Robertson Blvd

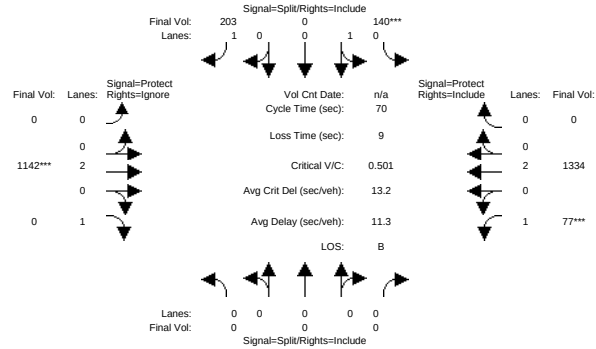



```
Street Name:          SR-99 SB Ramps                Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0    10    0    10     0   10    10     7   10     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    42    4   209     0 1180   808   229 1360     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    42    4   209     0 1180   808   229 1360     0
Added Vol:      0    0     0     0    0    24     0   14    16     0   28     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    42    4   233     0 1194   824   229 1388     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Volume:     0    0     0    42    4   233     0 1194     0   229 1388     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    42    4   233     0 1194     0   229 1388     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
FinalVolume:    0    0     0    42    4   233     0 1194     0   229 1388     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  1.00  0.98 0.98  0.85  1.00 0.95  1.00  0.95 0.95  1.00
Lanes:       0.00 0.00  0.00  0.91 0.09  1.00  0.00 2.00  1.00  1.00 2.00  0.00
Final Sat.:     0    0     0  1695  161  1615     0 3610  1900  1805 3610     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.02 0.02  0.14  0.00 0.33  0.00  0.13 0.38  0.00
Crit Moves:                                ****        ****        ****
Green/Cycle: 0.00 0.00  0.00  0.21 0.21  0.21  0.00 0.48  0.00  0.18 0.66  0.00
Volume/Cap:  0.00 0.00  0.00  0.12 0.12  0.69  0.00 0.69  0.00  0.69 0.58  0.00
Delay/Veh:    0.0  0.0   0.0  22.6 22.6  31.6   0.0 15.4   0.0  32.8  6.8   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  22.6 22.6  31.6   0.0 15.4   0.0  32.8  6.8   0.0
LOS by Move:    A    A     A     C    C     C     A    B     A     C    A     A
HCM2kAvgQ:      0    0     0     1    1     6     0   12     0     5    9     0
Note: Queue reported is the number of cars per lane.
```


CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation PM

Intersection #7: SR-99 SB Ramps / Robertson Blvd

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Street Name:          SR-99 SB Ramps                Robertson Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0    10    0    10     0   10    10     7   10     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   140    0   189     0 1118   559    77 1318     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   140    0   189     0 1118   559    77 1318     0
Added Vol:      0    0     0     0    0    14     0   24    28     0   16     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   140    0   203     0 1142   587    77 1334     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Volume:     0    0     0   140    0   203     0 1142     0    77 1334     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0   140    0   203     0 1142     0    77 1334     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
FinalVolume:    0    0     0   140    0   203     0 1142     0    77 1334     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  1.00  0.95 1.00  0.85  1.00 0.95  1.00  0.95 0.95  1.00
Lanes:       0.00 0.00  0.00  1.00 0.00  1.00  0.00 2.00  1.00  1.00 2.00  0.00
Final Sat.:     0    0     0  1809    0  1615     0 3610  1900  1805 3610     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.08 0.00  0.13  0.00 0.32  0.00  0.04 0.37  0.00
Crit Moves:                    ****                ****        ****
Green/Cycle: 0.00 0.00  0.00  0.22 0.00  0.22  0.00 0.55  0.00  0.10 0.65  0.00
Volume/Cap:  0.00 0.00  0.00  0.35 0.00  0.57  0.00 0.57  0.00  0.43 0.57  0.00
Delay/Veh:    0.0  0.0   0.0  23.7  0.0  26.7   0.0 10.7   0.0  31.2  7.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  23.7  0.0  26.7   0.0 10.7   0.0  31.2  7.0   0.0
LOS by Move:    A    A     A     C    A     C     A    B     A     C    A     A
HCM2kAvgQ:      0    0     0     3    0     5     0    9     0     2    8     0
Note: Queue reported is the number of cars per lane.
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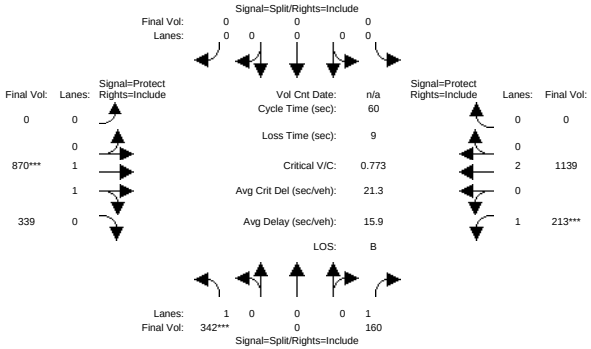
CALIFORNIA HIGH SPEED TRAIN
SACRAMENTO TO FRESNO
MAINTENANCE FACILITY_OPTION 7 - FAGUNDES_Mitigation

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2035 Build_Mitigation AM

Intersection #8: SR-99 NB Ramps / Robertson Avenue 26



Street Name:	SR-99 NB Ramps									Robertson Avenue 26					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	10	0	10	0	0	0	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	314	0	160	0	0	0	0	870	325	213	1139	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	314	0	160	0	0	0	0	870	325	213	1139	0
Added Vol:	28	0	0	0	0	0	0	0	14	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	342	0	160	0	0	0	0	870	339	213	1139	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	342	0	160	0	0	0	0	870	339	213	1139	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	342	0	160	0	0	0	0	870	339	213	1139	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	342	0	160	0	0	0	0	870	339	213	1139	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.91	0.91	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.44	0.56	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	2489	970	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.19	0.00	0.10	0.00	0.00	0.00	0.00	0.35	0.35	0.12	0.32	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.25	0.00	0.25	0.00	0.00	0.00	0.00	0.45	0.45	0.15	0.60	0.00
Volume/Cap:	0.77	0.00	0.40	0.00	0.00	0.00	0.00	0.77	0.77	0.77	0.52	0.00
Delay/Veh:	29.3	0.0	19.7	0.0	0.0	0.0	0.0	16.3	16.3	37.1	7.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.3	0.0	19.7	0.0	0.0	0.0	0.0	16.3	16.3	37.1	7.1	0.0
LOS by Move:	C	A	B	A	A	A	A	B	B	D	A	A
HCM2kAvgQ:	8	0	3	0	0	0	0	10	10	6	7	0

Note: Queue reported is the number of cars per lane.

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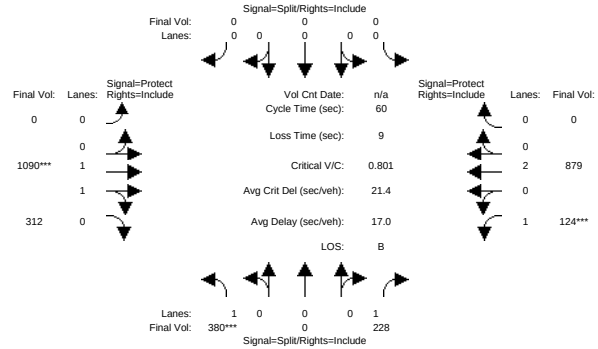
2035 Build_Mitigation PM

Intersection #8: SR-99 NB Ramps / Robertson Avenue 26



Street Name:	SR-99 NB Ramps									Robertson Avenue 26					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Min. Green:	10	0	10	0	0	0	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	364	0	228	0	0	0	0	1090	288	124	879	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	364	0	228	0	0	0	0	1090	288	124	879	0
Added Vol:	16	0	0	0	0	0	0	0	24	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	380	0	228	0	0	0	0	1090	312	124	879	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	380	0	228	0	0	0	0	1090	312	124	879	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	380	0	228	0	0	0	0	1090	312	124	879	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	380	0	228	0	0	0	0	1090	312	124	879	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.92	0.92	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.55	0.45	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	2714	777	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.21	0.00	0.14	0.00	0.00	0.00	0.00	0.40	0.40	0.07	0.24	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.25	0.00	0.25	0.00	0.00	0.00	0.00	0.48	0.48	0.12	0.60	0.00
Volume/Cap:	0.83	0.00	0.56	0.00	0.00	0.00	0.00	0.83	0.83	0.59	0.41	0.00
Delay/Veh:	33.8	0.0	21.3	0.0	0.0	0.0	0.0	17.3	17.3	29.5	6.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.8	0.0	21.3	0.0	0.0	0.0	0.0	17.3	17.3	29.5	6.5	0.0
LOS by Move:	C	A	C	A	A	A	A	B	B	C	A	A
HCM2kAvgQ:	10	0	5	0	0	0	0	12	12	3	5	0

Note: Queue reported is the number of cars per lane.

FRESNO AREA ANALYSIS

(BETWEEN HERNDON AVENUE AND SHAW AVENUE)

EXISTING-AM CONDITIONS

– LEVEL OF SERVICE SHEETS

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	2	5	9	693	648	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	5	10	753	704	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1478	705	707			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1478	705	707			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	99	99			
cM capacity (veh/h)	137	436	892			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	8	763	707
Volume Left	2	10	0
Volume Right	5	0	2
cSH	269	892	1700
Volume to Capacity	0.03	0.01	0.42
Queue Length 95th (ft)	2	1	0
Control Delay (s)	18.8	0.3	0.0
Lane LOS	C	A	
Approach Delay (s)	18.8	0.3	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Yield		Yield			Yield
Volume (vph)	9	1	5	4	1	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	1	5	4	1	3

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	11	10	4
Volume Left (vph)	10	0	1
Volume Right (vph)	1	4	0
Hadj (s)	0.15	-0.23	0.08
Departure Headway (s)	4.1	3.7	4.0
Degree Utilization, x	0.01	0.01	0.00
Capacity (veh/h)	872	967	888
Control Delay (s)	7.1	6.7	7.0
Approach Delay (s)	7.1	6.7	7.0
Approach LOS	A	A	A

Intersection Summary			
Delay	7.0		
HCM Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	56	870	4	5	773	8	1	0	1	2	0	267
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	946	4	5	840	9	1	0	1	2	0	290
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												2
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					913							
pX, platoon unblocked	0.88						0.88	0.88		0.88	0.88	0.88
vC, conflicting volume	849			950			1498	1927	473	1447	1923	420
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	560			950			1297	1783	473	1238	1778	74
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			99			98	100	100	98	100	66
cM capacity (veh/h)	888			719			66	66	538	109	66	858

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	61	473	473	4	5	420	420	9	2	292
Volume Left	61	0	0	0	5	0	0	0	1	2
Volume Right	0	0	0	4	0	0	0	9	1	290
cSH	888	1700	1700	1700	719	1700	1700	1700	117	864
Volume to Capacity	0.07	0.28	0.28	0.00	0.01	0.25	0.25	0.01	0.02	0.34
Queue Length 95th (ft)	6	0	0	0	1	0	0	0	1	38
Control Delay (s)	9.4	0.0	0.0	0.0	10.0	0.0	0.0	0.0	36.4	11.5
Lane LOS	A				B				E	B
Approach Delay (s)	0.6				0.1				36.4	11.5
Approach LOS									E	B

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	820	44	272	741	73	28	217	369	67	305	23
Ideal Flow (vphpl)	1900	1900	1900	1750	1750	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.3
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1543	3406	1392	1583	3167	1404	1530	3312	1553	1641	3312	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1543	3406	1392	1583	3167	1404	1530	3312	1553	1641	3312	1583
Peak-hour factor, PHF	0.75	0.79	0.62	0.96	0.94	0.68	0.88	0.75	0.76	0.84	0.92	0.48
Adj. Flow (vph)	12	1038	71	283	788	107	32	289	486	80	332	48
RTOR Reduction (vph)	0	0	16	0	0	9	0	0	193	0	0	13
Lane Group Flow (vph)	12	1038	55	283	788	98	32	289	293	80	332	35
Heavy Vehicles (%)	17%	6%	16%	5%	5%	15%	18%	9%	4%	10%	9%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	2.5	51.1	51.1	30.3	78.9	78.9	6.4	31.3	31.3	11.6	36.5	36.5
Effective Green, g (s)	2.5	52.4	52.4	30.3	80.2	80.2	6.4	32.6	32.6	11.6	37.8	36.5
Actuated g/C Ratio	0.02	0.37	0.37	0.21	0.56	0.56	0.04	0.23	0.23	0.08	0.26	0.26
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	27	1249	510	336	1777	788	69	756	354	133	876	404
v/s Ratio Prot	0.01	c0.30		c0.18	0.25		0.02	0.09		c0.05	0.10	
v/s Ratio Perm			0.04			0.07			c0.19			0.02
v/c Ratio	0.44	0.83	0.11	0.84	0.44	0.12	0.46	0.38	0.83	0.60	0.38	0.09
Uniform Delay, d1	69.5	41.2	29.8	54.0	18.3	14.8	66.6	46.6	52.5	63.4	43.0	40.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.2	4.6	0.0	16.5	0.1	0.0	1.8	0.1	14.0	5.2	0.1	0.0
Delay (s)	73.7	45.9	29.9	70.5	18.4	14.8	68.4	46.8	66.5	68.6	43.1	40.5
Level of Service	E	D	C	E	B	B	E	D	E	E	D	D
Approach Delay (s)		45.1			30.6			59.5			47.2	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM Average Control Delay	43.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	142.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	122	664	37	15	505	87	47	10	10	94	22	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	1770	1723		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.21	1.00		0.74	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5085	1583	396	1723		1377	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.70	0.70	0.70	0.86	0.86	0.86
Adj. Flow (vph)	134	730	41	18	594	102	67	14	14	109	26	92
RTOR Reduction (vph)	0	0	13	0	0	56	0	12	0	0	0	80
Lane Group Flow (vph)	134	730	28	18	594	46	67	16	0	109	26	12
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			3			4	
Permitted Phases			2			6	3			4		4
Actuated Green, G (s)	13.5	65.0	65.0	2.8	54.3	54.3	18.8	18.8		15.7	15.7	15.7
Effective Green, g (s)	13.5	65.0	65.0	2.8	54.3	54.3	18.8	18.8		15.7	15.7	15.7
Actuated g/C Ratio	0.11	0.54	0.54	0.02	0.45	0.45	0.16	0.16		0.13	0.13	0.13
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	199	1917	857	41	2301	716	62	270		180	244	207
v/s Ratio Prot	c0.08	c0.21		0.01	0.12			0.01			0.01	
v/s Ratio Perm			0.02			0.03	c0.17			c0.08		0.01
v/c Ratio	0.67	0.38	0.03	0.44	0.26	0.06	1.08	0.06		0.61	0.11	0.06
Uniform Delay, d1	51.1	15.9	12.8	57.8	20.4	18.5	50.6	43.1		49.2	46.0	45.7
Progression Factor	1.00	1.00	1.00	0.63	1.42	3.78	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.9	0.6	0.1	2.3	0.2	0.1	138.3	0.0		3.9	0.1	0.0
Delay (s)	58.0	16.5	12.9	38.4	29.1	70.1	188.9	43.1		53.1	46.0	45.7
Level of Service	E	B	B	D	C	E	F	D		D	D	D
Approach Delay (s)		22.4			35.2			146.0			49.3	
Approach LOS		C			D			F			D	

Intersection Summary			
HCM Average Control Delay	36.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	920	55	103	833	56	148	161	57	180	561	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	4.9	4.0	4.9	4.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.78	0.78	0.78	0.85	0.85	0.85	0.95	0.95	0.95
Adj. Flow (vph)	106	1057	63	132	1068	72	174	189	67	189	591	137
RTOR Reduction (vph)	0	0	32	0	0	35	0	0	41	0	0	72
Lane Group Flow (vph)	106	1057	31	132	1068	37	174	189	26	189	591	65
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		custom	Prot		Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			2			2
Actuated Green, G (s)	8.1	35.6	35.6	9.4	36.9	36.9	10.4	45.4	46.4	11.0	46.4	46.4
Effective Green, g (s)	8.1	35.6	35.6	9.4	36.9	36.9	10.4	45.4	46.4	11.0	46.4	46.4
Actuated g/C Ratio	0.07	0.30	0.30	0.08	0.31	0.31	0.09	0.38	0.39	0.09	0.39	0.39
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	4.9	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6
Lane Grp Cap (vph)	232	1466	470	269	1519	487	298	1339	612	315	1368	612
v/s Ratio Prot	0.03	c0.21		0.04	c0.22		0.05	0.05		c0.06	c0.17	
v/s Ratio Perm			0.02			0.02			0.02			0.04
v/c Ratio	0.46	0.72	0.07	0.49	0.70	0.08	0.58	0.14	0.04	0.60	0.43	0.11
Uniform Delay, d1	53.8	37.8	30.3	53.0	36.7	29.5	52.7	24.5	22.9	52.4	27.1	23.5
Progression Factor	1.12	1.05	1.51	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.8	0.1	0.5	1.6	0.1	1.9	0.2	0.1	2.2	1.0	0.3
Delay (s)	60.9	41.4	45.7	53.5	38.3	29.6	54.6	24.7	23.1	54.6	28.1	23.9
Level of Service	E	D	D	D	D	C	D	C	C	D	C	C
Approach Delay (s)		43.3			39.4			36.6			32.9	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	38.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	55	5	3	390	359	309
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	60	5	3	424	390	336
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1257		
pX, platoon unblocked	0.88					
vC, conflicting volume	821	195	726			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	731	195	726			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	81	99	100			
cM capacity (veh/h)	314	813	873			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2	SB 3
Volume Total	65	427	195	195	336
Volume Left	60	3	0	0	0
Volume Right	5	0	0	0	336
cSH	331	873	1700	1700	1700
Volume to Capacity	0.20	0.00	0.11	0.11	0.20
Queue Length 95th (ft)	18	0	0	0	0
Control Delay (s)	18.5	0.1	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	18.5	0.1	0.0		
Approach LOS	C				

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	305	61	69	396	2	887	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1583	1770	3539	1770	3539	1583
Peak-hour factor, PHF	0.81	0.81	0.90	0.90	0.92	0.86	0.86
Adj. Flow (vph)	377	75	77	440	2	1031	547
RTOR Reduction (vph)	0	56	0	0	0	0	168
Lane Group Flow (vph)	377	19	77	440	2	1031	379
Turn Type		custom	Prot		Prot		Perm
Protected Phases	3	8	1	6	5	2	
Permitted Phases							2
Actuated Green, G (s)	9.7	15.6	4.6	31.1	0.8	27.3	27.3
Effective Green, g (s)	9.7	15.6	4.6	31.1	0.8	27.3	27.3
Actuated g/C Ratio	0.16	0.25	0.08	0.51	0.01	0.45	0.45
Clearance Time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Vehicle Extension (s)	3.5	3.5	2.0	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	543	403	133	1795	23	1576	705
v/s Ratio Prot	c0.11	c0.01	c0.04	c0.12	0.00	c0.29	
v/s Ratio Perm							0.24
v/c Ratio	0.69	0.05	0.58	0.25	0.09	0.65	0.54
Uniform Delay, d1	24.4	17.2	27.4	8.5	29.9	13.3	12.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.0	0.1	3.8	0.1	0.6	1.0	0.9
Delay (s)	28.4	17.3	31.2	8.6	30.5	14.3	13.3
Level of Service	C	B	C	A	C	B	B
Approach Delay (s)	26.5			11.9		14.0	
Approach LOS	C			B		B	

Intersection Summary			
HCM Average Control Delay	15.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	61.3	Sum of lost time (s)	17.8
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	339	25	475	45	21	96	175	515	21	31	38	882
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Peak-hour factor, PHF	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88	0.91	0.91	0.91
Adj. Flow (vph)	446	33	625	51	24	109	199	585	24	34	42	969
RTOR Reduction (vph)	0	0	175	0	0	94	0	0	9	0	0	0
Lane Group Flow (vph)	446	33	450	51	24	15	199	585	15	0	76	969
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot	Prot	
Protected Phases	3	8		7	4		1	6		5	5	2
Permitted Phases			8			4			6			
Actuated Green, G (s)	27.1	37.0	37.0	4.8	14.7	14.7	12.1	38.2	38.2		7.0	33.1
Effective Green, g (s)	27.1	37.0	37.0	4.8	14.7	14.7	12.1	38.2	38.2		7.0	33.1
Actuated g/C Ratio	0.26	0.35	0.35	0.05	0.14	0.14	0.12	0.36	0.36		0.07	0.32
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0	2.0	4.3	4.3		2.0	4.3
Lane Grp Cap (vph)	458	658	559	81	496	222	204	1290	577		118	1118
v/s Ratio Prot	c0.25	0.02		0.03	0.01		c0.11	0.17			0.04	c0.27
v/s Ratio Perm			c0.28			0.01			0.01			
v/c Ratio	0.97	0.05	0.80	0.63	0.05	0.07	0.98	0.45	0.03		0.64	0.87
Uniform Delay, d1	38.5	22.3	30.6	49.1	39.0	39.1	46.2	25.4	21.4		47.7	33.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	35.0	0.0	7.8	10.5	0.0	0.0	55.3	0.4	0.0		8.7	7.6
Delay (s)	73.5	22.3	38.4	59.6	39.0	39.2	101.5	25.8	21.4		56.4	41.4
Level of Service	E	C	D	E	D	D	F	C	C		E	D
Approach Delay (s)		52.1			44.8			44.3				40.6
Approach LOS		D			D			D				D

Intersection Summary			
HCM Average Control Delay	45.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	104.8	Sum of lost time (s)	12.9
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

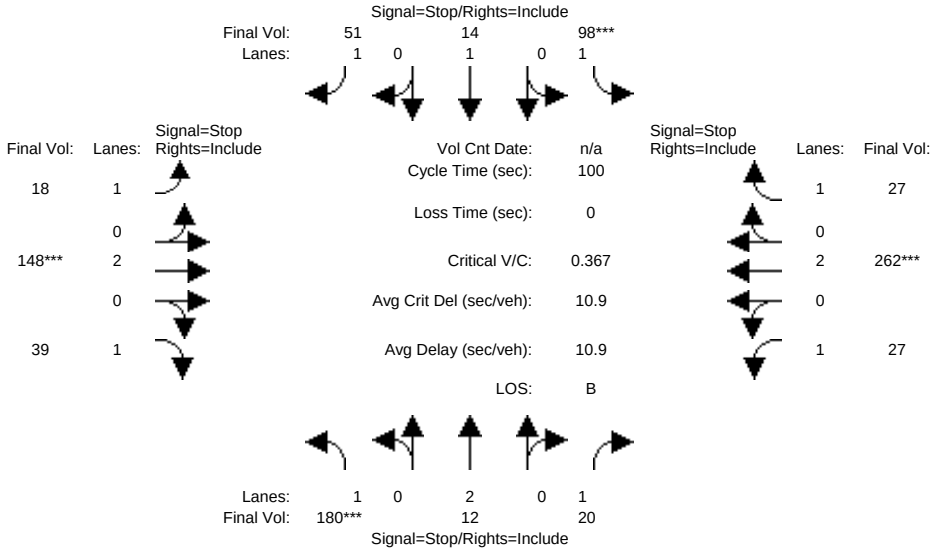
Movement	SBR
Lane Configurations	
Volume (vph)	125
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.9
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	137
RTOR Reduction (vph)	40
Lane Group Flow (vph)	97
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	33.1
Effective Green, g (s)	33.1
Actuated g/C Ratio	0.32
Clearance Time (s)	4.9
Vehicle Extension (s)	4.3
Lane Grp Cap (vph)	500
v/s Ratio Prot	
v/s Ratio Perm	0.06
v/c Ratio	0.19
Uniform Delay, d1	26.1
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	26.4
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #10: Bullard Ave / Dante Ave

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Street Name:          Bullard Avenue                    Dante Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     166   11    18    90   13    47    17  136    36    25  241    25
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  166   11    18    90   13    47    17  136    36    25  241    25
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  166   11    18    90   13    47    17  136    36    25  241    25
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:   180   12    20    98   14    51    18  148    39    27  262    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  180   12    20    98   14    51    18  148    39    27  262    27
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  180   12    20    98   14    51    18  148    39    27  262    27
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 2.00  1.00  1.00 1.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:   492 1042   581   477  507   564   483 1041   577   505 1091   607
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.37 0.01  0.03  0.21 0.03  0.09  0.04 0.14  0.07  0.05 0.24  0.04
Crit Moves:  ****             ****                   ****             ****
Delay/Veh:   13.4  9.3   8.7  11.5  9.5   9.2  10.0 10.2   8.9   9.9 10.8   8.5
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  13.4  9.3   8.7  11.5  9.5   9.2  10.0 10.2   8.9   9.9 10.8   8.5
LOS by Move:    B    A     A     B    A     A     A    B     A     A    B     A
ApproachDel:      12.7             10.6              9.9             10.6
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       12.7             10.6              9.9             10.6
LOS by Appr:         B                B                A                B
AllWayAvgQ:   0.5  0.0   0.0   0.2  0.0   0.1   0.0  0.1   0.1   0.1  0.3   0.0
Note: Queue reported is the number of cars per lane.
                Peak Hour Volume Signal Warrant Report [Urban]
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Intersection #10 Bullard Ave / Dante Ave
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Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0 2 0 1			1 0 1 0 1			1 0 2 0 1			1 0 2 0 1		
Initial Vol:	166	11	18	90	13	47	17	136	36	25	241	25

Major Street Volume: 480
Minor Approach Volume: 195
Minor Approach Volume Threshold: 690

SIGNAL WARRANT DISCLAIMER

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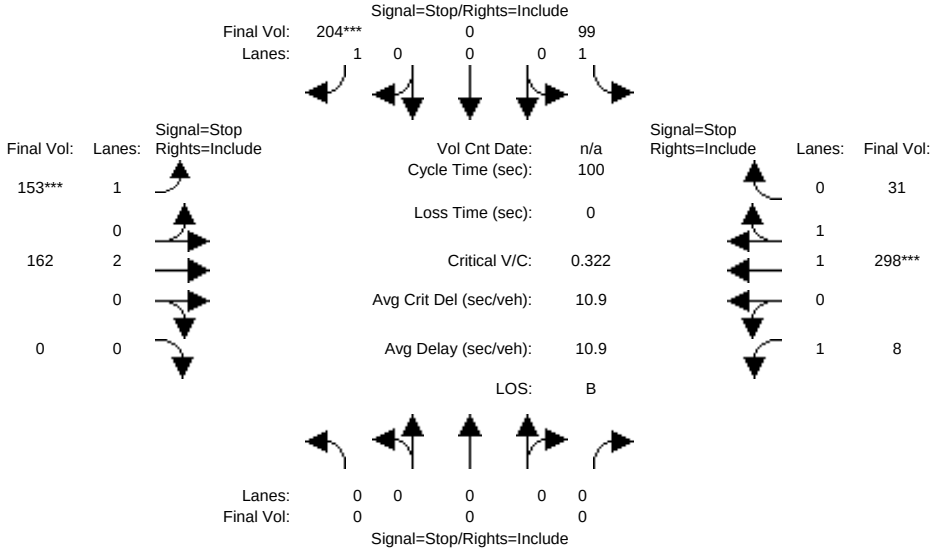
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #11: Bullard Ave / Polk Ave

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Street Name:             Polk Ave                          Bullard Ave
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    83    0   171   118  125     0     5  194    20
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    83    0   171   118  125     0     5  194    20
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    83    0   171   118  125     0     5  194    20
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  0.84 0.84  0.84  0.77 0.77  0.77  0.65 0.65  0.65
PHF Volume:     0    0     0    99    0   204   153  162     0     8  298    31
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    99    0   204   153  162     0     8  298    31
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    99    0   204   153  162     0     8  298    31
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  1.00 0.00  1.00  1.00 2.00  0.00  1.00 1.81  0.19
Final Sat.:     0    0     0   521    0   632   520 1116     0   519 1031   107
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.19 xxxx  0.32  0.29 0.15  xxxx  0.01 0.29  0.29
Crit Moves:                                ****  ****                   ****
Delay/Veh:    0.0  0.0   0.0  10.8  0.0  10.5  12.0  9.9   0.0   9.5 11.1  11.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  10.8  0.0  10.5  12.0  9.9   0.0   9.5 11.1  11.0
LOS by Move:    *    *     *     B    *     B     B    A     *     A    B     B
ApproachDel:    xxxxxx             10.6             10.9             11.1
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             10.6             10.9             11.1
LOS by Appr:         *               B                B                B
AllWayAvgQ:   0.0  0.0   0.0   0.2  0.0   0.4   0.4  0.2   0.0   0.0  0.4   0.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #11 Bullard Ave / Polk Ave

****

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Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	0	0	0	0	1	0	0	0	1	1	0	2	0	0	1	0	1	1	0
Initial Vol:	0		0		0	83		0		171	118		125		0	5		194		20

Major Street Volume: 462
Minor Approach Volume: 254
Minor Approach Volume Threshold: 706

SIGNAL WARRANT DISCLAIMER

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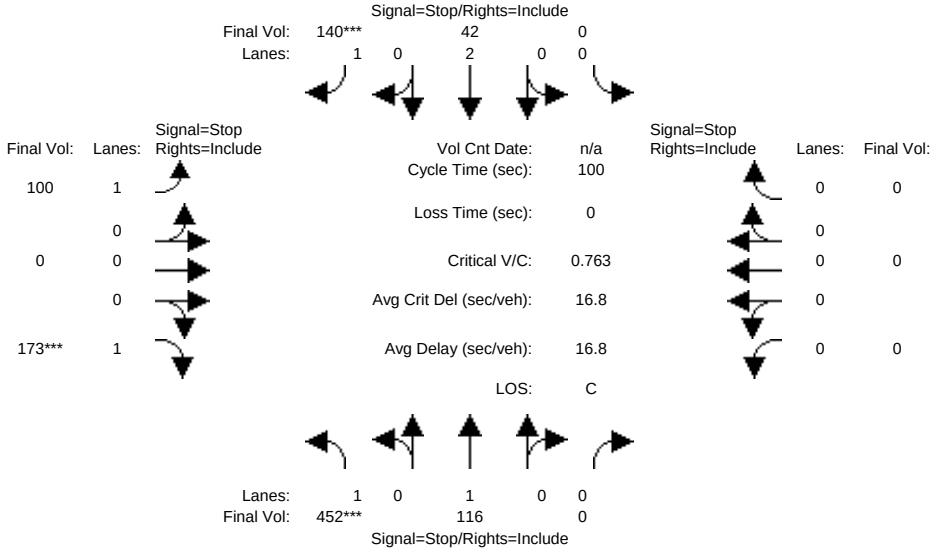
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #12: Bullard Ave / Carnegie Ave




```
Street Name:          Bullard Avenue                    Carnegie Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     416  107     0     0   39   129    92    0   159     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  416  107     0     0   39   129    92    0   159     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  416  107     0     0   39   129    92    0   159     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:   452  116     0     0   42   140   100    0   173     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  452  116     0     0   42   140   100    0   173     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  452  116     0     0   42   140   100    0   173     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.00  0.00  0.00 2.00  1.00  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:   592  638     0     0 1043   585   500    0   600     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.76 0.18  xxxx  xxxx 0.04  0.24  0.20 xxxx  0.29  xxxx xxxx  xxxx
Crit Moves:  ****                      ****              ****
Delay/Veh:   25.0  9.4   0.0   0.0  9.6  10.4  11.2  0.0  10.5   0.0  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  25.0  9.4   0.0   0.0  9.6  10.4  11.2  0.0  10.5   0.0  0.0   0.0
LOS by Move:    C    A     *     *    A     B     B    *     B     *    *     *
ApproachDel:      21.8             10.2             10.7           xxxxxx
Delay Adj:        1.00             1.00             1.00            xxxxx
ApprAdjDel:       21.8             10.2             10.7           xxxxxx
LOS by Appr:         C                B                B                *
AllWayAvgQ:   2.7  0.2   0.0   0.0  0.0   0.3   0.2  0.0   0.4   0.0  0.0   0.0
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #12 Bullard Ave / Carnegie Ave

****

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Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	0	1	0 0	0	0	2	0 1	1	0	0	0 1	0	0	0	0 0
Initial Vol:	416	107		0	0	39	129		92		0	159	0		0	0

Major Street Volume: 691
Minor Approach Volume: 251
Minor Approach Volume Threshold: 533

SIGNAL WARRANT DISCLAIMER

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	1	0	0	435	0	119	0	108	188	35	63	2
Peak Hour Factor	0.25	1.00	1.00	0.78	0.78	0.78	0.89	0.89	0.89	0.69	0.69	0.69
Hourly flow rate (vph)	4	0	0	558	0	153	0	121	211	51	91	3

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	4	710	121	211	96	49
Volume Left (vph)	4	558	0	0	51	0
Volume Right (vph)	0	153	0	211	0	3
Hadj (s)	0.23	0.06	0.03	-0.67	0.30	-0.01
Departure Headway (s)	6.7	5.3	6.7	6.0	7.3	7.0
Degree Utilization, x	0.01	1.05	0.23	0.35	0.19	0.09
Capacity (veh/h)	503	674	526	588	482	504
Control Delay (s)	9.7	69.4	10.5	11.1	10.8	9.5
Approach Delay (s)	9.7	69.4	10.9		10.4	
Approach LOS	A	F	B		B	

Intersection Summary			
Delay	45.7		
HCM Level of Service	E		
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		

FRESNO AREA ANALYSIS

(BETWEEN HERNDON AVENUE AND SHAW AVENUE)

EXISTING-PM CONDITIONS

– LEVEL OF SERVICE SHEETS

HCM Unsignalized Intersection Capacity Analysis
1: Santa Ana Avenue & Golden State Boulevard

4/13/2011

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	1	10	3	1096	584	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	11	3	1191	635	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1833	635	636			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1833	635	636			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	98	100			
cM capacity (veh/h)	83	478	948			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	12	1195	636
Volume Left	1	3	0
Volume Right	11	0	1
cSH	334	948	1700
Volume to Capacity	0.04	0.00	0.37
Queue Length 95th (ft)	3	0	0
Control Delay (s)	16.2	0.1	0.0
Lane LOS	C	A	
Approach Delay (s)	16.2	0.1	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Yield		Yield			Yield
Volume (vph)	0	1	6	3	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1	7	3	1	0

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	1	10	1
Volume Left (vph)	0	0	1
Volume Right (vph)	1	3	0
Hadj (s)	-0.57	-0.17	0.23
Departure Headway (s)	3.4	3.7	4.1
Degree Utilization, x	0.00	0.01	0.00
Capacity (veh/h)	1061	959	863
Control Delay (s)	6.4	6.8	7.1
Approach Delay (s)	6.4	6.8	7.1
Approach LOS	A	A	A

Intersection Summary			
Delay	6.8		
HCM Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	75	747	0	1	1190	10	7	0	5	2	0	124
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.78	0.78	0.78	0.50	0.50	0.50	0.76	0.76	0.76
Hourly flow rate (vph)	84	839	0	1	1526	13	14	0	10	3	0	163
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												2
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					913							
pX, platoon unblocked	0.65						0.65	0.65		0.65	0.65	0.65
vC, conflicting volume	1538			839			1773	2549	420	2126	2536	763
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	747			839			1109	2305	420	1653	2285	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	85			100			81	100	98	93	100	77
cM capacity (veh/h)	556			791			72	21	582	36	21	703

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	84	420	420	0	1	763	763	13	24	166
Volume Left	84	0	0	0	1	0	0	0	14	3
Volume Right	0	0	0	0	0	0	0	13	10	163
cSH	556	1700	1700	1700	791	1700	1700	1700	114	715
Volume to Capacity	0.15	0.25	0.25	0.00	0.00	0.45	0.45	0.01	0.21	0.23
Queue Length 95th (ft)	13	0	0	0	0	0	0	0	19	22
Control Delay (s)	12.6	0.0	0.0	0.0	9.6	0.0	0.0	0.0	44.9	13.2
Lane LOS	B				A				E	B
Approach Delay (s)	1.2				0.0				44.9	13.2
Approach LOS									E	B

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	727	18	339	1153	89	38	382	617	94	170	10
Ideal Flow (vphpl)	1900	1900	1900	1750	1750	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1543	3406	1392	1583	3167	1404	1530	3312	1553	1641	3312	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1543	3406	1392	1583	3167	1404	1530	3312	1553	1641	3312	1583
Peak-hour factor, PHF	0.75	0.79	0.62	0.96	0.94	0.68	0.88	0.75	0.76	0.84	0.92	0.48
Adj. Flow (vph)	12	920	29	353	1227	131	43	509	812	112	185	21
RTOR Reduction (vph)	0	0	11	0	0	14	0	0	309	0	0	7
Lane Group Flow (vph)	12	920	18	353	1227	117	43	509	503	112	185	14
Heavy Vehicles (%)	17%	6%	16%	5%	5%	15%	18%	9%	4%	10%	9%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	14.8	49.5	49.5	38.0	72.7	72.7	8.0	47.8	47.8	15.7	55.5	55.5
Effective Green, g (s)	14.8	50.8	50.8	38.0	74.0	74.0	8.0	49.1	49.1	15.7	56.8	56.8
Actuated g/C Ratio	0.09	0.30	0.30	0.22	0.44	0.44	0.05	0.29	0.29	0.09	0.33	0.33
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	135	1020	417	355	1382	613	72	959	450	152	1109	530
v/s Ratio Prot	0.01	c0.27		c0.22	c0.39		0.03	0.15		c0.07	0.06	
v/s Ratio Perm			0.01			0.08			c0.32			0.01
v/c Ratio	0.09	0.90	0.04	0.99	0.89	0.19	0.60	0.53	1.12	0.74	0.17	0.03
Uniform Delay, d1	71.2	57.0	42.2	65.7	44.0	29.4	79.2	50.6	60.2	74.9	39.7	37.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	12.6	0.2	46.0	8.8	0.7	8.6	0.3	78.5	14.7	0.0	0.0
Delay (s)	71.3	69.6	42.4	111.6	52.8	30.1	87.8	50.9	138.8	89.7	39.8	37.9
Level of Service	E	E	D	F	D	C	F	D	F	F	D	D
Approach Delay (s)		68.8			63.2			104.4			57.2	
Approach LOS		E			E			F			E	

Intersection Summary			
HCM Average Control Delay	76.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	169.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	352	1195	15	19	1130	313	30	14	17	330	3	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	1770	1708		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.55	1.00		0.73	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5085	1583	1021	1708		1356	1863	1583
Peak-hour factor, PHF	0.66	0.66	0.66	0.91	0.91	0.91	0.69	0.69	0.69	0.83	0.83	0.83
Adj. Flow (vph)	533	1811	23	21	1242	344	43	20	25	398	4	172
RTOR Reduction (vph)	0	0	3	0	0	225	0	23	0	0	0	121
Lane Group Flow (vph)	533	1811	20	21	1242	119	43	22	0	398	4	51
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			3			4	
Permitted Phases			2			6	3			4		4
Actuated Green, G (s)	24.4	56.6	56.6	2.9	35.1	35.1	7.3	7.3		35.5	35.5	35.5
Effective Green, g (s)	21.4	53.6	56.6	2.9	35.1	35.1	7.3	7.3		35.5	35.5	35.5
Actuated g/C Ratio	0.18	0.45	0.47	0.02	0.29	0.29	0.06	0.06		0.30	0.30	0.30
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	316	1581	747	43	1487	463	62	104		401	551	468
v/s Ratio Prot	c0.30	c0.51		0.01	0.24			0.01			0.00	
v/s Ratio Perm			0.01			0.08	c0.04			c0.29		0.03
v/c Ratio	1.69	1.15	0.03	0.49	0.84	0.26	0.69	0.21		0.99	0.01	0.11
Uniform Delay, d1	49.3	33.2	17.0	57.8	39.7	32.5	55.3	53.6		42.1	29.8	30.7
Progression Factor	1.00	1.00	1.00	0.57	1.70	6.29	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	322.4	73.5	0.1	0.3	0.5	0.1	23.7	0.4		42.7	0.0	0.0
Delay (s)	371.7	106.7	17.0	33.3	68.2	204.5	78.9	54.0		84.8	29.8	30.8
Level of Service	F	F	B	C	E	F	E	D		F	C	C
Approach Delay (s)		165.5			96.9			66.2			68.3	
Approach LOS		F			F			E			E	

Intersection Summary			
HCM Average Control Delay	127.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.8
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	262	1329	127	184	1472	159	240	611	132	309	308	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	4.9	4.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.78	0.78	0.78	0.85	0.85	0.85	0.95	0.95	0.95
Adj. Flow (vph)	301	1528	146	236	1887	204	282	719	155	325	324	159
RTOR Reduction (vph)	0	0	49	0	0	53	0	0	60	0	0	109
Lane Group Flow (vph)	301	1528	97	236	1887	151	282	719	95	325	324	50
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	10.1	38.7	38.7	12.1	40.7	40.7	12.9	36.1	36.1	14.5	38.1	38.1
Effective Green, g (s)	10.1	38.7	38.7	12.1	40.7	40.7	12.9	36.1	36.1	14.5	38.1	38.1
Actuated g/C Ratio	0.08	0.32	0.32	0.10	0.34	0.34	0.11	0.30	0.30	0.12	0.32	0.32
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6
Lane Grp Cap (vph)	289	1593	511	346	1675	537	369	1065	476	415	1124	503
v/s Ratio Prot	0.09	c0.31		0.07	c0.38		0.08	c0.20		c0.09	0.09	
v/s Ratio Perm			0.06			0.10			0.06			0.03
v/c Ratio	1.04	0.96	0.19	0.68	1.13	0.28	0.76	0.68	0.20	0.78	0.29	0.10
Uniform Delay, d1	55.0	39.9	29.3	52.1	39.7	29.0	52.1	36.8	31.2	51.2	30.8	28.9
Progression Factor	0.85	1.16	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.1	2.0	0.0	4.4	65.3	0.4	8.2	3.4	0.9	8.6	0.6	0.4
Delay (s)	74.5	48.1	39.0	56.5	104.9	29.3	60.3	40.2	32.1	59.9	31.4	29.3
Level of Service	E	D	D	E	F	C	E	D	C	E	C	C
Approach Delay (s)		51.5			93.4			44.0			42.4	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM Average Control Delay	64.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	76	8	8	498	237	122
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.71	0.71	0.82	0.82
Hourly flow rate (vph)	94	10	11	701	289	149
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1257		
pX, platoon unblocked	0.80					
vC, conflicting volume	1013	145	438			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	889	145	438			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	58	99	99			
cM capacity (veh/h)	223	877	1118			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2	SB 3
Volume Total	104	713	145	145	149
Volume Left	94	11	0	0	0
Volume Right	10	0	0	0	149
cSH	240	1118	1700	1700	1700
Volume to Capacity	0.43	0.01	0.09	0.09	0.09
Queue Length 95th (ft)	51	1	0	0	0
Control Delay (s)	30.9	0.3	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	30.9	0.3	0.0		
Approach LOS	D				

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	561	71	59	1074	3	834	359
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1583	1770	3539	1770	3539	1583
Peak-hour factor, PHF	0.81	0.81	0.90	0.90	0.92	0.86	0.86
Adj. Flow (vph)	693	88	66	1193	3	970	417
RTOR Reduction (vph)	0	57	0	0	0	0	123
Lane Group Flow (vph)	693	31	66	1193	3	970	294
Turn Type		custom	Prot		Prot		Perm
Protected Phases	3	8	1	6	5	2	
Permitted Phases							2
Actuated Green, G (s)	20.9	26.9	4.9	35.5	0.8	31.4	31.4
Effective Green, g (s)	20.9	26.9	4.9	35.5	0.8	31.4	31.4
Actuated g/C Ratio	0.27	0.35	0.06	0.46	0.01	0.41	0.41
Clearance Time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Vehicle Extension (s)	3.5	3.5	2.0	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	932	553	113	1632	18	1443	646
v/s Ratio Prot	c0.20	c0.02	c0.04	c0.34	0.00	0.27	
v/s Ratio Perm							0.19
v/c Ratio	0.74	0.06	0.58	0.73	0.17	0.67	0.46
Uniform Delay, d1	25.6	16.6	35.1	16.9	37.8	18.6	16.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.4	0.0	4.9	1.8	1.6	1.3	0.6
Delay (s)	29.0	16.7	39.9	18.6	39.4	19.9	17.2
Level of Service	C	B	D	B	D	B	B
Approach Delay (s)	27.6			19.8		19.1	
Approach LOS	C			B		B	

Intersection Summary			
HCM Average Control Delay	21.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	77.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	202	40	311	88	116	58	421	905	79	89	120	703
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.95	0.95	0.95	0.96	0.96	0.96
Adj. Flow (vph)	232	46	357	94	123	62	443	953	83	93	125	732
RTOR Reduction (vph)	0	0	291	0	0	53	0	0	21	0	0	0
Lane Group Flow (vph)	232	46	66	94	123	9	443	953	62	0	218	732
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot	Prot	
Protected Phases	3	8		7	4		1	6		5	5	2
Permitted Phases			8			4			6			
Actuated Green, G (s)	11.1	16.4	16.4	6.8	12.1	12.1	21.2	34.0	34.0		13.1	25.9
Effective Green, g (s)	11.1	16.4	16.4	6.8	12.1	12.1	21.2	34.0	34.0		13.1	25.9
Actuated g/C Ratio	0.13	0.19	0.19	0.08	0.14	0.14	0.24	0.39	0.39		0.15	0.29
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0	2.0	4.3	4.3		2.0	4.3
Lane Grp Cap (vph)	223	347	295	137	486	217	426	1366	611		263	1040
v/s Ratio Prot	c0.13	0.02		0.05	0.03		c0.25	c0.27			0.12	0.21
v/s Ratio Perm			c0.04			0.01			0.04			
v/c Ratio	1.04	0.13	0.23	0.69	0.25	0.04	1.04	0.70	0.10		0.83	0.70
Uniform Delay, d1	38.5	29.9	30.5	39.6	34.0	33.0	33.4	22.7	17.3		36.4	27.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	71.2	0.1	0.1	10.8	0.1	0.0	54.3	1.8	0.1		18.1	2.4
Delay (s)	109.7	30.0	30.6	50.4	34.1	33.0	87.8	24.5	17.4		54.6	30.1
Level of Service	F	C	C	D	C	C	F	C	B		D	C
Approach Delay (s)		59.5			39.3			43.1				33.2
Approach LOS		E			D			D				C

Intersection Summary			
HCM Average Control Delay	42.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	88.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

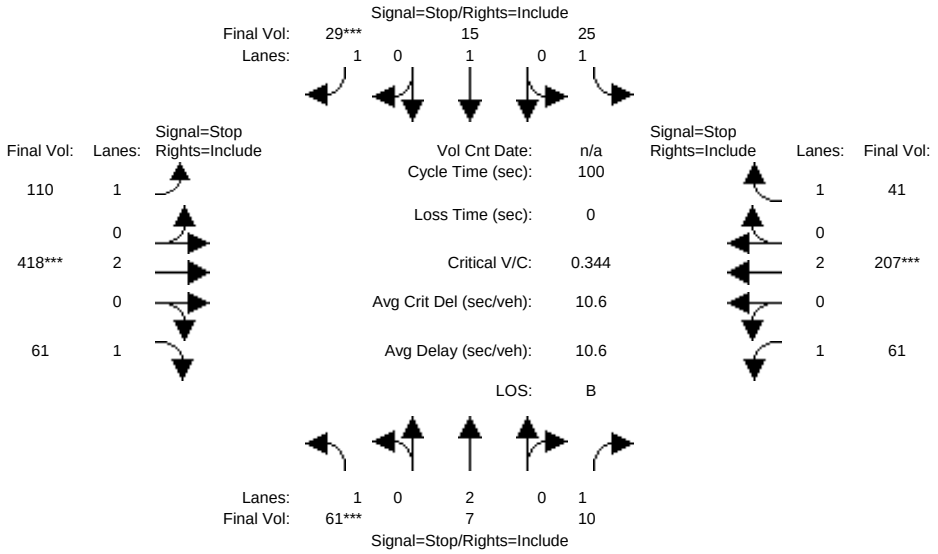
Movement	SBR
Lane Configurations	
Volume (vph)	294
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.9
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.96
Adj. Flow (vph)	306
RTOR Reduction (vph)	133
Lane Group Flow (vph)	173
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	25.9
Effective Green, g (s)	25.9
Actuated g/C Ratio	0.29
Clearance Time (s)	4.9
Vehicle Extension (s)	4.3
Lane Grp Cap (vph)	465
v/s Ratio Prot	
v/s Ratio Perm	0.11
v/c Ratio	0.37
Uniform Delay, d1	24.6
Progression Factor	1.00
Incremental Delay, d2	0.8
Delay (s)	25.4
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #10: Bullard Ave / Dante Ave



Street Name:	Bullard Avenue						Dante Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	56	6	9	23	14	27	101	385	56	56	190	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	6	9	23	14	27	101	385	56	56	190	38
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	6	9	23	14	27	101	385	56	56	190	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	61	7	10	25	15	29	110	418	61	61	207	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	7	10	25	15	29	110	418	61	61	207	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	7	10	25	15	29	110	418	61	61	207	41
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	445	944	519	441	469	517	559	1218	685	512	1105	616
Capacity Analysis Module:												
Vol/Sat:	0.14	0.01	0.02	0.06	0.03	0.06	0.20	0.34	0.09	0.12	0.19	0.07
Crit Moves:	****					****		****			****	
Delay/Veh:	11.3	9.7	9.1	10.6	9.9	9.4	10.4	11.3	8.2	10.3	10.3	8.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.3	9.7	9.1	10.6	9.9	9.4	10.4	11.3	8.2	10.3	10.3	8.6
LOS by Move:	B	A	A	B	A	A	B	B	A	B	B	A
ApproachDel:	10.9			9.9			10.9			10.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	10.9			9.9			10.9			10.1		
LOS by Appr:	B			A			B			B		
AllWayAvgQ:	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.5	0.1	0.1	0.2	0.1

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

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Intersection #10 Bullard Ave / Dante Ave

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Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0 2 0 1			1 0 1 0 1			1 0 2 0 1			1 0 2 0 1		
Initial Vol:	56	6	9	23	14	27	101	385	56	56	190	38

Major Street Volume: 826
Minor Approach Volume: 71
Minor Approach Volume Threshold: 456

SIGNAL WARRANT DISCLAIMER

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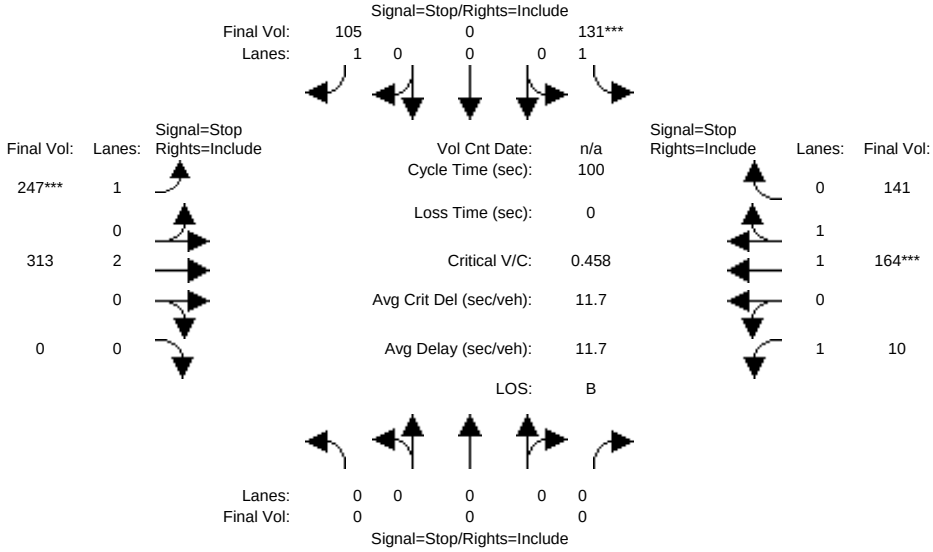
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #11: Bullard Ave / Polk Ave



Street Name:	Polk Ave						Bullard Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	0	0	0	124	0	100	215	272	0	9	141	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	124	0	100	215	272	0	9	141	121
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	124	0	100	215	272	0	9	141	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.95	0.95	0.95	0.87	0.87	0.87	0.86	0.86	0.86
PHF Volume:	0	0	0	131	0	105	247	313	0	10	164	141
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	131	0	105	247	313	0	10	164	141
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	131	0	105	247	313	0	10	164	141
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	1.00	1.08	0.92
Final Sat.:	0	0	0	490	0	584	539	1161	0	492	578	543
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.27	xxxx	0.18	0.46	0.27	xxxx	0.02	0.28	0.26
Crit Moves:				****			****				****	
Delay/Veh:	0.0	0.0	0.0	12.1	0.0	9.7	14.4	10.9	0.0	9.9	11.6	10.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	12.1	0.0	9.7	14.4	10.9	0.0	9.9	11.6	10.5
LOS by Move:	*	*	*	B	*	A	B	B	*	A	B	B
ApproachDel:	xxxxxx			11.0			12.4			11.0		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			11.0			12.4			11.0		
LOS by Appr:	*			B			B			B		
AllWayAvgQ:	0.0	0.0	0.0	0.3	0.0	0.2	0.8	0.3	0.0	0.0	0.4	0.3

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #11 Bullard Ave / Polk Ave

****

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Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	0	0	0	0	1	0	0	0	1	1	0	2	0	0	1	0	1	1	0
Initial Vol:	0		0		0	124		0		100	215		272		0	9		141		121

Major Street Volume: 758
Minor Approach Volume: 224
Minor Approach Volume Threshold: 493

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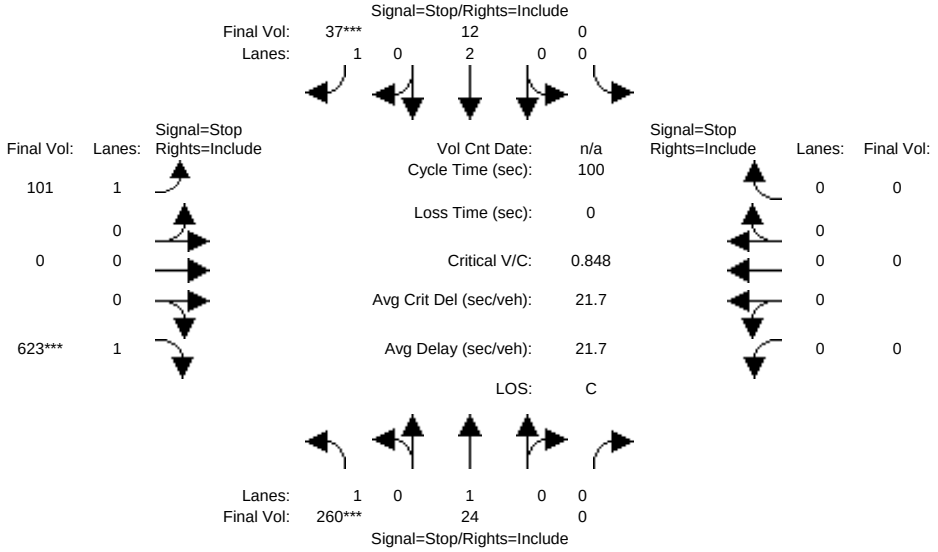
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #12: Bullard Ave / Carnegie Ave

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Street Name:          Bullard Avenue                    Carnegie Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     239   22     0     0   11    34    93    0   573     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  239   22     0     0   11    34    93    0   573     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  239   22     0     0   11    34    93    0   573     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:   260   24     0     0   12    37   101    0   623     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  260   24     0     0   12    37   101    0   623     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  260   24     0     0   12    37   101    0   623     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.00  0.00  0.00 2.00  1.00  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:   509  545     0     0  957   528   584    0   735     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.51 0.04  xxxx  xxxx 0.01  0.07  0.17 xxxx  0.85  xxxx xxxx  xxxx
Crit Moves:  ****                      ****              ****
Delay/Veh:   15.9  9.3   0.0   0.0  9.9   9.5  10.0  0.0  27.5   0.0  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  15.9  9.3   0.0   0.0  9.9   9.5  10.0  0.0  27.5   0.0  0.0   0.0
LOS by Move:    C    A     *     *    A     A     A    *     D     *    *     *
ApproachDel:      15.3              9.6             25.1           xxxxxx
Delay Adj:        1.00             1.00             1.00            xxxxx
ApprAdjDel:       15.3              9.6             25.1           xxxxxx
LOS by Appr:         C                A                D                *
AllWayAvgQ:   0.9  0.0   0.0   0.0  0.0   0.1   0.2  0.0   4.1   0.0  0.0   0.0
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #12 Bullard Ave / Carnegie Ave

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	1	0	1	0	0	0	0	2	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	239		22		0	0		11		34	93		0		573	0		0		0

Major Street Volume: 666
Minor Approach Volume: 261
Minor Approach Volume Threshold: 549

SIGNAL WARRANT DISCLAIMER

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	1	0	1	196	0	42	0	136	529	101	104	3
Peak Hour Factor	0.25	1.00	1.00	0.78	0.78	0.78	0.89	0.89	0.89	0.69	0.69	0.69
Hourly flow rate (vph)	4	0	1	251	0	54	0	153	594	146	151	4

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	5	305	153	594	222	80
Volume Left (vph)	4	251	0	0	146	0
Volume Right (vph)	1	54	0	594	0	4
Hadj (s)	0.07	0.09	0.03	-0.67	0.36	0.00
Departure Headway (s)	7.3	6.3	6.1	5.4	6.9	6.6
Degree Utilization, x	0.01	0.54	0.26	0.89	0.43	0.15
Capacity (veh/h)	440	543	576	657	487	527
Control Delay (s)	10.4	16.5	10.1	35.6	13.8	9.5
Approach Delay (s)	10.4	16.5	30.4		12.7	
Approach LOS	B	C	D		B	

Intersection Summary			
Delay	23.3		
HCM Level of Service	C		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

FRESNO AREA ANALYSIS

(BETWEEN HERNDON AVENUE AND SHAW AVENUE)

EXISTING + PROJECT-AM CONDITIONS

– LEVEL OF SERVICE SHEETS

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	2	321	406	296	332	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	349	441	322	361	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1566	362	363			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1566	362	363			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	49	63			
cM capacity (veh/h)	77	683	1196			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	351	763	363
Volume Left	2	441	0
Volume Right	349	0	2
cSH	651	1196	1700
Volume to Capacity	0.54	0.37	0.21
Queue Length 95th (ft)	81	43	0
Control Delay (s)	16.8	7.5	0.0
Lane LOS	C	A	
Approach Delay (s)	16.8	7.5	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Yield		Yield			Yield
Volume (vph)	9	398	5	4	317	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	433	5	4	345	3

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	442	10	348
Volume Left (vph)	10	0	345
Volume Right (vph)	433	4	0
Hadj (s)	-0.55	-0.23	0.23
Departure Headway (s)	4.3	5.2	5.2
Degree Utilization, x	0.53	0.01	0.50
Capacity (veh/h)	794	611	659
Control Delay (s)	12.2	8.3	13.3
Approach Delay (s)	12.2	8.3	13.3
Approach LOS	B	A	B

Intersection Summary			
Delay	12.6		
HCM Level of Service	B		
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	59	823	48	277	776	81	29	0	370	69	0	290
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	64	895	52	301	843	88	32	0	402	75	0	315
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												2
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	932			947			2047	2557	447	2423	2521	422
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	932			947			2047	2557	447	2423	2521	422
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			58			0	100	28	0	100	46
cM capacity (veh/h)	730			721			9	14	559	3	15	580

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	64	447	447	52	301	422	422	88	434	390
Volume Left	64	0	0	0	301	0	0	0	32	75
Volume Right	0	0	0	52	0	0	0	88	402	315
cSH	730	1700	1700	1700	721	1700	1700	1700	106	15
Volume to Capacity	0.09	0.26	0.26	0.03	0.42	0.25	0.25	0.05	4.07	25.90
Queue Length 95th (ft)	7	0	0	0	52	0	0	0	Err	Err
Control Delay (s)	10.4	0.0	0.0	0.0	13.5	0.0	0.0	0.0	Err	Err
Lane LOS	B				B				F	F
Approach Delay (s)	0.7				3.3				Err	Err
Approach LOS									F	F

Intersection Summary			
Average Delay	2687.3		
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	664	37	15	505	87	47	10	10	94	22	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	1770	1723		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.21	1.00		0.74	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5085	1583	396	1723		1377	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.70	0.70	0.70	0.86	0.86	0.86
Adj. Flow (vph)	141	730	41	18	594	102	67	14	14	109	26	155
RTOR Reduction (vph)	0	0	13	0	0	56	0	12	0	0	0	135
Lane Group Flow (vph)	141	730	28	18	594	46	67	16	0	109	26	20
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			3			4	
Permitted Phases			2			6	3			4		4
Actuated Green, G (s)	13.9	65.0	65.0	2.8	53.9	53.9	18.8	18.8		15.7	15.7	15.7
Effective Green, g (s)	13.9	65.0	65.0	2.8	53.9	53.9	18.8	18.8		15.7	15.7	15.7
Actuated g/C Ratio	0.12	0.54	0.54	0.02	0.45	0.45	0.16	0.16		0.13	0.13	0.13
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	205	1917	857	41	2284	711	62	270		180	244	207
v/s Ratio Prot	c0.08	c0.21		0.01	0.12			0.01			0.01	
v/s Ratio Perm			0.02			0.03	c0.17			c0.08		0.01
v/c Ratio	0.69	0.38	0.03	0.44	0.26	0.06	1.08	0.06		0.61	0.11	0.10
Uniform Delay, d1	51.0	15.9	12.8	57.8	20.6	18.7	50.6	43.1		49.2	46.0	45.9
Progression Factor	1.00	1.00	1.00	0.63	1.42	3.77	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.4	0.6	0.1	2.3	0.2	0.1	138.3	0.0		3.9	0.1	0.1
Delay (s)	58.4	16.5	12.9	38.4	29.5	70.8	188.9	43.1		53.1	46.0	46.0
Level of Service	E	B	B	D	C	E	F	D		D	D	D
Approach Delay (s)		22.8			35.6			146.0			48.7	
Approach LOS		C			D			F			D	

Intersection Summary			
HCM Average Control Delay	36.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	920	55	103	833	56	148	161	57	180	561	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	4.9	4.0	4.9	4.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.78	0.78	0.78	0.85	0.85	0.85	0.95	0.95	0.95
Adj. Flow (vph)	106	1057	63	132	1068	72	174	189	67	189	591	137
RTOR Reduction (vph)	0	0	32	0	0	35	0	0	41	0	0	72
Lane Group Flow (vph)	106	1057	31	132	1068	37	174	189	26	189	591	65
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		custom	Prot		Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			2			2
Actuated Green, G (s)	8.1	35.6	35.6	9.4	36.9	36.9	10.4	45.4	46.4	11.0	46.4	46.4
Effective Green, g (s)	8.1	35.6	35.6	9.4	36.9	36.9	10.4	45.4	46.4	11.0	46.4	46.4
Actuated g/C Ratio	0.07	0.30	0.30	0.08	0.31	0.31	0.09	0.38	0.39	0.09	0.39	0.39
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	4.9	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6
Lane Grp Cap (vph)	232	1466	470	269	1519	487	298	1339	612	315	1368	612
v/s Ratio Prot	0.03	c0.21		0.04	c0.22		0.05	0.05		c0.06	c0.17	
v/s Ratio Perm			0.02			0.02			0.02			0.04
v/c Ratio	0.46	0.72	0.07	0.49	0.70	0.08	0.58	0.14	0.04	0.60	0.43	0.11
Uniform Delay, d1	53.8	37.8	30.3	53.0	36.7	29.5	52.7	24.5	22.9	52.4	27.1	23.5
Progression Factor	1.12	1.05	1.51	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.8	0.1	0.5	1.6	0.1	1.9	0.2	0.1	2.2	1.0	0.3
Delay (s)	60.9	41.4	45.7	53.5	38.3	29.6	54.6	24.7	23.1	54.6	28.1	23.9
Level of Service	E	D	D	D	D	C	D	C	C	D	C	C
Approach Delay (s)		43.3			39.4			36.6			32.9	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	38.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	131	5	3	308	269	399
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	142	5	3	335	292	434
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	634	146	726			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	634	146	726			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	65	99	100			
cM capacity (veh/h)	410	874	873			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2	SB 3
Volume Total	148	338	146	146	434
Volume Left	142	3	0	0	0
Volume Right	5	0	0	0	434
cSH	418	873	1700	1700	1700
Volume to Capacity	0.35	0.00	0.09	0.09	0.26
Queue Length 95th (ft)	39	0	0	0	0
Control Delay (s)	18.2	0.1	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	18.2	0.1	0.0		
Approach LOS	C				

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	311	61	69	396	2	887	524
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1583	1770	3539	1770	3539	1583
Peak-hour factor, PHF	0.81	0.81	0.90	0.90	0.92	0.86	0.86
Adj. Flow (vph)	384	75	77	440	2	1031	609
RTOR Reduction (vph)	0	56	0	0	0	0	187
Lane Group Flow (vph)	384	19	77	440	2	1031	422
Turn Type		custom	Prot		Prot		Perm
Protected Phases	3	8	1	6	5	2	
Permitted Phases							2
Actuated Green, G (s)	9.7	15.6	4.6	31.1	0.8	27.3	27.3
Effective Green, g (s)	9.7	15.6	4.6	31.1	0.8	27.3	27.3
Actuated g/C Ratio	0.16	0.25	0.08	0.51	0.01	0.45	0.45
Clearance Time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Vehicle Extension (s)	3.5	3.5	2.0	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	543	403	133	1795	23	1576	705
v/s Ratio Prot	c0.11	c0.01	c0.04	c0.12	0.00	c0.29	
v/s Ratio Perm							0.27
v/c Ratio	0.71	0.05	0.58	0.25	0.09	0.65	0.60
Uniform Delay, d1	24.5	17.2	27.4	8.5	29.9	13.3	12.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	0.1	3.8	0.1	0.6	1.0	1.5
Delay (s)	28.8	17.3	31.2	8.6	30.5	14.3	14.3
Level of Service	C	B	C	A	C	B	B
Approach Delay (s)	26.9			11.9		14.3	
Approach LOS	C			B		B	

Intersection Summary			
HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	61.3	Sum of lost time (s)	17.8
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	339	25	529	45	21	96	178	518	21	31	38	882
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Peak-hour factor, PHF	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88	0.91	0.91	0.91
Adj. Flow (vph)	446	33	696	51	24	109	202	589	24	34	42	969
RTOR Reduction (vph)	0	0	168	0	0	90	0	0	9	0	0	0
Lane Group Flow (vph)	446	33	528	51	24	19	202	589	15	0	76	969
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot	Prot	
Protected Phases	3	8		7	4		1	6		5	5	2
Permitted Phases			8			4			6			
Actuated Green, G (s)	27.1	41.5	41.5	4.7	19.1	19.1	12.1	38.2	38.2		7.1	33.2
Effective Green, g (s)	27.1	41.5	41.5	4.7	19.1	19.1	12.1	38.2	38.2		7.1	33.2
Actuated g/C Ratio	0.25	0.38	0.38	0.04	0.17	0.17	0.11	0.35	0.35		0.06	0.30
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0	2.0	4.3	4.3		2.0	4.3
Lane Grp Cap (vph)	439	707	601	76	618	277	196	1237	553		115	1075
v/s Ratio Prot	c0.25	0.02		0.03	0.01		c0.11	0.17			0.04	c0.27
v/s Ratio Perm			c0.33			0.01			0.01			
v/c Ratio	1.02	0.05	0.88	0.67	0.04	0.07	1.03	0.48	0.03		0.66	0.90
Uniform Delay, d1	41.1	21.4	31.6	51.5	37.5	37.7	48.6	27.7	23.3		49.9	36.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	47.0	0.0	13.3	16.8	0.0	0.0	72.5	0.5	0.0		10.5	10.7
Delay (s)	88.1	21.4	44.9	68.3	37.5	37.7	121.1	28.2	23.4		60.4	47.2
Level of Service	F	C	D	E	D	D	F	C	C		E	D
Approach Delay (s)		60.6			46.2			51.1				45.9
Approach LOS		E			D			D				D

Intersection Summary			
HCM Average Control Delay	52.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	109.3	Sum of lost time (s)	12.9
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

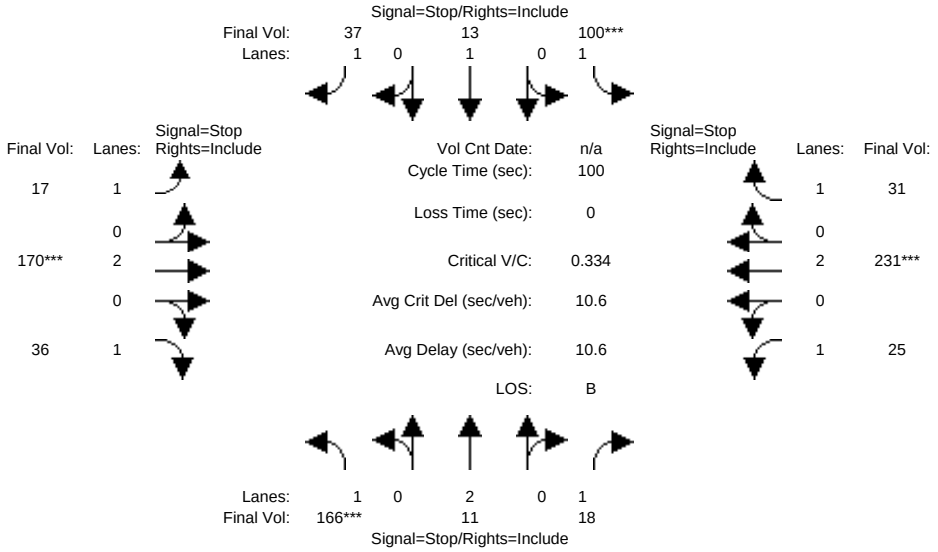
Movement	SBR
Lane Configurations	
Volume (vph)	125
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.9
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	137
RTOR Reduction (vph)	40
Lane Group Flow (vph)	97
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	33.2
Effective Green, g (s)	33.2
Actuated g/C Ratio	0.30
Clearance Time (s)	4.9
Vehicle Extension (s)	4.3
Lane Grp Cap (vph)	481
v/s Ratio Prot	
v/s Ratio Perm	0.06
v/c Ratio	0.20
Uniform Delay, d1	28.2
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	28.5
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Ex HST AM

Intersection #10: Bullard Ave / Dante Ave



Street Name:	Bullard Avenue						Dante Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	166	11	18	100	13	37	17	170	36	25	231	31
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	166	11	18	100	13	37	17	170	36	25	231	31
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	166	11	18	100	13	37	17	170	36	25	231	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	166	11	18	100	13	37	17	170	36	25	231	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	166	11	18	100	13	37	17	170	36	25	231	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	166	11	18	100	13	37	17	170	36	25	231	31
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	497	1055	588	483	515	573	497	1073	597	510	1104	614
Capacity Analysis Module:												
Vol/Sat:	0.33	0.01	0.03	0.21	0.03	0.06	0.03	0.16	0.06	0.05	0.21	0.05
Crit Moves:	****			****				****			****	
Delay/Veh:	12.8	9.2	8.6	11.4	9.4	8.9	9.8	10.2	8.7	9.7	10.5	8.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.8	9.2	8.6	11.4	9.4	8.9	9.8	10.2	8.7	9.7	10.5	8.5
LOS by Move:	B	A	A	B	A	A	A	B	A	A	B	A
ApproachDel:		12.2			10.6			9.9			10.2	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		12.2			10.6			9.9			10.2	
LOS by Appr:		B			B			A			B	
AllWayAvgQ:	0.4	0.0	0.0	0.2	0.0	0.1	0.0	0.2	0.1	0.0	0.2	0.0

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

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Intersection #10 Bullard Ave / Dante Ave

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Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0 2 0 1			1 0 1 0 1			1 0 2 0 1			1 0 2 0 1		
Initial Vol:	166	11	18	100	13	37	17	170	36	25	231	31

Major Street Volume: 510
Minor Approach Volume: 195
Minor Approach Volume Threshold: 664

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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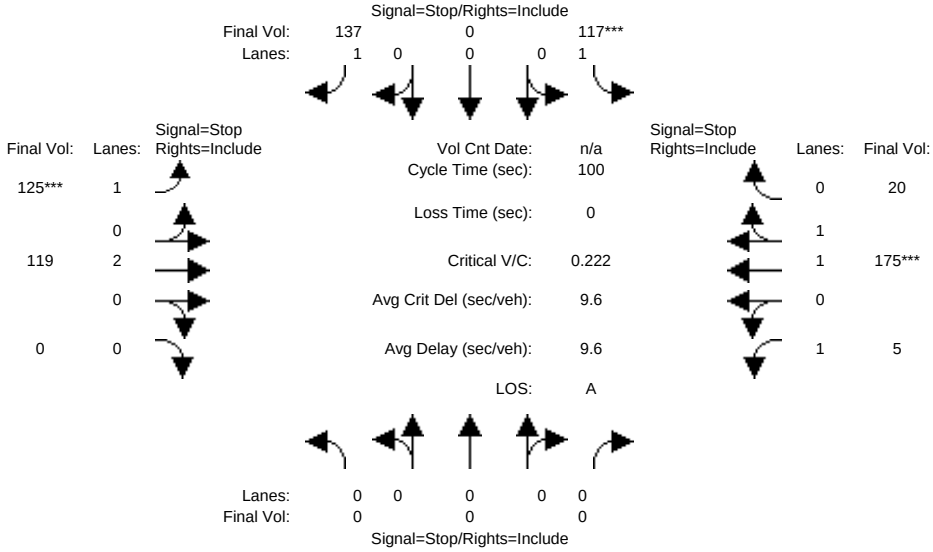
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Ex HST AM

Intersection #11: Bullard Ave / Polk Ave

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Street Name:              Polk Ave                          Bullard Ave
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   117    0   137   125  119     0     5  175    20
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   117    0   137   125  119     0     5  175    20
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   117    0   137   125  119     0     5  175    20
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   117    0   137   125  119     0     5  175    20
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0   117    0   137   125  119     0     5  175    20
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0   117    0   137   125  119     0     5  175    20
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  1.00 0.00  1.00  1.00 2.00  0.00  1.00 1.79  0.21
Final Sat.:     0    0     0   566    0   696   562 1216     0   548 1082   125
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.21 xxxx  0.20  0.22 0.10  xxxx  0.01 0.16  0.16
Crit Moves:                   ****              ****                   ****
Delay/Veh:    0.0  0.0   0.0  10.3  0.0   8.8  10.6  9.0   0.0   9.0  9.5   9.4
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  10.3  0.0   8.8  10.6  9.0   0.0   9.0  9.5   9.4
LOS by Move:    *    *     *     B    *     A     B    A     *     A    A     A
ApproachDel:    xxxxxx              9.5              9.8              9.4
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx              9.5              9.8              9.4
LOS by Appr:         *               A                A                A
AllWayAvgQ:   0.0  0.0   0.0   0.2  0.0   0.2   0.3  0.1   0.0   0.0  0.2   0.2
Note: Queue reported is the number of cars per lane.
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Peak Hour Volume Signal Warrant Report [Urban]

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Intersection #11 Bullard Ave / Polk Ave

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Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	0	0	0	0	1	0	0	0	1	1	0	2	0	0	1	0	1	1	0
Initial Vol:	0		0		0	117		0		137	125		119		0	5		175		20

Major Street Volume: 444
Minor Approach Volume: 254
Minor Approach Volume Threshold: 723

SIGNAL WARRANT DISCLAIMER

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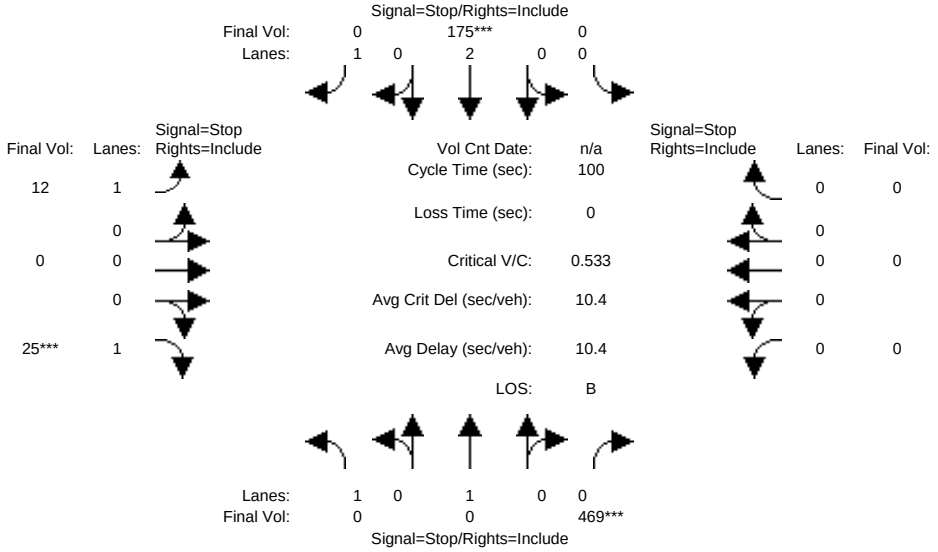
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Ex HST AM

Intersection #12: Bullard Ave / Carnegie Ave



Street Name:	Bullard Avenue						Carnegie Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	0	0	469	0	175	0	12	0	25	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	469	0	175	0	12	0	25	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	469	0	175	0	12	0	25	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	469	0	175	0	12	0	25	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	469	0	175	0	12	0	25	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	469	0	175	0	12	0	25	0	0	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	2.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	678	0	881	0	1303	742	529	0	640	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	xxxx	0.53	xxxx	0.13	0.00	0.02	xxxx	0.04	xxxx	xxxx	xxxx
Crit Moves:			****		****				****			
Delay/Veh:	0.0	0.0	11.2	0.0	8.9	0.0	9.1	0.0	8.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	11.2	0.0	8.9	0.0	9.1	0.0	8.0	0.0	0.0	0.0
LOS by Move:	*	*	B	*	A	*	A	*	A	*	*	*
ApproachDel:	11.2			8.9			8.4			xxxxxx		
Delay Adj:	1.00			1.00			1.00			xxxxx		
ApprAdjDel:	11.2			8.9			8.4			xxxxxx		
LOS by Appr:	B			A			A			*		
AllWayAvgQ:	0.0	1.1	1.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #12 Bullard Ave / Carnegie Ave

****

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Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	1	0	0	1	0	0	0	2	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	0		0		469	0		175		0	12		0		25	0		0		0

Major Street Volume: 644
Minor Approach Volume: 37
Minor Approach Volume Threshold: 563

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	1	0	0	290	437	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	0	0	315	475	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	791	239	477			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	791	239	477			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	327	763	1081			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	1	315	317	161
Volume Left	1	0	0	0
Volume Right	0	0	0	2
cSH	327	1081	1700	1700
Volume to Capacity	0.00	0.00	0.19	0.09
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	16.1	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	16.1	0.0	0.0	
Approach LOS	C			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	25.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	374	119	109	182	35	65
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	407	129	118	198	38	71
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	364	217			316	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	364	217			316	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	34	84			97	
cM capacity (veh/h)	616	822			1244	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	536	316	109
Volume Left	407	0	38
Volume Right	129	198	0
cSH	656	1700	1244
Volume to Capacity	0.82	0.19	0.03
Queue Length 95th (ft)	214	0	2
Control Delay (s)	30.3	0.0	3.0
Lane LOS	D		A
Approach Delay (s)	30.3	0.0	3.0
Approach LOS	D		

Intersection Summary			
Average Delay	17.2		
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

FRESNO AREA ANALYSIS

(BETWEEN HERNDON AVENUE AND SHAW AVENUE)

EXISTING + PROJECT-PM CONDITIONS

– LEVEL OF SERVICE SHEETS

HCM Unsignalized Intersection Capacity Analysis
1: Santa Ana Avenue & Golden State Boulevard

4/13/2011

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	1	367	658	441	227	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	399	715	479	247	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2157	247	248			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2157	247	248			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	50	46			
cM capacity (veh/h)	24	791	1318			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	400	1195	248
Volume Left	1	715	0
Volume Right	399	0	1
cSH	728	1318	1700
Volume to Capacity	0.55	0.54	0.15
Queue Length 95th (ft)	84	85	0
Control Delay (s)	15.8	9.9	0.0
Lane LOS	C	A	
Approach Delay (s)	15.8	9.9	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	9.8		
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Yield		Yield			Yield
Volume (vph)	0	656	6	3	358	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	713	7	3	389	0

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	713	10	389
Volume Left (vph)	0	0	389
Volume Right (vph)	713	3	0
Hadj (s)	-0.57	-0.17	0.23
Departure Headway (s)	4.6	6.3	5.9
Degree Utilization, x	0.91	0.02	0.64
Capacity (veh/h)	777	543	589
Control Delay (s)	34.7	9.4	18.9
Approach Delay (s)	34.7	9.4	18.9
Approach LOS	D	A	C

Intersection Summary			
Delay	28.9		
HCM Level of Service	D		
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	77	728	18	340	1176	99	45	0	622	96	0	134
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	84	791	20	370	1278	108	49	0	676	104	0	146
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												2
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1386			811			2337	3084	396	3257	2996	639
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1386			811			2337	3084	396	3257	2996	639
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	83			54			0	100	0	0	100	65
cM capacity (veh/h)	490			811			7	5	604	0	6	419

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	84	396	396	20	370	639	639	108	725	250
Volume Left	84	0	0	0	370	0	0	0	49	104
Volume Right	0	0	0	20	0	0	0	108	676	146
cSH	490	1700	1700	1700	811	1700	1700	1700	91	0
Volume to Capacity	0.17	0.23	0.23	0.01	0.46	0.38	0.38	0.06	7.93	Err
Queue Length 95th (ft)	15	0	0	0	60	0	0	0	Err	Err
Control Delay (s)	13.9	0.0	0.0	0.0	13.1	0.0	0.0	0.0	Err	Err
Lane LOS	B				B				F	F
Approach Delay (s)	1.3				2.8				Err	Err
Approach LOS									F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	360	1195	15	19	1130	313	30	14	17	330	3	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	1770	1710		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.55	1.00		0.73	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5085	1583	1021	1710		1357	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.70	0.70	0.70	0.86	0.86	0.86
Adj. Flow (vph)	396	1313	16	22	1329	368	43	20	24	384	3	206
RTOR Reduction (vph)	0	0	3	0	0	225	0	23	0	0	0	146
Lane Group Flow (vph)	396	1313	13	22	1329	143	43	21	0	384	3	60
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			3			4	
Permitted Phases			2			6	3			4		4
Actuated Green, G (s)	25.4	56.1	56.1	4.2	34.9	34.9	7.3	7.3		34.7	34.7	34.7
Effective Green, g (s)	25.4	56.1	56.1	4.2	34.9	34.9	7.3	7.3		34.7	34.7	34.7
Actuated g/C Ratio	0.21	0.47	0.47	0.04	0.29	0.29	0.06	0.06		0.29	0.29	0.29
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	375	1654	740	62	1479	460	62	104		392	539	458
v/s Ratio Prot	c0.22	0.37		0.01	c0.26			0.01			0.00	
v/s Ratio Perm			0.01			0.09	c0.04			c0.28		0.04
v/c Ratio	1.06	0.79	0.02	0.35	0.90	0.31	0.69	0.21		0.98	0.01	0.13
Uniform Delay, d1	47.3	27.1	17.2	56.6	40.9	33.2	55.3	53.6		42.3	30.4	31.5
Progression Factor	1.00	1.00	1.00	0.56	1.69	5.38	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	62.0	4.0	0.0	0.1	1.0	0.2	23.7	0.4		39.4	0.0	0.0
Delay (s)	109.3	31.1	17.2	32.1	69.9	178.6	78.9	54.0		81.7	30.4	31.5
Level of Service	F	C	B	C	E	F	E	D		F	C	C
Approach Delay (s)		48.9			92.7			66.3			64.0	
Approach LOS		D			F			E			E	

Intersection Summary			
HCM Average Control Delay	69.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	262	1329	127	184	1472	159	240	611	132	309	308	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	4.9	4.0	4.9	4.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.78	0.78	0.78	0.85	0.85	0.85	0.95	0.95	0.95
Adj. Flow (vph)	301	1528	146	236	1887	204	282	719	155	325	324	159
RTOR Reduction (vph)	0	0	49	0	0	53	0	0	61	0	0	109
Lane Group Flow (vph)	301	1528	97	236	1887	151	282	719	94	325	324	50
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		custom	Prot		Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			2			2
Actuated Green, G (s)	10.1	38.7	38.7	12.1	40.7	40.7	12.9	36.1	38.1	14.5	38.1	38.1
Effective Green, g (s)	10.1	38.7	38.7	12.1	40.7	40.7	12.9	36.1	38.1	14.5	38.1	38.1
Actuated g/C Ratio	0.08	0.32	0.32	0.10	0.34	0.34	0.11	0.30	0.32	0.12	0.32	0.32
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	4.9	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6
Lane Grp Cap (vph)	289	1593	511	346	1675	537	369	1065	503	415	1124	503
v/s Ratio Prot	0.09	c0.31		0.07	c0.38		0.08	c0.20		c0.09	0.09	
v/s Ratio Perm			0.06			0.10			0.06			0.03
v/c Ratio	1.04	0.96	0.19	0.68	1.13	0.28	0.76	0.68	0.19	0.78	0.29	0.10
Uniform Delay, d1	55.0	39.9	29.3	52.1	39.7	29.0	52.1	36.8	29.7	51.2	30.8	28.9
Progression Factor	0.92	1.13	1.22	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	55.6	10.9	0.2	4.4	65.3	0.4	8.2	3.4	0.8	8.6	0.6	0.4
Delay (s)	105.9	56.0	36.0	56.5	104.9	29.3	60.3	40.2	30.5	59.9	31.4	29.3
Level of Service	F	E	D	E	F	C	E	D	C	E	C	C
Approach Delay (s)		62.1			93.4			43.8			42.4	
Approach LOS		E			F			D			D	

Intersection Summary			
HCM Average Control Delay	67.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	167	8	8	400	133	226
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	182	9	9	435	145	246
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	597	72	390			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	597	72	390			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	58	99	99			
cM capacity (veh/h)	431	975	1165			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2	SB 3
Volume Total	190	443	72	72	246
Volume Left	182	9	0	0	0
Volume Right	9	0	0	0	246
cSH	442	1165	1700	1700	1700
Volume to Capacity	0.43	0.01	0.04	0.04	0.14
Queue Length 95th (ft)	53	1	0	0	0
Control Delay (s)	19.1	0.2	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	19.1	0.2	0.0		
Approach LOS	C				

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	569	71	59	1074	3	834	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1583	1770	3539	1770	3539	1583
Peak-hour factor, PHF	0.81	0.81	0.90	0.90	0.92	0.86	0.86
Adj. Flow (vph)	702	88	66	1193	3	970	457
RTOR Reduction (vph)	0	65	0	0	0	0	147
Lane Group Flow (vph)	702	23	66	1193	3	970	310
Turn Type		custom	Prot		Prot		Perm
Protected Phases	3	8	1	6	5	2	
Permitted Phases							2
Actuated Green, G (s)	9.6	15.4	3.4	29.8	0.8	27.2	27.2
Effective Green, g (s)	9.6	15.4	3.4	29.8	0.8	27.2	27.2
Actuated g/C Ratio	0.16	0.26	0.06	0.50	0.01	0.45	0.45
Clearance Time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Vehicle Extension (s)	3.5	3.5	2.0	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	551	408	101	1764	24	1610	720
v/s Ratio Prot	c0.20	c0.01	c0.04	c0.34	0.00	0.27	
v/s Ratio Perm							0.20
v/c Ratio	1.27	0.06	0.65	0.68	0.12	0.60	0.43
Uniform Delay, d1	25.1	16.7	27.6	11.4	29.2	12.2	11.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	137.0	0.1	11.0	1.1	0.9	0.7	0.5
Delay (s)	162.1	16.8	38.6	12.4	30.0	12.9	11.5
Level of Service	F	B	D	B	C	B	B
Approach Delay (s)	145.9			13.8		12.5	
Approach LOS	F			B		B	

Intersection Summary			
HCM Average Control Delay	43.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	59.8	Sum of lost time (s)	12.9
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	202	40	345	88	116	58	425	909	79	89	120	703
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Peak-hour factor, PHF	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88	0.91	0.91	0.91
Adj. Flow (vph)	266	53	454	100	132	66	483	1033	90	98	132	773
RTOR Reduction (vph)	0	0	189	0	0	58	0	0	18	0	0	0
Lane Group Flow (vph)	266	53	265	100	132	8	483	1033	72	0	230	773
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot	Prot	
Protected Phases	3	8		7	4		1	6		5	5	2
Permitted Phases			8			4			6			
Actuated Green, G (s)	18.6	23.7	23.7	6.1	11.2	11.2	12.2	34.6	34.6		10.1	32.5
Effective Green, g (s)	18.6	23.7	23.7	6.1	11.2	11.2	12.2	34.6	34.6		10.1	32.5
Actuated g/C Ratio	0.20	0.26	0.26	0.07	0.12	0.12	0.13	0.37	0.37		0.11	0.35
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0	2.0	4.3	4.3		2.0	4.3
Lane Grp Cap (vph)	357	478	406	117	429	192	234	1327	593		194	1246
v/s Ratio Prot	c0.15	0.03		0.06	0.04		c0.27	c0.29			0.13	0.22
v/s Ratio Perm			c0.17			0.01			0.05			
v/c Ratio	0.75	0.11	0.65	0.85	0.31	0.04	2.06	0.78	0.12		1.19	0.62
Uniform Delay, d1	34.6	26.2	30.6	42.7	37.0	35.8	40.1	25.5	18.9		41.1	24.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	8.2	0.0	2.9	40.7	0.1	0.0	493.3	3.2	0.1		123.6	1.2
Delay (s)	42.8	26.3	33.5	83.4	37.2	35.8	533.4	28.7	19.0		164.7	26.0
Level of Service	D	C	C	F	D	D	F	C	B		F	C
Approach Delay (s)		36.2			52.4			179.9				49.3
Approach LOS		D			D			F				D

Intersection Summary			
HCM Average Control Delay	99.4	HCM Level of Service	F
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	92.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

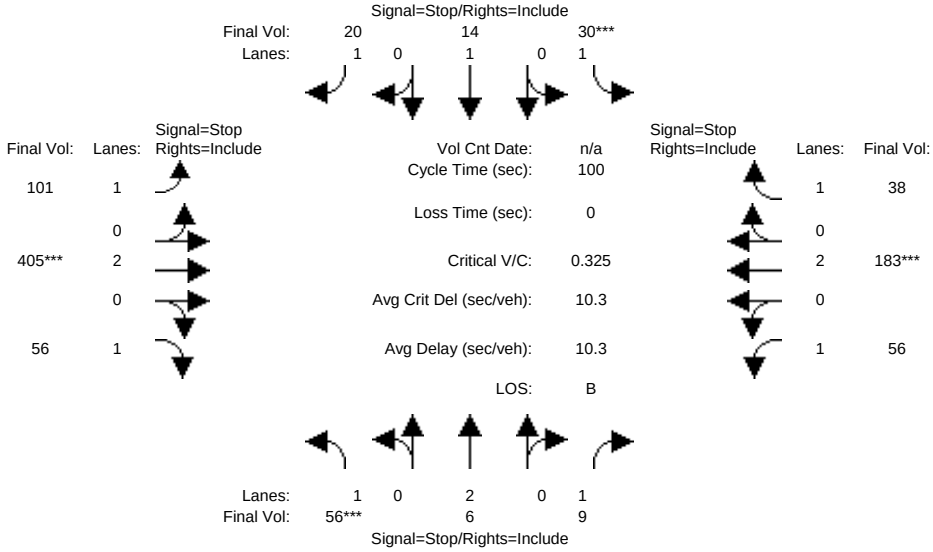
Movement	SBR
Lane Configurations	
Volume (vph)	294
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.9
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	323
RTOR Reduction (vph)	112
Lane Group Flow (vph)	211
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	32.5
Effective Green, g (s)	32.5
Actuated g/C Ratio	0.35
Clearance Time (s)	4.9
Vehicle Extension (s)	4.3
Lane Grp Cap (vph)	557
v/s Ratio Prot	
v/s Ratio Perm	0.13
v/c Ratio	0.38
Uniform Delay, d1	22.4
Progression Factor	1.00
Incremental Delay, d2	0.7
Delay (s)	23.0
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Ex HST PM

Intersection #10: Bullard Ave / Dante Ave



Street Name:	Bullard Avenue						Dante Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	56	6	9	30	14	20	101	405	56	56	183	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	6	9	30	14	20	101	405	56	56	183	38
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	6	9	30	14	20	101	405	56	56	183	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	6	9	30	14	20	101	405	56	56	183	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	6	9	30	14	20	101	405	56	56	183	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	6	9	30	14	20	101	405	56	56	183	38
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	456	970	536	454	483	533	571	1246	704	521	1125	629
Capacity Analysis Module:												
Vol/Sat:	0.12	0.01	0.02	0.07	0.03	0.04	0.18	0.32	0.08	0.11	0.16	0.06
Crit Moves:	****			****				****			****	
Delay/Veh:	11.0	9.6	8.9	10.5	9.7	9.1	10.1	10.9	8.0	10.1	9.9	8.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.0	9.6	8.9	10.5	9.7	9.1	10.1	10.9	8.0	10.1	9.9	8.4
LOS by Move:	B	A	A	B	A	A	B	B	A	B	A	A
ApproachDel:	10.6			9.9			10.5			9.8		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	10.6			9.9			10.5			9.8		
LOS by Appr:	B			A			B			A		
AllWayAvgQ:	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.4	0.1	0.1	0.2	0.1

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

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Intersection #10 Bullard Ave / Dante Ave

****

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Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0 2 0 1			1 0 1 0 1			1 0 2 0 1			1 0 2 0 1		
Initial Vol:	56	6	9	30	14	20	101	405	56	56	183	38

Major Street Volume: 839
Minor Approach Volume: 71
Minor Approach Volume Threshold: 450

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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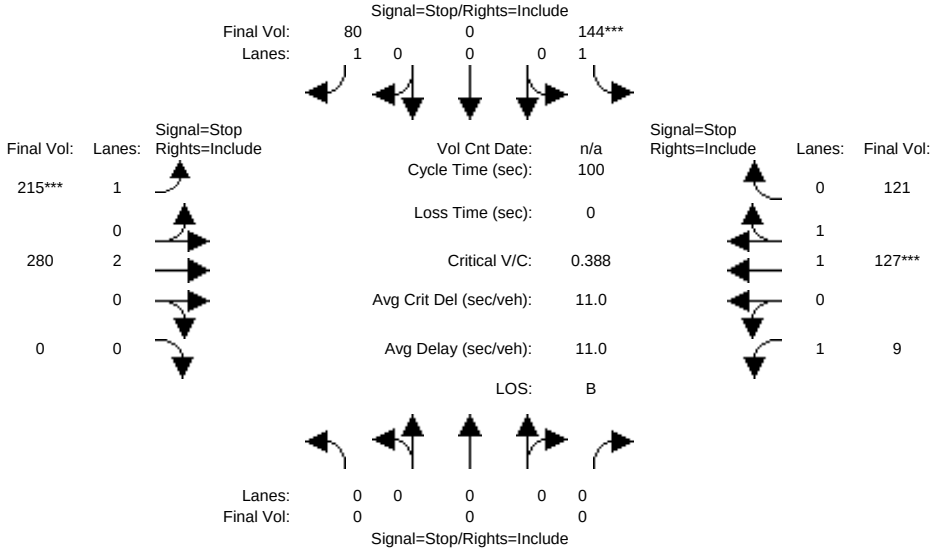
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Ex HST PM

Intersection #11: Bullard Ave / Polk Ave

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Street Name:              Polk Ave                          Bullard Ave
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   144    0    80   215  280     0     9  127   121
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   144    0    80   215  280     0     9  127   121
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   144    0    80   215  280     0     9  127   121
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   144    0    80   215  280     0     9  127   121
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0   144    0    80   215  280     0     9  127   121
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0   144    0    80   215  280     0     9  127   121
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  1.00 0.00  1.00  1.00 2.00  0.00  1.00 1.02  0.98
Final Sat.:     0    0     0   510    0   610   554 1198     0   506  563   596
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.28 xxxx  0.13  0.39 0.23  xxxx  0.02 0.23  0.20
Crit Moves:                   ****             ****                   ****
Delay/Veh:    0.0  0.0   0.0  11.9  0.0   9.0  12.9 10.2   0.0   9.6 10.7   9.7
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  11.9  0.0   9.0  12.9 10.2   0.0   9.6 10.7   9.7
LOS by Move:    *    *     *     B    *     A     B    B     *     A    B     A
ApproachDel:    xxxxxx             10.9             11.4             10.2
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             10.9             11.4             10.2
LOS by Appr:         *               B                B                B
AllWayAvgQ:   0.0  0.0   0.0   0.4  0.0   0.1   0.6  0.3   0.0   0.0  0.3   0.2
Note: Queue reported is the number of cars per lane.
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Peak Hour Volume Signal Warrant Report [Urban]

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Intersection #11 Bullard Ave / Polk Ave

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Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	0	0	0	0	1	0	0	0	1	1	0	2	0	0	1	0	1	1	0
Initial Vol:	0		0		0	144		0		80	215		280		0	9		127		121

Major Street Volume: 752
Minor Approach Volume: 224
Minor Approach Volume Threshold: 497

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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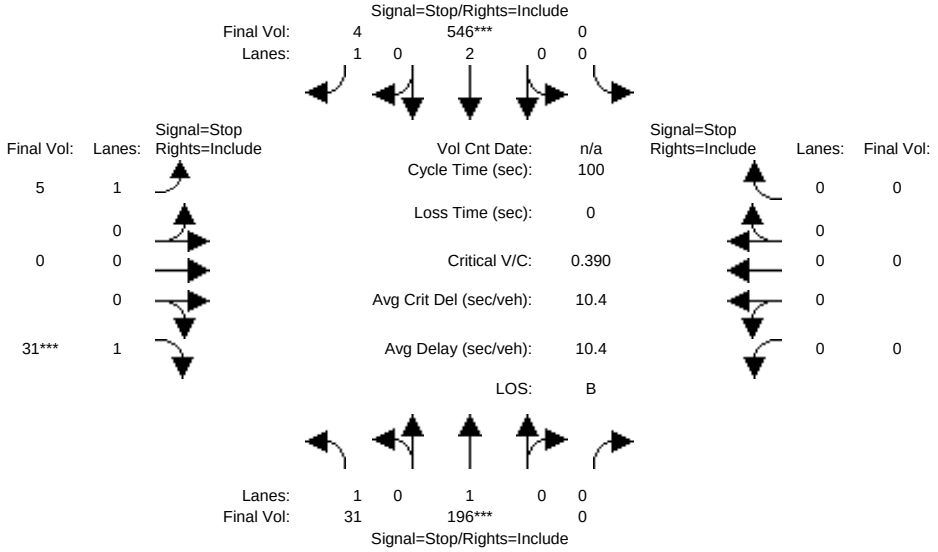
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Ex HST PM

Intersection #12: Bullard Ave / Carnegie Ave

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Street Name:          Bullard Avenue                    Carnegie Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      31  196     0     0  546     4     5    0    31     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   31  196     0     0  546     4     5    0    31     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   31  196     0     0  546     4     5    0    31     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    31  196     0     0  546     4     5    0    31     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   31  196     0     0  546     4     5    0    31     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   31  196     0     0  546     4     5    0    31     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.00  0.00  0.00 2.00  1.00  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:   624  686     0     0 1399   805   506    0   608     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.29  xxxx  xxxx 0.39  0.00  0.01 xxxx  0.05  xxxx xxxx  xxxx
Crit Moves:       ****             ****                    ****
Delay/Veh:    8.6  9.7   0.0   0.0 10.9   7.1   9.4  0.0   8.4   0.0  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.6  9.7   0.0   0.0 10.9   7.1   9.4  0.0   8.4   0.0  0.0   0.0
LOS by Move:    A    A     *     *    B     A     A    *     A     *    *     *
ApproachDel:       9.6             10.9              8.5           xxxxxx
Delay Adj:        1.00             1.00             1.00            xxxxx
ApprAdjDel:        9.6             10.9              8.5           xxxxxx
LOS by Appr:         A                B                A                *
AllWayAvgQ:   0.0  0.4   0.0   0.0  0.6   0.0   0.0  0.0   0.0   0.0  0.0   0.0
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #12 Bullard Ave / Carnegie Ave

****

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Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	1	0	1	0	0	0	0	2	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	31	196		0		0	546		4		5		0		31		0		0	0

Major Street Volume: 777
Minor Approach Volume: 36
Minor Approach Volume Threshold: 483

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	1	1	0	658	266	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	0	715	289	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1006	146	292			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1006	146	292			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	238	874	1266			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	2	715	193	100
Volume Left	1	0	0	0
Volume Right	1	0	0	3
cSH	374	1266	1700	1700
Volume to Capacity	0.01	0.00	0.11	0.06
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	14.7	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	14.7	0.0	0.0	
Approach LOS	B			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	162	42	137	522	101	107
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	176	46	149	567	110	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	768	433			716	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	768	433			716	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	46	93			88	
cM capacity (veh/h)	324	623			884	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	222	716	226
Volume Left	176	0	110
Volume Right	46	567	0
cSH	359	1700	884
Volume to Capacity	0.62	0.42	0.12
Queue Length 95th (ft)	98	0	11
Control Delay (s)	29.9	0.0	5.3
Lane LOS	D		A
Approach Delay (s)	29.9	0.0	5.3
Approach LOS	D		

Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

FRESNO AREA ANALYSIS

(BETWEEN HERNDON AVENUE AND SHAW AVENUE)

2035 NOBUILD-AM CONDITIONS

– LEVEL OF SERVICE SHEETS

HCM Unsignalized Intersection Capacity Analysis
1: Santa Ana Avenue & Golden State Boulevard

4/13/2011

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	6	16	16	1140	959	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	17	17	1239	1042	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2318	1044	1046			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2318	1044	1046			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	94	97			
cM capacity (veh/h)	40	278	665			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	24	1257	1046
Volume Left	7	17	0
Volume Right	17	0	3
cSH	107	665	1700
Volume to Capacity	0.22	0.03	0.62
Queue Length 95th (ft)	20	2	0
Control Delay (s)	48.2	1.1	0.0
Lane LOS	E	A	
Approach Delay (s)	48.2	1.1	0.0
Approach LOS	E		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Yield		Yield			Yield
Volume (vph)	35	4	9	7	3	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	4	10	8	3	10

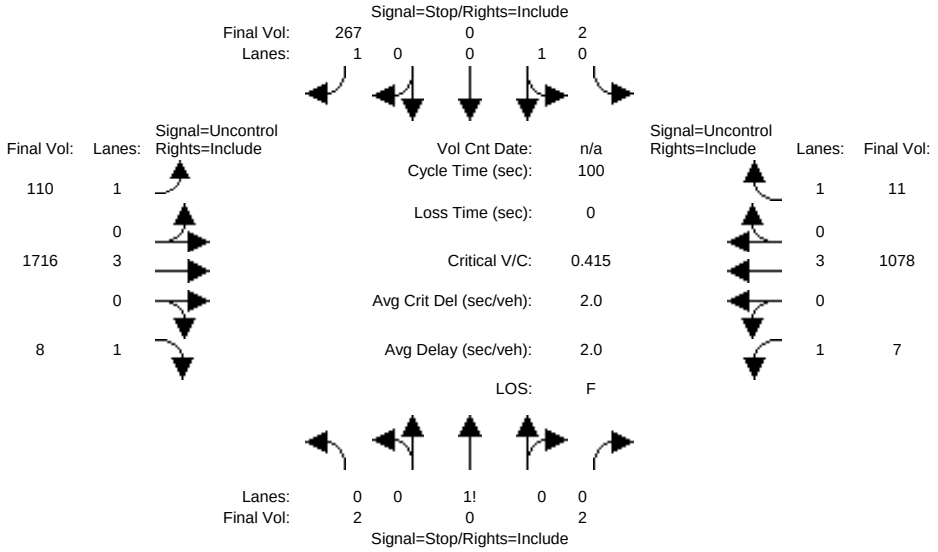
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	42	17	13
Volume Left (vph)	38	0	3
Volume Right (vph)	4	8	0
Hadj (s)	0.15	-0.23	0.08
Departure Headway (s)	4.1	3.8	4.1
Degree Utilization, x	0.05	0.02	0.01
Capacity (veh/h)	862	928	865
Control Delay (s)	7.3	6.8	7.2
Approach Delay (s)	7.3	6.8	7.2
Approach LOS	A	A	A

Intersection Summary			
Delay	7.2		
HCM Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build AM

Intersection #3: Cornelia Avenue / Shaw Avenue




```
Street Name:         Cornelia Avenue                    Shaw Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    0     2     2    0   267   110 1716     8     7 1078    11
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    2    0     2     2    0   267   110 1716     8     7 1078    11
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    2    0     2     2    0   267   110 1716     8     7 1078    11
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     2    0     2     2    0   267   110 1716     8     7 1078    11
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    2    0     2     2    0   267   110 1716     8     7 1078    11
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2309 3039   572  1884 3036   359  1089 xxxx xxxxx  1724 xxxx xxxxx
Potent Cap.:   21   13   468    44   13   643   648 xxxx xxxxx   372 xxxx xxxxx
Move Cap.:     11   11   468    38   11   643   648 xxxx xxxxx   372 xxxx xxxxx
Volume/Cap:  0.19 0.00  0.00  0.05 0.00  0.42  0.17 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   2.0   0.6 xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  14.5  11.7 xxxx xxxxx  14.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     B     B    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   21 xxxxx    38 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx   0.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  218 xxxxx 105.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     F    *     *     *    *     *     *    *     *
ApproachDel:     217.6             15.2           xxxxxx           xxxxxx
ApproachLOS:         F                C                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Cornelia Avenue / Shaw Avenue
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```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```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  1  0  0  1    1  0  3  0  1    1  0  3  0  1
Initial Vol:    2    0     2     2    0   267   110 1716     8     7 1078    11
ApproachDel:     217.6             15.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=4]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3203]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=269]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3203]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #3 Cornelia Avenue / Shaw Avenue
********************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  1  0  0  1    1  0  3  0  1    1  0  3  0  1
Initial Vol:    2    0     2     2    0   267   110 1716     8     7 1078    11
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2930
Minor Approach Volume:           269
Minor Approach Volume Threshold: -88 [less than minimum of 150]
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	1615	87	396	1019	85	48	376	639	84	381	29
Ideal Flow (vphpl)	1900	1900	1900	1750	1750	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1570	4940	1404	1583	4550	1468	1570	3438	1583	1719	3438	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1570	4940	1404	1583	4550	1468	1570	3438	1583	1719	3438	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.96	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	1755	95	412	1084	92	52	409	695	91	414	32
RTOR Reduction (vph)	0	0	9	0	0	40	0	0	264	0	0	9
Lane Group Flow (vph)	20	1755	86	412	1084	52	52	409	431	91	414	23
Heavy Vehicles (%)	15%	5%	15%	5%	5%	10%	15%	5%	2%	5%	5%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	3.5	67.0	67.0	34.1	97.6	97.6	7.9	42.6	42.6	13.6	48.3	48.3
Effective Green, g (s)	3.0	68.3	68.3	34.1	98.9	98.9	7.9	43.9	43.9	13.6	49.6	49.6
Actuated g/C Ratio	0.02	0.39	0.39	0.19	0.56	0.56	0.04	0.25	0.25	0.08	0.28	0.28
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	27	1918	545	307	2558	825	71	858	395	133	969	446
v/s Ratio Prot	0.01	c0.36		c0.26	0.24		0.03	0.12		c0.05	0.12	
v/s Ratio Perm			0.06			0.04			c0.27			0.01
v/c Ratio	0.74	0.92	0.16	1.34	0.42	0.06	0.73	0.48	1.09	0.68	0.43	0.05
Uniform Delay, d1	86.1	51.0	35.1	70.9	22.1	17.5	83.0	56.2	66.0	79.1	51.6	46.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	64.0	7.1	0.0	174.2	0.0	0.0	28.1	0.2	71.9	11.0	0.1	0.0
Delay (s)	150.0	58.2	35.1	245.1	22.2	17.5	111.1	56.4	137.9	90.1	51.7	46.0
Level of Service	F	E	D	F	C	B	F	E	F	F	D	D
Approach Delay (s)		58.0			79.7			107.9			57.8	
Approach LOS		E			E			F			E	

Intersection Summary			
HCM Average Control Delay	75.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	175.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	251	1369	76	24	801	138	64	14	14	113	26	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1723		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.14	1.00		0.74	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	267	1723		1374	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	273	1488	83	26	871	150	70	15	15	123	28	103
RTOR Reduction (vph)	0	0	21	0	0	99	0	12	0	0	0	89
Lane Group Flow (vph)	273	1488	62	26	871	51	70	18	0	123	28	14
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			3			4	
Permitted Phases			2			6	3			4		4
Actuated Green, G (s)	17.1	54.4	54.4	3.5	40.8	40.8	27.9	27.9		16.5	16.5	16.5
Effective Green, g (s)	17.1	54.4	54.4	3.5	40.8	40.8	27.9	27.9		16.5	16.5	16.5
Actuated g/C Ratio	0.14	0.45	0.45	0.03	0.34	0.34	0.23	0.23		0.14	0.14	0.14
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	252	2305	718	52	1729	538	62	401		189	256	218
v/s Ratio Prot	c0.15	c0.29		0.01	0.17			0.01			0.02	
v/s Ratio Perm			0.04			0.03	c0.26			c0.09		0.01
v/c Ratio	1.08	0.65	0.09	0.50	0.50	0.09	1.13	0.05		0.65	0.11	0.06
Uniform Delay, d1	51.4	25.3	18.7	57.4	31.5	27.0	46.1	35.7		49.0	45.3	45.0
Progression Factor	1.00	1.00	1.00	0.88	1.68	6.84	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	80.7	1.4	0.2	2.1	0.8	0.3	153.9	0.0		6.0	0.1	0.0
Delay (s)	132.1	26.8	18.9	52.9	53.8	185.1	200.0	35.7		55.0	45.4	45.1
Level of Service	F	C	B	D	D	F	F	D		E	D	D
Approach Delay (s)		42.0			72.5			150.7			49.9	
Approach LOS		D			E			F			D	

Intersection Summary			
HCM Average Control Delay	55.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	171	1712	102	131	1062	71	190	207	73	181	564	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	4.9	4.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	186	1861	111	142	1154	77	207	225	79	197	613	142
RTOR Reduction (vph)	0	0	30	0	0	36	0	0	55	0	0	82
Lane Group Flow (vph)	186	1861	81	142	1154	41	207	225	24	197	613	60
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	17.6	47.8	47.8	7.4	37.6	37.6	8.9	37.0	37.0	9.2	37.7	37.7
Effective Green, g (s)	17.6	47.8	47.8	7.4	37.6	37.6	8.9	37.0	37.0	9.2	37.7	37.7
Actuated g/C Ratio	0.15	0.40	0.40	0.06	0.31	0.31	0.07	0.31	0.31	0.08	0.31	0.31
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6
Lane Grp Cap (vph)	504	1968	631	212	1548	496	255	1091	488	263	1112	497
v/s Ratio Prot	0.05	c0.38		0.04	c0.23		c0.06	0.06		0.06	c0.17	
v/s Ratio Perm			0.05			0.03			0.02			0.04
v/c Ratio	0.37	0.95	0.13	0.67	0.75	0.08	0.81	0.21	0.05	0.75	0.55	0.12
Uniform Delay, d1	46.2	34.8	22.9	55.1	36.9	29.0	54.7	30.7	29.2	54.3	34.1	29.3
Progression Factor	1.15	1.13	1.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	9.5	0.1	6.1	2.1	0.1	16.7	0.4	0.2	9.8	2.0	0.5
Delay (s)	53.3	49.0	42.8	61.2	39.0	29.1	71.5	31.1	29.3	64.0	36.1	29.8
Level of Service	D	D	D	E	D	C	E	C	C	E	D	C
Approach Delay (s)		49.1			40.7			47.2			41.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	45.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	176	16	3	390	416	358
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	191	17	3	424	452	389
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1257		
pX, platoon unblocked	0.86					
vC, conflicting volume	883	226	841			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	783	226	841			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	33	98	100			
cM capacity (veh/h)	284	777	790			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2	SB 3
Volume Total	209	427	226	226	389
Volume Left	191	3	0	0	0
Volume Right	17	0	0	0	389
cSH	299	790	1700	1700	1700
Volume to Capacity	0.70	0.00	0.13	0.13	0.23
Queue Length 95th (ft)	121	0	0	0	0
Control Delay (s)	40.6	0.1	0.0	0.0	0.0
Lane LOS	E	A			
Approach Delay (s)	40.6	0.1	0.0		
Approach LOS	E				

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	423	85	77	443	2	887	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1583	1770	3539	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	460	92	84	482	2	964	511
RTOR Reduction (vph)	0	67	0	0	0	0	172
Lane Group Flow (vph)	460	25	84	482	2	964	339
Turn Type		custom	Prot		Prot		Perm
Protected Phases	3	8	1	6	5	2	
Permitted Phases							2
Actuated Green, G (s)	9.6	16.5	4.6	30.4	0.8	26.6	26.6
Effective Green, g (s)	9.6	16.5	4.6	30.4	0.8	26.6	26.6
Actuated g/C Ratio	0.16	0.27	0.07	0.49	0.01	0.43	0.43
Clearance Time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Vehicle Extension (s)	3.5	3.5	2.0	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	536	425	132	1749	23	1531	685
v/s Ratio Prot	c0.13	c0.02	c0.05	c0.14	0.00	c0.27	
v/s Ratio Perm							0.21
v/c Ratio	0.86	0.06	0.64	0.28	0.09	0.63	0.49
Uniform Delay, d1	25.3	16.7	27.6	9.1	30.0	13.6	12.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.1	0.1	7.2	0.1	0.6	0.9	0.7
Delay (s)	38.4	16.8	34.8	9.2	30.6	14.5	13.3
Level of Service	D	B	C	A	C	B	B
Approach Delay (s)	34.8			13.0		14.1	
Approach LOS	C			B		B	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	61.5	Sum of lost time (s)	17.8
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	507	37	711	133	62	284	203	597	24	36	44	1010
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	551	40	773	145	67	309	221	649	26	39	48	1098
RTOR Reduction (vph)	0	0	155	0	0	118	0	0	9	0	0	0
Lane Group Flow (vph)	551	40	618	145	67	191	221	649	17	0	87	1098
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot	Prot	
Protected Phases	3	8		7	4		1	6		5	5	2
Permitted Phases			8			4			6			
Actuated Green, G (s)	27.0	44.0	44.0	9.0	26.0	26.0	11.0	36.6	36.6		8.4	34.0
Effective Green, g (s)	27.0	44.0	44.0	9.0	26.0	26.0	11.0	36.6	36.6		8.4	34.0
Actuated g/C Ratio	0.23	0.38	0.38	0.08	0.22	0.22	0.09	0.32	0.32		0.07	0.29
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0	2.0	4.3	4.3		2.0	4.3
Lane Grp Cap (vph)	413	708	601	138	795	355	168	1119	500		128	1039
v/s Ratio Prot	c0.31	0.02		0.08	0.02		c0.12	c0.18			0.05	c0.31
v/s Ratio Perm			c0.39			0.12			0.01			
v/c Ratio	1.33	0.06	1.03	1.05	0.08	0.54	1.32	0.58	0.03		0.68	1.06
Uniform Delay, d1	44.4	22.7	35.9	53.4	35.5	39.6	52.4	33.2	27.4		52.4	40.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	166.1	0.0	44.1	90.8	0.0	0.8	177.7	1.0	0.0		10.7	44.2
Delay (s)	210.5	22.8	80.0	144.2	35.5	40.4	230.1	34.1	27.4		63.1	85.1
Level of Service	F	C	F	F	D	D	F	C	C		E	F
Approach Delay (s)		131.1			68.6			82.3				77.5
Approach LOS		F			E			F				E

Intersection Summary			
HCM Average Control Delay	95.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	115.8	Sum of lost time (s)	17.8
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

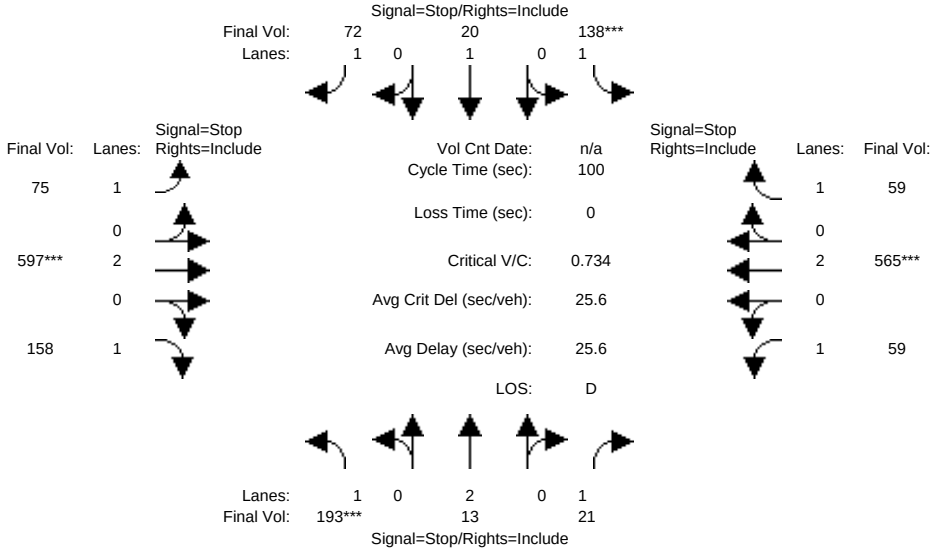
Movement	SBR
Lane Configurations	
Volume (vph)	143
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.9
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	155
RTOR Reduction (vph)	42
Lane Group Flow (vph)	113
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	34.0
Effective Green, g (s)	34.0
Actuated g/C Ratio	0.29
Clearance Time (s)	4.9
Vehicle Extension (s)	4.3
Lane Grp Cap (vph)	465
v/s Ratio Prot	
v/s Ratio Perm	0.07
v/c Ratio	0.24
Uniform Delay, d1	31.1
Progression Factor	1.00
Incremental Delay, d2	0.4
Delay (s)	31.6
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #10: Bullard Ave / Dante Ave



Street Name:	Bullard Avenue						Dante Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	193	13	21	138	20	72	75	597	158	59	565	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	193	13	21	138	20	72	75	597	158	59	565	59
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	193	13	21	138	20	72	75	597	158	59	565	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	193	13	21	138	20	72	75	597	158	59	565	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	193	13	21	138	20	72	75	597	158	59	565	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	193	13	21	138	20	72	75	597	158	59	565	59
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	318	637	341	312	318	343	373	813	430	360	786	409
Capacity Analysis Module:												
Vol/Sat:	0.61	0.02	0.06	0.44	0.06	0.21	0.20	0.73	0.37	0.16	0.72	0.14
Crit Moves:	****			****				****			****	
Delay/Veh:	27.3	13.2	12.8	21.0	13.6	14.6	14.1	30.9	15.0	13.9	30.4	12.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.3	13.2	12.8	21.0	13.6	14.6	14.1	30.9	15.0	13.9	30.4	12.3
LOS by Move:	D	B	B	C	B	B	B	D	B	B	D	B
ApproachDel:	25.1			18.3			26.4			27.4		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	25.1			18.3			26.4			27.4		
LOS by Appr:	D			C			D			D		
AllWayAvgQ:	1.2	0.0	0.1	0.6	0.1	0.2	0.2	2.2	0.5	0.2	2.0	0.1

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #10 Bullard Ave / Dante Ave

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Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0 2 0 1			1 0 1 0 1			1 0 2 0 1			1 0 2 0 1		
Initial Vol:	193	13	21	138	20	72	75	597	158	59	565	59

Major Street Volume: 1513
Minor Approach Volume: 230
Minor Approach Volume Threshold: 196

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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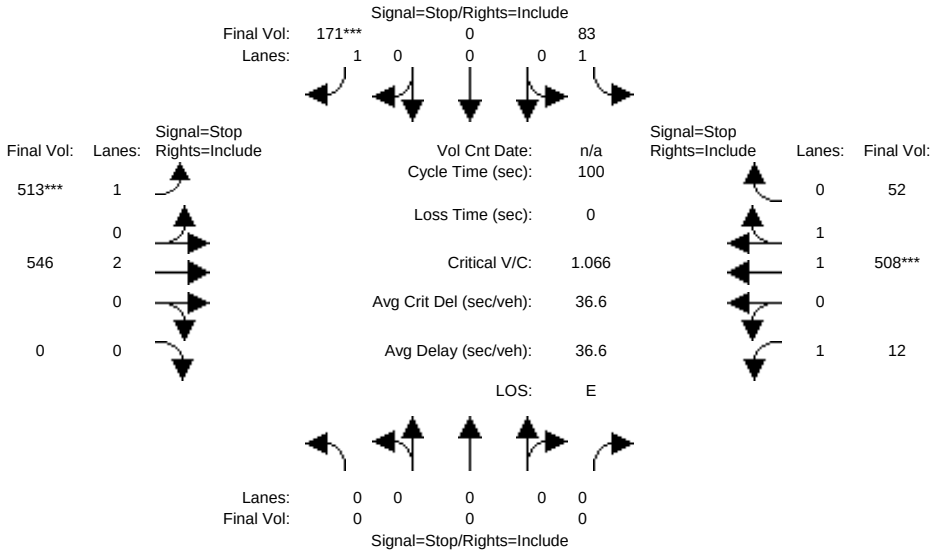
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #11: Bullard Ave / Polk Ave



Street Name:	Polk Ave						Bullard Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	0	0	0	83	0	171	513	546	0	12	508	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	83	0	171	513	546	0	12	508	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	83	0	171	513	546	0	12	508	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	83	0	171	513	546	0	12	508	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	83	0	171	513	546	0	12	508	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	83	0	171	513	546	0	12	508	52
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	1.00	1.81	0.19
Final Sat.:	0	0	0	414	0	482	481	1018	0	428	841	87
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.20	xxxx	0.36	1.07	0.54	xxxx	0.03	0.60	0.60
Crit Moves:						****	****				****	
Delay/Veh:	0.0	0.0	0.0	13.1	0.0	13.6	86.3	17.2	0.0	11.2	21.1	20.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.1	0.0	13.6	86.3	17.2	0.0	11.2	21.1	20.7
LOS by Move:	*	*	*	B	*	B	F	C	*	B	C	C
ApproachDel:	xxxxxx			13.4			50.7			20.8		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			13.4			50.7			20.8		
LOS by Appr:	*			B			F			C		
AllWayAvgQ:	0.0	0.0	0.0	0.2	0.0	0.5	10.2	1.1	0.0	0.0	1.4	1.3

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #11 Bullard Ave / Polk Ave

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	0	0	0	0	1	0	0	0	1	1	0	2	0	0	1	0	1	1	0
Initial Vol:	0		0		0	83		0		171	513		546		0	12		508		52

Major Street Volume: 1631
Minor Approach Volume: 254
Minor Approach Volume Threshold: 164

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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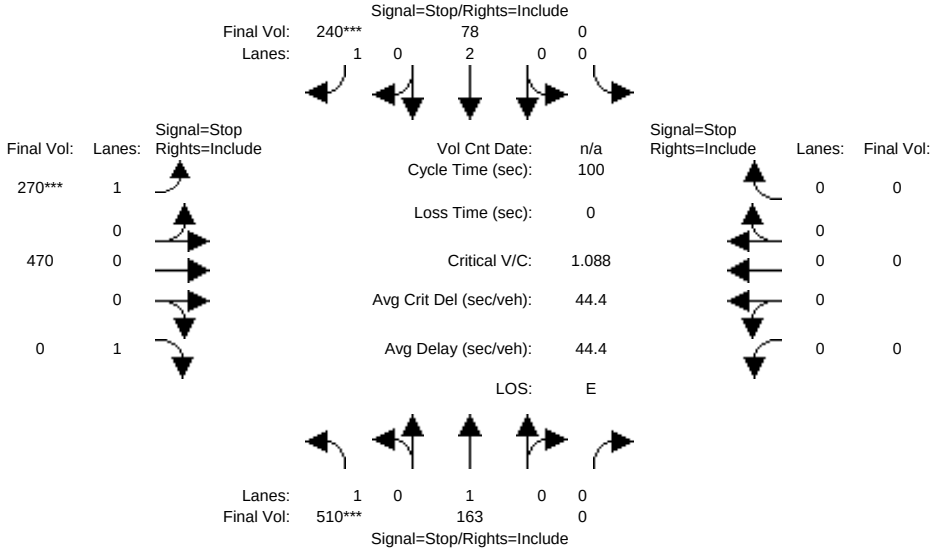
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build AM

Intersection #12: Bullard Ave / Carnegie Ave




```
Street Name:          Bullard Avenue                    Carnegie Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     510  163     0     0   78   240   270  470     0     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  510  163     0     0   78   240   270  470     0     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  510  163     0     0   78   240   270  470     0     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   510  163     0     0   78   240   270  470     0     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  510  163     0     0   78   240   270  470     0     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  510  163     0     0   78   240   270  470     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.00  0.00  0.00 2.00  1.00  0.73 1.27  0.00  0.00 0.00  0.00
Final Sat.:   469  494     0     0  844   463   351  635     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.09 0.33  xxxx  xxxx 0.09  0.52  0.77 0.74  xxxx  xxxx xxxx  xxxx
Crit Moves:  ****                         ****  ****
Delay/Veh:   94.6 13.3   0.0   0.0 11.9  18.2  30.6 27.5   0.0   0.0  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  94.6 13.3   0.0   0.0 11.9  18.2  30.6 27.5   0.0   0.0  0.0   0.0
LOS by Move:    F    B     *     *    B     C     D    D     *     *    *     *
ApproachDel:      74.9             16.6             28.6           xxxxxx
Delay Adj:        1.00             1.00             1.00            xxxxx
ApprAdjDel:       74.9             16.6             28.6           xxxxxx
LOS by Appr:         F                C                D                *
AllWayAvgQ:  11.0  0.5   0.0   0.0  0.1   1.0   2.7  2.4   2.4   0.0  0.0   0.0
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #12 Bullard Ave / Carnegie Ave

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	1	0	1	0	0	0	0	2	0	1	0	1	0	1	0	0	0	0	0	0
Initial Vol:	510	163			0		0	78		240	270	470			0		0		0	0

Major Street Volume: 991
Minor Approach Volume: 740
Minor Approach Volume Threshold: 378

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	1	5	5	546	5	149	5	153	397	206	249	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	5	5	593	5	162	5	166	432	224	271	9

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	12	761	172	432	359	144
Volume Left (vph)	1	593	5	0	224	0
Volume Right (vph)	5	162	0	432	0	9
Hadj (s)	-0.22	0.06	0.05	-0.67	0.35	-0.01
Departure Headway (s)	8.5	6.7	7.5	6.8	7.9	7.5
Degree Utilization, x	0.03	1.43	0.36	0.82	0.78	0.30
Capacity (veh/h)	389	521	473	522	450	472
Control Delay (s)	11.7	222.0	13.5	32.0	32.7	12.5
Approach Delay (s)	11.7	222.0	26.7		26.9	
Approach LOS	B	F	D		D	

Intersection Summary			
Delay	105.7		
HCM Level of Service	F		
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	2280	660	120	2000	200	770	130	50	140	220	230
Ideal Flow (vphpl)	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3162	5085	1583	3162	5085	1583	3162	3539	1583	3162	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3162	5085	1583	3162	5085	1583	3162	3539	1583	3162	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	380	2478	717	130	2174	217	837	141	54	152	239	250
RTOR Reduction (vph)	0	0	120	0	0	52	0	0	16	0	0	0
Lane Group Flow (vph)	380	2478	597	130	2174	165	837	141	38	152	239	250
Turn Type	Prot		pm+ov	Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	13.1	57.9	82.2	5.0	49.8	49.8	24.3	32.0	32.0	10.2	17.9	31.0
Effective Green, g (s)	13.1	59.6	82.2	5.0	51.5	51.5	24.3	32.9	32.9	10.2	18.8	31.0
Actuated g/C Ratio	0.11	0.48	0.66	0.04	0.42	0.42	0.20	0.27	0.27	0.08	0.15	0.25
Clearance Time (s)	4.0	5.7	4.0	4.0	5.7	5.7	4.0	4.9	4.9	4.0	4.9	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	335	2450	1052	128	2117	659	621	941	421	261	538	397
v/s Ratio Prot	c0.12	c0.49	0.11	0.04	0.43		c0.26	0.04		0.05	0.07	c0.07
v/s Ratio Perm			0.27			0.10			0.02			0.09
v/c Ratio	1.13	1.01	0.57	1.02	1.03	0.25	1.35	0.15	0.09	0.58	0.44	0.63
Uniform Delay, d1	55.3	32.1	11.2	59.4	36.1	23.5	49.7	34.7	34.1	54.7	47.7	41.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	90.7	21.0	0.7	83.8	26.8	0.9	167.0	0.1	0.1	3.3	0.6	3.1
Delay (s)	146.0	53.1	11.9	143.1	62.9	24.4	216.7	34.8	34.2	58.0	48.3	44.4
Level of Service	F	D	B	F	E	C	F	C	C	E	D	D
Approach Delay (s)		54.7			63.7			182.3			49.1	
Approach LOS		D			E			F			D	

Intersection Summary			
HCM Average Control Delay	74.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	123.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	330	3010	290	50	2750	200	90	0	160	120	0	210
Ideal Flow (vphpl)	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00		1.00	1.00		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	3072	5085	1538	1630	5085	1583	1583		1583	1630		1538
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	3072	5085	1538	1630	5085	1583	1583		1583	1630		1538
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	359	3272	315	54	2989	217	98	0	174	130	0	228
RTOR Reduction (vph)	0	0	88	0	0	65	0	0	21	0	0	30
Lane Group Flow (vph)	359	3272	227	54	2989	152	98	0	153	130	0	198
Heavy Vehicles (%)	5%	2%	5%	2%	2%	2%	5%	2%	2%	2%	2%	5%
Turn Type	Prot		Perm	Prot		Perm	Prot		custom	Prot		custom
Protected Phases	5	2		1	6		8			4		
Permitted Phases			2			6			8			4
Actuated Green, G (s)	15.8	85.1	85.1	4.8	74.1	74.1	16.0		16.0	16.0		16.0
Effective Green, g (s)	15.8	86.8	86.8	4.8	75.8	75.8	16.9		16.9	16.9		16.9
Actuated g/C Ratio	0.13	0.72	0.72	0.04	0.63	0.63	0.14		0.14	0.14		0.14
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.9		4.9	4.9		4.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	403	3663	1108	65	3199	996	222		222	229		216
v/s Ratio Prot	c0.12	0.64		0.03	c0.59		0.06			0.08		
v/s Ratio Perm			0.15			0.10			0.10			c0.13
v/c Ratio	0.89	0.89	0.20	0.83	0.93	0.15	0.44		0.69	0.57		0.92
Uniform Delay, d1	51.5	13.2	5.5	57.4	20.1	9.2	47.5		49.3	48.4		51.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	21.0	3.8	0.4	56.7	6.6	0.3	1.4		8.5	3.2		38.6
Delay (s)	72.5	17.0	5.9	114.2	26.7	9.5	48.9		57.8	51.6		89.7
Level of Service	E	B	A	F	C	A	D		E	D		F
Approach Delay (s)		21.2			27.0			54.6			75.8	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	27.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

FRESNO AREA ANALYSIS

(BETWEEN HERNDON AVENUE AND SHAW AVENUE)

2035 NOBUILD-PM CONDITIONS

– LEVEL OF SERVICE SHEETS

HCM Unsignalized Intersection Capacity Analysis
1: Santa Ana Avenue & Golden State Boulevard

4/13/2011

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	3	31	5	1900	1041	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	34	5	2065	1132	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3209	1133	1134			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3209	1133	1134			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	70	86	99			
cM capacity (veh/h)	11	247	616			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	37	2071	1134
Volume Left	3	5	0
Volume Right	34	0	2
cSH	85	616	1700
Volume to Capacity	0.44	0.01	0.67
Queue Length 95th (ft)	45	1	0
Control Delay (s)	76.9	0.0	0.0
Lane LOS	F	A	
Approach Delay (s)	76.9	0.0	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	114.0%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Yield		Yield			Yield
Volume (vph)	0	4	10	5	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	4	11	5	2	0

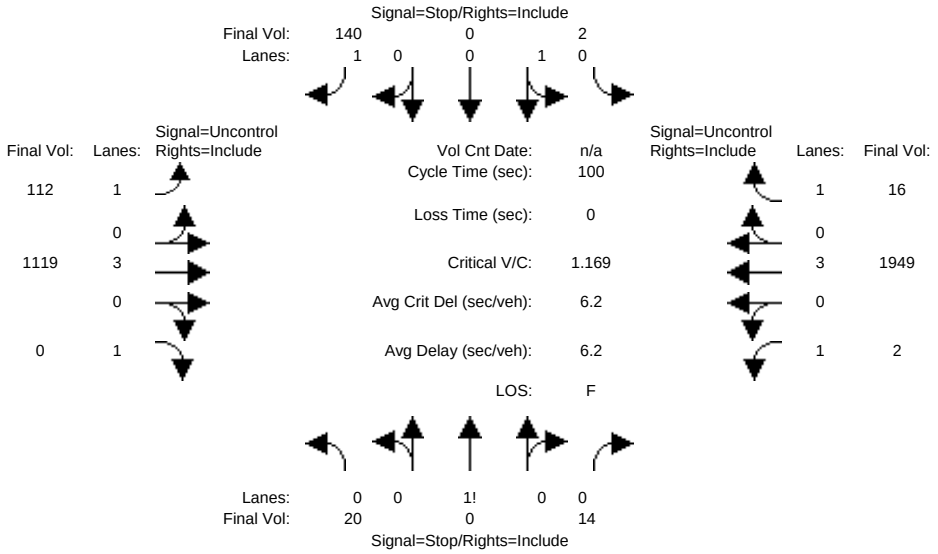
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	4	16	2
Volume Left (vph)	0	0	2
Volume Right (vph)	4	5	0
Hadj (s)	-0.57	-0.17	0.23
Departure Headway (s)	3.4	3.7	4.2
Degree Utilization, x	0.00	0.02	0.00
Capacity (veh/h)	1054	957	860
Control Delay (s)	6.4	6.8	7.2
Approach Delay (s)	6.4	6.8	7.2
Approach LOS	A	A	A

Intersection Summary			
Delay	6.8		
HCM Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 No Build PM

Intersection #3: Cornelia Avenue / Shaw Avenue




```
Street Name:         Cornelia Avenue                    Shaw Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20    0    14     2    0   140   112 1119     0     2 1949    16
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   20    0    14     2    0   140   112 1119     0     2 1949    16
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   20    0    14     2    0   140   112 1119     0     2 1949    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    20    0    14     2    0   140   112 1119     0     2 1949    16
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   20    0    14     2    0   140   112 1119     0     2 1949    16
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1997 3312   373  2550 3296   650  1965 xxxx xxxxx  1119 xxxx xxxxx
Potent Cap.:   36    9   630    14    9   417   300 xxxx xxxxx   632 xxxx xxxxx
Move Cap.:     17    5   630     9    5   417   300 xxxx xxxxx   632 xxxx xxxxx
Volume/Cap:  1.17 0.00  0.02  0.21 0.00  0.34  0.37 xxxx  xxxx  0.00 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   1.5   1.7 xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  17.9  24.0 xxxx xxxxx  10.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     C     C    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   29 xxxxx     9 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.9 xxxxx   0.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx  438 xxxxx 466.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     F    *     *     *    *     *     *    *     *
ApproachDel:     437.7              24.3           xxxxxx           xxxxxx
ApproachLOS:         F                 C                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Cornelia Avenue / Shaw Avenue
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```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------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  1  0  0  1    1  0  3  0  1    1  0  3  0  1
Initial Vol:   20    0    14     2    0   140   112 1119     0     2 1949    16
ApproachDel:     437.7             24.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.1]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=34]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3374]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=142]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=3374]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #3 Cornelia Avenue / Shaw Avenue
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  1  0  0  1    1  0  3  0  1    1  0  3  0  1
Initial Vol:   20    0    14     2    0   140   112 1119     0     2 1949    16
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3198
Minor Approach Volume:           142
Minor Approach Volume Threshold: -126 [less than minimum of 150]
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	1103	28	572	1876	150	77	690	1100	133	241	14
Ideal Flow (vphpl)	1900	1900	1900	1750	1750	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1543	4893	1392	1583	4550	1404	1530	3312	1553	1641	3312	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1543	4893	1392	1583	4550	1404	1530	3312	1553	1641	3312	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.99	0.94	0.93	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	1199	30	578	1996	161	84	750	1196	145	262	15
RTOR Reduction (vph)	0	0	4	0	0	53	0	0	295	0	0	6
Lane Group Flow (vph)	15	1199	26	578	1996	108	84	750	901	145	262	9
Heavy Vehicles (%)	17%	6%	16%	5%	5%	15%	18%	9%	4%	10%	9%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	2.4	52.0	52.0	53.0	102.6	102.6	7.0	40.7	40.7	19.1	52.8	52.8
Effective Green, g (s)	2.4	53.3	53.3	53.0	103.9	103.9	7.0	42.0	42.0	19.1	54.1	54.1
Actuated g/C Ratio	0.01	0.29	0.29	0.29	0.57	0.57	0.04	0.23	0.23	0.10	0.29	0.29
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	20	1422	405	457	2578	795	58	758	356	171	977	467
v/s Ratio Prot	0.01	c0.25		c0.37	0.44		c0.05	0.23		c0.09	0.08	
v/s Ratio Perm			0.02			0.08			c0.58			0.01
v/c Ratio	0.75	0.84	0.06	1.26	0.77	0.14	1.45	0.99	2.53	0.85	0.27	0.02
Uniform Delay, d1	90.2	61.1	47.0	65.2	30.7	18.7	88.2	70.5	70.7	80.7	49.5	45.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	83.6	6.3	0.3	135.7	2.3	0.4	275.2	29.6	697.8	29.3	0.1	0.0
Delay (s)	173.8	67.4	47.3	200.9	33.0	19.0	363.4	100.1	768.5	110.0	49.5	45.8
Level of Service	F	E	D	F	C	B	F	F	F	F	D	D
Approach Delay (s)		68.2			67.7			504.8			70.2	
Approach LOS		E			E			F			E	

Intersection Summary			
HCM Average Control Delay	205.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	183.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	690	2341	29	34	1996	553	40	19	23	347	3	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1711		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.33	1.00		0.73	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	611	1711		1354	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	750	2545	32	37	2170	601	43	21	25	377	3	163
RTOR Reduction (vph)	0	0	5	0	0	225	0	22	0	0	0	117
Lane Group Flow (vph)	750	2545	27	37	2170	376	43	24	0	377	3	46
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			3			4	
Permitted Phases			2			6	3			4		4
Actuated Green, G (s)	6.0	52.8	52.8	3.6	50.4	50.4	12.2	12.2		33.7	33.7	33.7
Effective Green, g (s)	6.0	52.8	52.8	3.6	50.4	50.4	12.2	12.2		33.7	33.7	33.7
Actuated g/C Ratio	0.05	0.44	0.44	0.03	0.42	0.42	0.10	0.10		0.28	0.28	0.28
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	89	2237	697	53	2136	665	62	174		380	523	445
v/s Ratio Prot	c0.42	c0.50		0.02	0.43			0.01			0.00	
v/s Ratio Perm			0.02			0.24	c0.07			c0.28		0.03
v/c Ratio	8.43	1.14	0.04	0.70	1.02	0.57	0.69	0.14		0.99	0.01	0.10
Uniform Delay, d1	57.0	33.6	19.1	57.7	34.8	26.5	52.1	49.1		43.0	31.1	32.0
Progression Factor	1.00	1.00	1.00	0.86	1.74	3.46	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3364.9	68.0	0.1	2.9	10.5	0.3	23.7	0.1		43.8	0.0	0.0
Delay (s)	3421.9	101.6	19.2	52.3	71.0	91.9	75.8	49.2		86.8	31.1	32.0
Level of Service	F	F	B	D	E	F	E	D		F	C	C
Approach Delay (s)		849.3			75.2			62.0			70.1	
Approach LOS		F			E			E			E	

Intersection Summary			
HCM Average Control Delay	455.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	113.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	428	2172	208	230	1839	199	352	897	194	312	311	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	4.9	4.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	465	2361	226	250	1999	216	383	975	211	339	338	166
RTOR Reduction (vph)	0	0	48	0	0	53	0	0	61	0	0	113
Lane Group Flow (vph)	465	2361	178	250	1999	163	383	975	150	339	338	53
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	12.0	44.7	44.7	8.0	40.7	40.7	11.0	36.3	36.3	12.4	38.1	38.1
Effective Green, g (s)	12.0	44.7	44.7	8.0	40.7	40.7	11.0	36.3	36.3	12.4	38.1	38.1
Actuated g/C Ratio	0.10	0.37	0.37	0.07	0.34	0.34	0.09	0.30	0.30	0.10	0.32	0.32
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6
Lane Grp Cap (vph)	343	1840	590	229	1675	537	315	1071	479	355	1124	503
v/s Ratio Prot	0.14	c0.48		0.07	c0.40		c0.11	c0.28		0.10	0.10	
v/s Ratio Perm			0.11			0.10			0.09			0.03
v/c Ratio	1.36	1.28	0.30	1.09	1.19	0.30	1.22	0.91	0.31	0.95	0.30	0.10
Uniform Delay, d1	54.0	37.6	26.6	56.0	39.7	29.2	54.5	40.3	32.2	53.5	30.9	28.9
Progression Factor	1.37	1.52	1.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	161.8	127.8	0.0	86.1	93.2	0.4	122.6	12.9	1.7	35.5	0.7	0.4
Delay (s)	235.7	185.0	52.7	142.1	132.9	29.6	177.1	53.2	33.9	89.0	31.6	29.3
Level of Service	F	F	D	F	F	C	F	D	C	F	C	C
Approach Delay (s)		183.0			124.8			80.9			54.2	
Approach LOS		F			F			F			D	

Intersection Summary			
HCM Average Control Delay	131.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	76	8	8	700	437	122
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	83	9	9	761	475	133
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1257		
pX, platoon unblocked	0.74					
vC, conflicting volume	1253	238	608			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1168	238	608			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	40	99	99			
cM capacity (veh/h)	137	764	967			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2	SB 3
Volume Total	91	770	238	238	133
Volume Left	83	9	0	0	0
Volume Right	9	0	0	0	133
cSH	149	967	1700	1700	1700
Volume to Capacity	0.61	0.01	0.14	0.14	0.08
Queue Length 95th (ft)	82	1	0	0	0
Control Delay (s)	61.4	0.2	0.0	0.0	0.0
Lane LOS	F	A			
Approach Delay (s)	61.4	0.2	0.0		
Approach LOS	F				

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	561	71	61	1117	4	984	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1583	1770	3539	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	610	77	66	1214	4	1070	461
RTOR Reduction (vph)	0	52	0	0	0	0	113
Lane Group Flow (vph)	610	25	66	1214	4	1070	348
Turn Type		custom	Prot		Prot		Perm
Protected Phases	3	8	1	6	5	2	
Permitted Phases							2
Actuated Green, G (s)	18.8	25.9	6.0	39.1	0.8	33.9	33.9
Effective Green, g (s)	18.8	25.9	6.0	39.1	0.8	33.9	33.9
Actuated g/C Ratio	0.24	0.33	0.08	0.49	0.01	0.43	0.43
Clearance Time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Vehicle Extension (s)	3.5	3.5	2.0	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	811	515	133	1738	18	1507	674
v/s Ratio Prot	c0.18	c0.02	c0.04	c0.34	0.00	0.30	
v/s Ratio Perm							0.22
v/c Ratio	0.75	0.05	0.50	0.70	0.22	0.71	0.52
Uniform Delay, d1	28.2	18.4	35.3	15.7	39.1	18.8	16.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1	0.0	1.1	1.3	2.3	1.7	0.8
Delay (s)	32.3	18.5	36.4	17.0	41.4	20.5	17.6
Level of Service	C	B	D	B	D	C	B
Approach Delay (s)	30.8			18.0		19.7	
Approach LOS	C			B		B	

Intersection Summary			
HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	12.9
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	436	86	671	278	366	183	421	905	79	118	159	930
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	474	93	729	302	398	199	458	984	86	128	173	1011
RTOR Reduction (vph)	0	0	184	0	0	44	0	0	23	0	0	0
Lane Group Flow (vph)	474	93	545	302	398	155	458	984	63	0	301	1011
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot	Prot	
Protected Phases	3	8		7	4		1	6		5	5	2
Permitted Phases			8			4			6			
Actuated Green, G (s)	17.0	32.0	32.0	11.0	26.0	26.0	16.0	33.2	33.2		11.0	28.2
Effective Green, g (s)	17.0	32.0	32.0	11.0	26.0	26.0	16.0	33.2	33.2		11.0	28.2
Actuated g/C Ratio	0.16	0.30	0.30	0.10	0.25	0.25	0.15	0.32	0.32		0.10	0.27
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0	2.0	4.3	4.3		2.0	4.3
Lane Grp Cap (vph)	287	568	482	185	876	392	270	1119	501		185	950
v/s Ratio Prot	c0.27	0.05		0.17	0.11		c0.26	0.28			0.17	c0.29
v/s Ratio Perm			c0.34			0.10			0.04			
v/c Ratio	1.65	0.16	1.13	1.63	0.45	0.39	1.70	0.88	0.13		1.63	1.06
Uniform Delay, d1	44.0	26.7	36.5	47.0	33.5	32.9	44.5	34.0	25.6		47.0	38.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	308.3	0.0	82.3	307.8	0.1	0.2	328.8	8.5	0.2		305.5	47.9
Delay (s)	352.3	26.8	118.8	354.8	33.6	33.2	373.3	42.5	25.8		352.5	86.3
Level of Service	F	C	F	F	C	C	F	D	C		F	F
Approach Delay (s)		197.6			141.4			140.7				121.0
Approach LOS		F			F			F				F

Intersection Summary			
HCM Average Control Delay	148.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

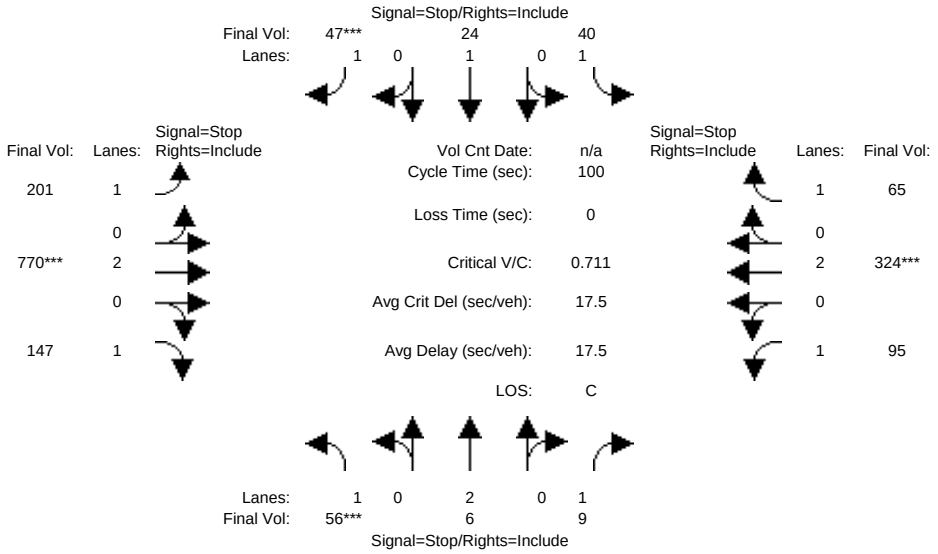
Movement	SBR
Lane Configurations	
Volume (vph)	389
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.9
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	423
RTOR Reduction (vph)	136
Lane Group Flow (vph)	287
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	28.2
Effective Green, g (s)	28.2
Actuated g/C Ratio	0.27
Clearance Time (s)	4.9
Vehicle Extension (s)	4.3
Lane Grp Cap (vph)	425
v/s Ratio Prot	
v/s Ratio Perm	0.18
v/c Ratio	0.68
Uniform Delay, d1	34.3
Progression Factor	1.00
Incremental Delay, d2	4.8
Delay (s)	39.1
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary

CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #10: Bullard Ave / Dante Ave



Street Name:	Bullard Avenue						Dante Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	56	6	9	40	24	47	201	770	147	95	324	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	6	9	40	24	47	201	770	147	95	324	65
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	6	9	40	24	47	201	770	147	95	324	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	6	9	40	24	47	201	770	147	95	324	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	6	9	40	24	47	201	770	147	95	324	65
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	6	9	40	24	47	201	770	147	95	324	65
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	340	705	379	345	360	390	498	1083	593	428	918	497
Capacity Analysis Module:												
Vol/Sat:	0.16	0.01	0.02	0.12	0.07	0.12	0.40	0.71	0.25	0.22	0.35	0.13
Crit Moves:	****					****		****			****	
Delay/Veh:	13.8	11.7	11.1	13.1	12.1	11.8	14.3	23.3	10.4	12.9	14.0	10.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.8	11.7	11.1	13.1	12.1	11.8	14.3	23.3	10.4	12.9	14.0	10.5
LOS by Move:	B	B	B	B	B	B	B	C	B	B	B	B
ApproachDel:	13.3			12.3			20.0			13.3		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	13.3			12.3			20.0			13.3		
LOS by Appr:	B			B			C			B		
AllWayAvgQ:	0.2	0.0	0.0	0.1	0.1	0.1	0.6	2.1	0.3	0.3	0.5	0.1

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #10 Bullard Ave / Dante Ave

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0 2 0 1			1 0 1 0 1			1 0 2 0 1			1 0 2 0 1		
Initial Vol:	56	6	9	40	24	47	201	770	147	95	324	65

Major Street Volume: 1602
Minor Approach Volume: 111
Minor Approach Volume Threshold: 171

SIGNAL WARRANT DISCLAIMER

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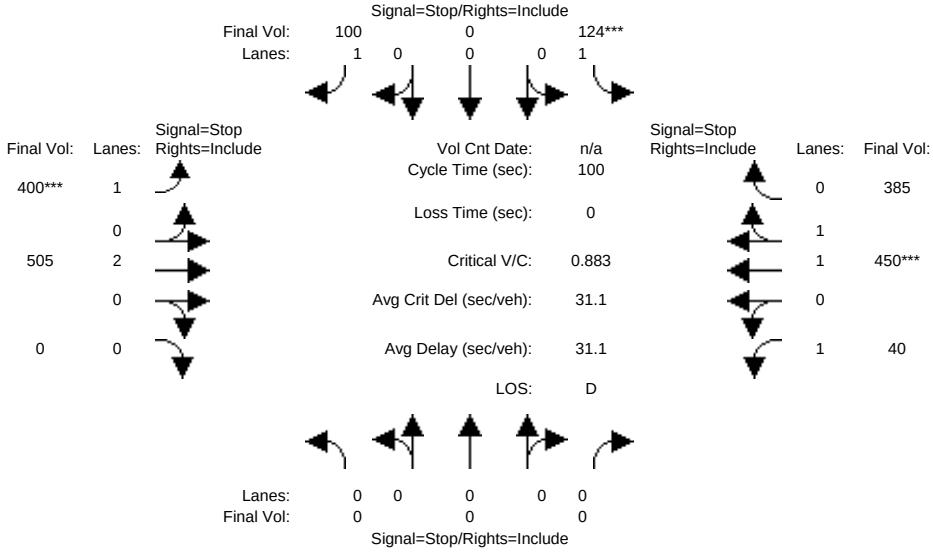
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #11: Bullard Ave / Polk Ave



Street Name:	Polk Ave						Bullard Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	0	0	0	124	0	100	400	505	0	40	450	385
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	124	0	100	400	505	0	40	450	385
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	124	0	100	400	505	0	40	450	385
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	124	0	100	400	505	0	40	450	385
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	124	0	100	400	505	0	40	450	385
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	124	0	100	400	505	0	40	450	385
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	1.00	1.08	0.92
Final Sat.:	0	0	0	399	0	457	453	954	0	435	514	477
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.31	xxxx	0.22	0.88	0.53	xxxx	0.09	0.87	0.81
Crit Moves:				****			****				****	
Delay/Veh:	0.0	0.0	0.0	15.0	0.0	12.1	45.8	17.9	0.0	11.5	42.7	31.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	15.0	0.0	12.1	45.8	17.9	0.0	11.5	42.7	31.8
LOS by Move:	*	*	*	B	*	B	E	C	*	B	E	D
ApproachDel:	xxxxxx			13.7			30.2			36.5		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			13.7			30.2			36.5		
LOS by Appr:	*			B			D			E		
AllWayAvgQ:	0.0	0.0	0.0	0.4	0.0	0.2	4.4	1.0	0.0	0.1	4.4	3.2

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #11 Bullard Ave / Polk Ave

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 0 0 0			1 0 0 0 1			1 0 2 0 0			1 0 1 1 0		
Initial Vol:	0	0	0	124	0	100	400	505	0	40	450	385

Major Street Volume: 1780
Minor Approach Volume: 224
Minor Approach Volume Threshold: 126 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER
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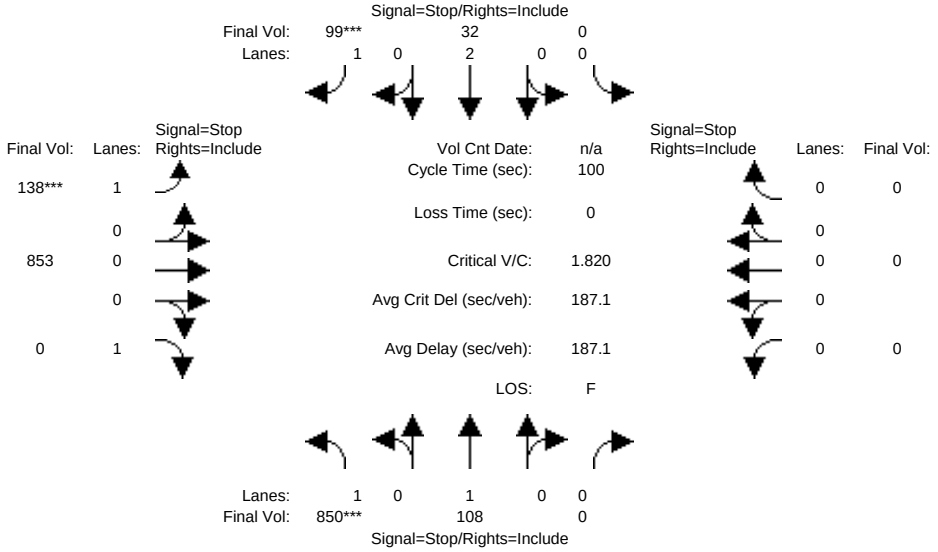
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 No Build PM

Intersection #12: Bullard Ave / Carnegie Ave

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Street Name:          Bullard Avenue                    Carnegie Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     850  108     0     0   32    99   138  853     0     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  850  108     0     0   32    99   138  853     0     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  850  108     0     0   32    99   138  853     0     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   850  108     0     0   32    99   138  853     0     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  850  108     0     0   32    99   138  853     0     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  850  108     0     0   32    99   138  853     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.00  0.00  0.00 2.00  1.00  0.28 1.72  0.00  0.00 0.00  0.00
Final Sat.:   467  492     0     0  824   448   146  915     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.82 0.22  xxxx  xxxx 0.04  0.22  0.94 0.93  xxxx  xxxx xxxx  xxxx
Crit Moves:  ****                         ****  ****
Delay/Veh:  395.9 11.9   0.0   0.0 11.7  12.8  52.2 49.7   0.0   0.0  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 395.9 11.9   0.0   0.0 11.7  12.8  52.2 49.7   0.0   0.0  0.0   0.0
LOS by Move:    F    B     *     *    B     B     F    E     *     *    *     *
ApproachDel:     352.6             12.5             50.1           xxxxxx
Delay Adj:        1.00             1.00             1.00            xxxxx
ApprAdjDel:      352.6             12.5             50.1           xxxxxx
LOS by Appr:         F                B                F                *
AllWayAvgQ:  50.0  0.3   0.0   0.0  0.0   0.3   6.2  5.7   5.7   0.0  0.0   0.0
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #12 Bullard Ave / Carnegie Ave

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	1	0	1	0	0	0	0	2	0	1	0	1	0	1	0	0	0	0	0	0
Initial Vol:	850	108			0		0	32		99	138	853			0		0		0	0

Major Street Volume: 1089
Minor Approach Volume: 991
Minor Approach Volume Threshold: 337

SIGNAL WARRANT DISCLAIMER

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	1	5	1	670	10	144	5	184	715	301	309	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	5	1	728	11	157	5	200	777	327	336	10

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	8	896	205	777	495	178
Volume Left (vph)	1	728	5	0	327	0
Volume Right (vph)	1	157	0	777	0	10
Hadj (s)	-0.02	0.09	0.05	-0.67	0.36	0.00
Departure Headway (s)	9.4	7.1	7.7	7.0	8.1	7.7
Degree Utilization, x	0.02	1.76	0.44	1.52	1.11	0.38
Capacity (veh/h)	376	508	462	517	459	464
Control Delay (s)	12.6	368.3	15.5	259.7	102.0	14.1
Approach Delay (s)	12.6	368.3	208.6		78.8	
Approach LOS	B	F	F		F	

Intersection Summary			
Delay	229.8		
HCM Level of Service	F		
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	2150	780	90	2010	150	670	280	120	200	310	500
Ideal Flow (vphpl)	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3162	5085	1583	3162	5085	1583	3162	3539	1583	3162	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3162	5085	1583	3162	5085	1583	3162	3539	1583	3162	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	2337	848	98	2185	163	728	304	130	217	337	543
RTOR Reduction (vph)	0	0	83	0	0	40	0	0	16	0	0	1
Lane Group Flow (vph)	315	2337	765	98	2185	123	728	304	114	217	337	542
Turn Type	Prot		pm+ov	Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	13.1	57.8	82.1	5.0	49.7	49.7	24.3	34.0	34.0	11.1	20.8	33.9
Effective Green, g (s)	13.1	59.5	82.1	5.0	51.4	51.4	24.3	34.9	34.9	11.1	21.7	33.9
Actuated g/C Ratio	0.10	0.47	0.65	0.04	0.41	0.41	0.19	0.28	0.28	0.09	0.17	0.27
Clearance Time (s)	4.0	5.7	4.0	4.0	5.7	5.7	4.0	4.9	4.9	4.0	4.9	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	327	2392	1027	125	2066	643	607	976	437	277	607	424
v/s Ratio Prot	0.10	0.46	0.14	0.03	c0.43		c0.23	0.09		0.07	0.10	c0.13
v/s Ratio Perm			0.34			0.08			0.07			0.21
v/c Ratio	0.96	0.98	0.75	0.78	1.06	0.19	1.20	0.31	0.26	0.78	0.56	1.28
Uniform Delay, d1	56.5	32.8	15.1	60.2	37.6	24.2	51.1	36.3	35.7	56.5	48.0	46.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	39.7	13.7	3.0	26.7	37.1	0.7	105.0	0.2	0.3	13.5	1.1	142.6
Delay (s)	96.2	46.6	18.1	86.9	74.6	24.8	156.1	36.5	36.1	70.0	49.1	188.9
Level of Service	F	D	B	F	E	C	F	D	D	E	D	F
Approach Delay (s)		44.1			71.8			111.3			122.4	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM Average Control Delay	72.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	126.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	280	2880	210	150	2840	190	180	0	110	230	0	490
Ideal Flow (vphpl)	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00		1.00	1.00		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	3072	5085	1538	1630	5085	1583	1583		1583	1630		1538
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	3072	5085	1538	1630	5085	1583	1583		1583	1630		1538
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	3130	228	163	3087	207	196	0	120	250	0	533
RTOR Reduction (vph)	0	0	67	0	0	64	0	0	21	0	0	30
Lane Group Flow (vph)	304	3130	162	163	3087	143	196	0	99	250	0	503
Heavy Vehicles (%)	5%	2%	5%	2%	2%	2%	5%	2%	2%	2%	2%	5%
Turn Type	Prot		Perm	Prot		Perm	Prot		custom	Prot		custom
Protected Phases	5	2		1	6		8			4		
Permitted Phases			2			6			8			4
Actuated Green, G (s)	15.2	83.3	83.3	6.0	74.1	74.1	16.1		16.1	16.1		16.1
Effective Green, g (s)	15.2	85.0	85.0	6.0	75.8	75.8	17.0		17.0	17.0		17.0
Actuated g/C Ratio	0.13	0.71	0.71	0.05	0.63	0.63	0.14		0.14	0.14		0.14
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.9		4.9	4.9		4.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	389	3602	1089	82	3212	1000	224		224	231		218
v/s Ratio Prot	c0.10	0.62		c0.10	c0.61		0.12			0.15		
v/s Ratio Perm			0.10			0.09			0.06			c0.33
v/c Ratio	0.78	0.87	0.15	1.99	0.96	0.14	0.88		0.44	1.08		2.31
Uniform Delay, d1	50.8	13.3	5.7	57.0	20.7	8.9	50.5		47.1	51.5		51.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	9.8	3.1	0.3	485.0	9.1	0.3	29.3		1.4	82.8		602.4
Delay (s)	60.6	16.4	6.0	542.0	29.8	9.2	79.8		48.5	134.3		653.9
Level of Service	E	B	A	F	C	A	E		D	F		F
Approach Delay (s)		19.4			52.7			67.9			488.0	
Approach LOS		B			D			E			F	

Intersection Summary			
HCM Average Control Delay	80.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

FRESNO AREA ANALYSIS

(BETWEEN HERNDON AVENUE AND SHAW AVENUE)

2035 BUILD-AM CONDITIONS

– LEVEL OF SERVICE SHEETS

HCM Unsignalized Intersection Capacity Analysis
1: Santa Ana Avenue & Golden State Boulevard

4/13/2011

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	6	499	703	453	476	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	542	764	492	517	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2540	519	521			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2540	519	521			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	19	3	27			
cM capacity (veh/h)	8	557	1046			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	549	1257	521
Volume Left	7	764	0
Volume Right	542	0	3
cSH	308	1046	1700
Volume to Capacity	1.78	0.73	0.31
Queue Length 95th (ft)	897	171	0
Control Delay (s)	394.5	17.2	0.0
Lane LOS	F	C	
Approach Delay (s)	394.5	17.2	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	102.4		
Intersection Capacity Utilization	129.2%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Yield		Yield			Yield
Volume (vph)	35	691	9	7	486	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	751	10	8	528	10

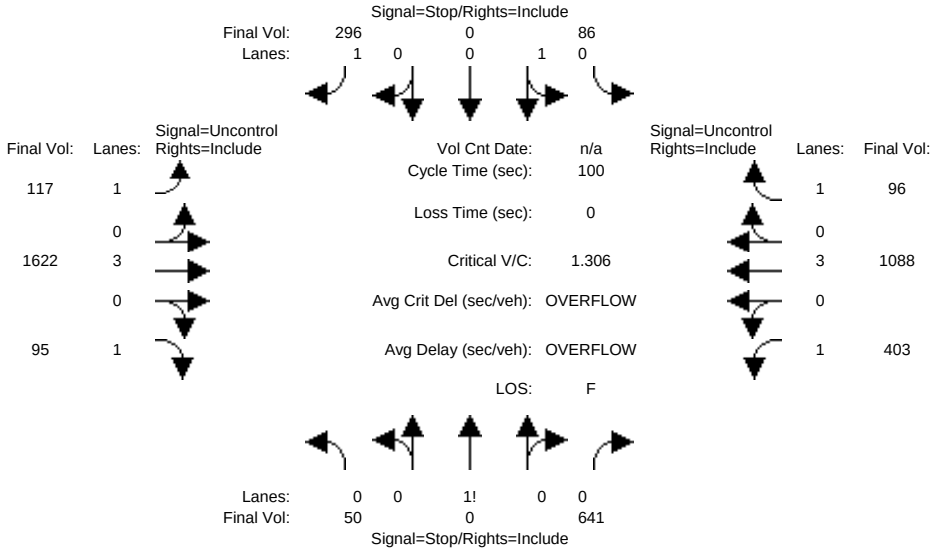
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	789	17	538
Volume Left (vph)	38	0	528
Volume Right (vph)	751	8	0
Hadj (s)	-0.53	-0.23	0.23
Departure Headway (s)	5.1	6.6	6.0
Degree Utilization, x	1.13	0.03	0.90
Capacity (veh/h)	706	525	591
Control Delay (s)	95.5	9.9	41.3
Approach Delay (s)	95.5	9.9	41.3
Approach LOS	F	A	E

Intersection Summary			
Delay	72.7		
HCM Level of Service	F		
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		

CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 HST AM

Intersection #3: Cornelia Avenue / Shaw Avenue




```
Street Name:         Cornelia Avenue                    Shaw Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      50    0   641    86    0   296   117 1622    95   403 1088    96
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   50    0   641    86    0   296   117 1622    95   403 1088    96
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   50    0   641    86    0   296   117 1622    95   403 1088    96
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    50    0   641    86    0   296   117 1622    95   403 1088    96
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   50    0   641    86    0   296   117 1622    95   403 1088    96
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 3025 3846   541  2669 3845   363  1184 xxxx xxxxx  1717 xxxx xxxxx
Potent Cap.:    6    4   491    11    4   640   597 xxxx xxxxx   374 xxxx xxxxx
Move Cap.:      0    0   491     0    0   640   597 xxxx xxxxx   374 xxxx xxxxx
Volume/Cap:  xxxx xxxx  1.31  xxxx xxxx  0.46  0.20 xxxx  xxxx  1.08 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   2.4   0.7 xxxx xxxxx  14.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  15.4  12.5 xxxx xxxxx 102.7 xxxx xxxxx
LOS by Move:    *    *     *     *    *     C     B    *     *     F    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx    0 xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             +Inf           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                     Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Cornelia Avenue / Shaw Avenue
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```

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------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  1  0  0  1    1  0  3  0  1    1  0  3  0  1
Initial Vol:   50    0   641    86    0   296   117 1622    95   403 1088    96
ApproachDel:    xxxxxx             +Inf           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=691]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=4494]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=382]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=4494]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #3 Cornelia Avenue / Shaw Avenue
********************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  1  0  0  1    1  0  3  0  1    1  0  3  0  1
Initial Vol:   50    0   641    86    0   296   117 1622    95   403 1088    96
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3421
Minor Approach Volume:           691
Minor Approach Volume Threshold: -139 [less than minimum of 100]
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	262	1369	76	24	801	138	64	14	14	113	26	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1723		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.14	1.00		0.74	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	267	1723		1374	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	285	1488	83	26	871	150	70	15	15	123	28	196
RTOR Reduction (vph)	0	0	21	0	0	99	0	12	0	0	0	169
Lane Group Flow (vph)	285	1488	62	26	871	51	70	18	0	123	28	27
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			3			4	
Permitted Phases			2			6	3			4		4
Actuated Green, G (s)	17.1	54.4	54.4	3.5	40.8	40.8	27.9	27.9		16.5	16.5	16.5
Effective Green, g (s)	17.1	54.4	54.4	3.5	40.8	40.8	27.9	27.9		16.5	16.5	16.5
Actuated g/C Ratio	0.14	0.45	0.45	0.03	0.34	0.34	0.23	0.23		0.14	0.14	0.14
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	252	2305	718	52	1729	538	62	401		189	256	218
v/s Ratio Prot	c0.16	c0.29		0.01	0.17			0.01			0.02	
v/s Ratio Perm			0.04			0.03	c0.26			c0.09		0.02
v/c Ratio	1.13	0.65	0.09	0.50	0.50	0.09	1.13	0.05		0.65	0.11	0.12
Uniform Delay, d1	51.4	25.3	18.7	57.4	31.5	27.0	46.1	35.7		49.0	45.3	45.4
Progression Factor	1.00	1.00	1.00	0.88	1.68	6.84	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	96.6	1.4	0.2	2.1	0.8	0.3	153.9	0.0		6.0	0.1	0.1
Delay (s)	148.0	26.8	18.9	52.9	53.8	185.1	200.0	35.7		55.0	45.4	45.5
Level of Service	F	C	B	D	D	F	F	D		E	D	D
Approach Delay (s)		45.0			72.5			150.7			48.9	
Approach LOS		D			E			F			D	

Intersection Summary			
HCM Average Control Delay	57.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	171	1712	102	131	1062	71	190	207	73	181	564	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	4.9	4.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	186	1861	111	142	1154	77	207	225	79	197	613	142
RTOR Reduction (vph)	0	0	30	0	0	36	0	0	55	0	0	82
Lane Group Flow (vph)	186	1861	81	142	1154	41	207	225	24	197	613	60
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	17.6	47.8	47.8	7.4	37.6	37.6	8.9	37.0	37.0	9.2	37.7	37.7
Effective Green, g (s)	17.6	47.8	47.8	7.4	37.6	37.6	8.9	37.0	37.0	9.2	37.7	37.7
Actuated g/C Ratio	0.15	0.40	0.40	0.06	0.31	0.31	0.07	0.31	0.31	0.08	0.31	0.31
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6
Lane Grp Cap (vph)	504	1968	631	212	1548	496	255	1091	488	263	1112	497
v/s Ratio Prot	0.05	c0.38		0.04	c0.23		c0.06	0.06		0.06	c0.17	
v/s Ratio Perm			0.05			0.03			0.02			0.04
v/c Ratio	0.37	0.95	0.13	0.67	0.75	0.08	0.81	0.21	0.05	0.75	0.55	0.12
Uniform Delay, d1	46.2	34.8	22.9	55.1	36.9	29.0	54.7	30.7	29.2	54.3	34.1	29.3
Progression Factor	1.15	1.13	1.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	9.5	0.1	6.1	2.1	0.1	16.7	0.4	0.2	9.8	2.0	0.5
Delay (s)	53.3	49.0	42.8	61.2	39.0	29.1	71.5	31.1	29.3	64.0	36.1	29.8
Level of Service	D	D	D	E	D	C	E	C	C	E	D	C
Approach Delay (s)		49.1			40.7			47.2			41.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	45.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	268	16	3	287	303	471
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	291	17	3	312	329	512
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	648	165	841			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	648	165	841			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	27	98	100			
cM capacity (veh/h)	402	851	790			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2	SB 3
Volume Total	309	315	165	165	512
Volume Left	291	3	0	0	0
Volume Right	17	0	0	0	512
cSH	414	790	1700	1700	1700
Volume to Capacity	0.75	0.00	0.10	0.10	0.30
Queue Length 95th (ft)	151	0	0	0	0
Control Delay (s)	35.2	0.1	0.0	0.0	0.0
Lane LOS	E	A			
Approach Delay (s)	35.2	0.1	0.0		
Approach LOS	E				

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	434	85	77	443	2	887	555
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1583	1770	3539	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	472	92	84	482	2	964	603
RTOR Reduction (vph)	0	68	0	0	0	0	201
Lane Group Flow (vph)	472	24	84	482	2	964	402
Turn Type		custom	Prot		Prot		Perm
Protected Phases	3	8	1	6	5	2	
Permitted Phases							2
Actuated Green, G (s)	9.5	16.4	4.6	30.9	0.8	27.1	27.1
Effective Green, g (s)	9.5	16.4	4.6	30.9	0.8	27.1	27.1
Actuated g/C Ratio	0.15	0.26	0.07	0.50	0.01	0.44	0.44
Clearance Time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Vehicle Extension (s)	3.5	3.5	2.0	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	527	419	132	1767	23	1549	693
v/s Ratio Prot	c0.14	c0.02	c0.05	c0.14	0.00	c0.27	
v/s Ratio Perm							0.25
v/c Ratio	0.90	0.06	0.64	0.27	0.09	0.62	0.58
Uniform Delay, d1	25.7	17.0	27.8	9.0	30.2	13.4	13.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.9	0.1	7.2	0.1	0.6	0.8	1.3
Delay (s)	43.6	17.1	35.0	9.1	30.8	14.3	14.4
Level of Service	D	B	D	A	C	B	B
Approach Delay (s)	39.3			12.9		14.4	
Approach LOS	D			B		B	

Intersection Summary			
HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	61.9	Sum of lost time (s)	17.8
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	507	37	796	133	68	290	203	597	24	36	44	1010
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	551	40	865	145	74	315	221	649	26	39	48	1098
RTOR Reduction (vph)	0	0	160	0	0	128	0	0	9	0	0	0
Lane Group Flow (vph)	551	40	705	145	74	187	221	649	17	0	87	1098
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot	Prot	
Protected Phases	3	8		7	4		1	6		5	5	2
Permitted Phases			8			4			6			
Actuated Green, G (s)	24.0	44.0	44.0	6.0	26.0	26.0	13.0	39.6	39.6		8.4	35.0
Effective Green, g (s)	24.0	44.0	44.0	6.0	26.0	26.0	13.0	39.6	39.6		8.4	35.0
Actuated g/C Ratio	0.21	0.38	0.38	0.05	0.22	0.22	0.11	0.34	0.34		0.07	0.30
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0	2.0	4.3	4.3		2.0	4.3
Lane Grp Cap (vph)	367	708	601	92	795	355	199	1210	541		128	1070
v/s Ratio Prot	c0.31	0.02		0.08	0.02		c0.12	0.18			0.05	c0.31
v/s Ratio Perm			c0.45			0.12			0.01			
v/c Ratio	1.50	0.06	1.17	1.58	0.09	0.53	1.11	0.54	0.03		0.68	1.03
Uniform Delay, d1	45.9	22.7	35.9	54.9	35.6	39.5	51.4	30.7	25.3		52.4	40.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	239.5	0.0	94.6	304.8	0.0	0.7	96.6	0.7	0.0		10.7	34.4
Delay (s)	285.4	22.8	130.5	359.7	35.6	40.1	148.0	31.4	25.4		63.1	74.8
Level of Service	F	C	F	F	D	D	F	C	C		E	E
Approach Delay (s)		186.1			126.3			60.0				68.9
Approach LOS		F			F			E				E

Intersection Summary			
HCM Average Control Delay	114.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	115.8	Sum of lost time (s)	12.9
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

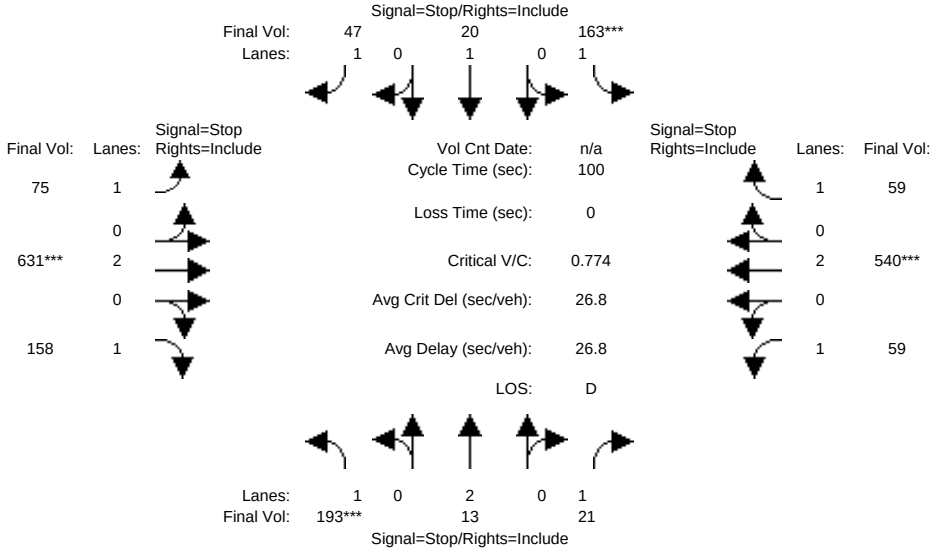
Movement	SBR
Lane Configurations	
Volume (vph)	143
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.9
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	155
RTOR Reduction (vph)	42
Lane Group Flow (vph)	113
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	35.0
Effective Green, g (s)	35.0
Actuated g/C Ratio	0.30
Clearance Time (s)	4.9
Vehicle Extension (s)	4.3
Lane Grp Cap (vph)	478
v/s Ratio Prot	
v/s Ratio Perm	0.07
v/c Ratio	0.24
Uniform Delay, d1	30.4
Progression Factor	1.00
Incremental Delay, d2	0.4
Delay (s)	30.8
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 HST AM

Intersection #10: Bullard Ave / Dante Ave

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Street Name:          Bullard Avenue                    Dante Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     193   13    21   163   20    47    75  631   158    59  540    59
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  193   13    21   163   20    47    75  631   158    59  540    59
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  193   13    21   163   20    47    75  631   158    59  540    59
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   193   13    21   163   20    47    75  631   158    59  540    59
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  193   13    21   163   20    47    75  631   158    59  540    59
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  193   13    21   163   20    47    75  631   158    59  540    59
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 2.00  1.00  1.00 1.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:   316  634   339   313  317   340   373  815   430   356  774   403
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.61 0.02  0.06  0.52 0.06  0.14  0.20 0.77  0.37  0.17 0.70  0.15
Crit Moves:  ****             ****                   ****             ****
Delay/Veh:   27.6 13.2  12.9  23.6 13.7  13.7  14.1 34.4  15.0  14.1 29.2  12.4
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  27.6 13.2  12.9  23.6 13.7  13.7  14.1 34.4  15.0  14.1 29.2  12.4
LOS by Move:    D    B     B     C    B     B     B    D     B     B    D     B
ApproachDel:      25.4             20.7             29.1             26.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       25.4             20.7             29.1             26.3
LOS by Appr:         D                C                D                D
AllWayAvgQ:   1.2  0.0   0.1   0.9  0.1   0.1   0.2  2.6   0.5   0.2  1.9   0.1
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #10 Bullard Ave / Dante Ave

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0 2 0 1			1 0 1 0 1			1 0 2 0 1			1 0 2 0 1		
Initial Vol:	193	13	21	163	20	47	75	631	158	59	540	59

Major Street Volume: 1522
Minor Approach Volume: 230
Minor Approach Volume Threshold: 193

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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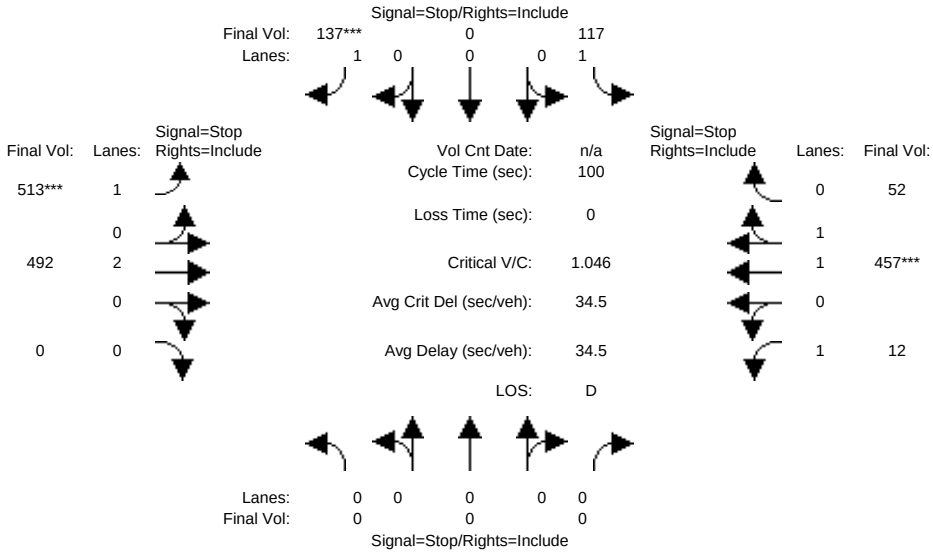
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 HST AM

Intersection #11: Bullard Ave / Polk Ave




```
Street Name:              Polk Ave                          Bullard Ave
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   117    0   137   513  492     0    12  457    52
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   117    0   137   513  492     0    12  457    52
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   117    0   137   513  492     0    12  457    52
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   117    0   137   513  492     0    12  457    52
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0   117    0   137   513  492     0    12  457    52
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0   117    0   137   513  492     0    12  457    52
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  1.00 0.00  1.00  1.00 2.00  0.00  1.00 1.80  0.20
Final Sat.:     0    0     0   424    0   493   491 1036     0   433  843    97
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.28 xxxx  0.28  1.05 0.48  xxxx  0.03 0.54  0.54
Crit Moves:                                ****  ****                   ****
Delay/Veh:    0.0  0.0   0.0  13.9  0.0  12.3  79.9 15.4   0.0  11.0 18.6  18.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  13.9  0.0  12.3  79.9 15.4   0.0  11.0 18.6  18.3
LOS by Move:    *    *     *     B    *     B     F    C     *     B    C     C
ApproachDel:    xxxxxx             13.0             48.3             18.4
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             13.0             48.3             18.4
LOS by Appr:         *               B                E                C
AllWayAvgQ:   0.0  0.0   0.0   0.3  0.0   0.4   9.5  0.8   0.0   0.0  1.1   1.1
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #11 Bullard Ave / Polk Ave

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	0	0	0	0	1	0	0	0	1	1	0	2	0	0	1	0	1	1	0
Initial Vol:	0		0		0	117		0		137	513		492		0	12		457		52

Major Street Volume: 1526
Minor Approach Volume: 254
Minor Approach Volume Threshold: 192

SIGNAL WARRANT DISCLAIMER

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The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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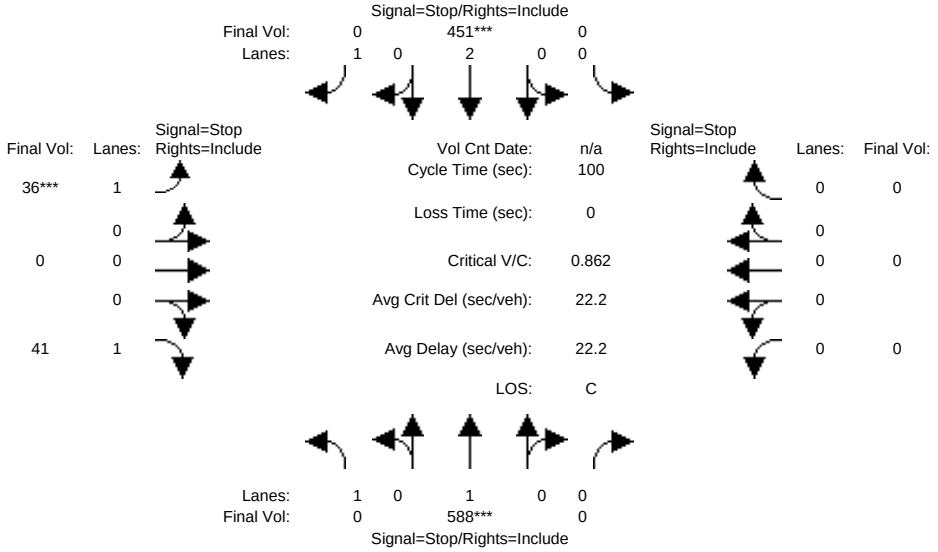
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 HST AM

Intersection #12: Bullard Ave / Carnegie Ave




```
Street Name:          Bullard Avenue                    Carnegie Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  588     0     0  451     0    36    0    41     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  588     0     0  451     0    36    0    41     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  588     0     0  451     0    36    0    41     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  588     0     0  451     0    36    0    41     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  588     0     0  451     0    36    0    41     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  588     0     0  451     0    36    0    41     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.00  0.00  0.00 2.00  1.00  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:   613  682     0     0 1164   646   474    0   561     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.86  xxxx  xxxx 0.39  0.00  0.08 xxxx  0.07  xxxx xxxx  xxxx
Crit Moves:       ****             ****        ****
Delay/Veh:    0.0 31.3   0.0   0.0 12.4   0.0  10.5  0.0   9.2   0.0  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 31.3   0.0   0.0 12.4   0.0  10.5  0.0   9.2   0.0  0.0   0.0
LOS by Move:    *    D     *     *    B     *     B    *     A     *    *     *
ApproachDel:      31.3             12.4              9.8           xxxxxx
Delay Adj:        1.00             1.00             1.00            xxxxx
ApprAdjDel:       31.3             12.4              9.8           xxxxxx
LOS by Appr:         D                B                A                *
AllWayAvgQ:   0.0  4.4   0.0   0.0  0.6   0.0   0.1  0.0   0.1   0.0  0.0   0.0
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #12 Bullard Ave / Carnegie Ave

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	1	0	1	0	0	0	0	2	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	0	588		0		0	451		0		36		0		41		0		0	

Major Street Volume: 1039
Minor Approach Volume: 77
Minor Approach Volume Threshold: 358

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	6	5	5	539	771	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	5	5	586	838	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1439	423	847			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1439	423	847			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	99	99			
cM capacity (veh/h)	123	579	786			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	12	591	559	288
Volume Left	7	5	0	0
Volume Right	5	0	0	9
cSH	191	786	1700	1700
Volume to Capacity	0.06	0.01	0.33	0.17
Queue Length 95th (ft)	5	1	0	0
Control Delay (s)	25.1	0.2	0.0	0.0
Lane LOS	D	A		
Approach Delay (s)	25.1	0.2	0.0	
Approach LOS	D			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	352	2280	1255	120	2000	200	1423	130	50	140	220	230
Ideal Flow (vphpl)	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3162	5085	1583	3162	5085	1583	3162	3539	1583	3162	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3162	5085	1583	3162	5085	1583	3162	3539	1583	3162	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	383	2478	1364	130	2174	217	1547	141	54	152	239	250
RTOR Reduction (vph)	0	0	120	0	0	52	0	0	16	0	0	0
Lane Group Flow (vph)	383	2478	1244	130	2174	165	1547	141	38	152	239	250
Turn Type	Prot		pm+ov	Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	13.1	57.9	82.2	5.0	49.8	49.8	24.3	32.0	32.0	10.2	17.9	31.0
Effective Green, g (s)	13.1	59.6	82.2	5.0	51.5	51.5	24.3	32.9	32.9	10.2	18.8	31.0
Actuated g/C Ratio	0.11	0.48	0.66	0.04	0.42	0.42	0.20	0.27	0.27	0.08	0.15	0.25
Clearance Time (s)	4.0	5.7	4.0	4.0	5.7	5.7	4.0	4.9	4.9	4.0	4.9	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	335	2450	1052	128	2117	659	621	941	421	261	538	397
v/s Ratio Prot	c0.12	0.49	c0.23	0.04	0.43		c0.49	0.04		0.05	0.07	c0.07
v/s Ratio Perm			0.55			0.10			0.02			0.09
v/c Ratio	1.14	1.01	1.18	1.02	1.03	0.25	2.49	0.15	0.09	0.58	0.44	0.63
Uniform Delay, d1	55.3	32.1	20.7	59.4	36.1	23.5	49.7	34.7	34.1	54.7	47.7	41.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	93.9	21.0	91.9	83.8	26.8	0.9	675.8	0.1	0.1	3.3	0.6	3.1
Delay (s)	149.2	53.1	112.6	143.1	62.9	24.4	725.5	34.8	34.2	58.0	48.3	44.4
Level of Service	F	D	F	F	E	C	F	C	C	E	D	D
Approach Delay (s)		81.0			63.7			648.2			49.1	
Approach LOS		F			E			F			D	

Intersection Summary			
HCM Average Control Delay	182.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	123.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	113.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	330	3113	187	572	2792	289	48	0	551	223	0	210
Ideal Flow (vphpl)	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00		1.00	1.00		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	3072	5085	1538	1630	5085	1583	1583		1583	1630		1538
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	3072	5085	1538	1630	5085	1583	1583		1583	1630		1538
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	359	3384	203	622	3035	314	52	0	599	242	0	228
RTOR Reduction (vph)	0	0	59	0	0	65	0	0	21	0	0	30
Lane Group Flow (vph)	359	3384	144	622	3035	249	52	0	578	242	0	198
Heavy Vehicles (%)	5%	2%	5%	2%	2%	2%	5%	2%	2%	2%	2%	5%
Turn Type	Prot		Perm	Prot		Perm	Prot		custom	Prot		custom
Protected Phases	5	2		1	6		8			4		
Permitted Phases			2			6			8			4
Actuated Green, G (s)	15.8	83.3	83.3	6.0	73.5	73.5	16.1		16.1	16.1		16.1
Effective Green, g (s)	15.8	85.0	85.0	6.0	75.2	75.2	17.0		17.0	17.0		17.0
Actuated g/C Ratio	0.13	0.71	0.71	0.05	0.63	0.63	0.14		0.14	0.14		0.14
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.9		4.9	4.9		4.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	404	3602	1089	82	3187	992	224		224	231		218
v/s Ratio Prot	c0.12	c0.67		c0.38	0.60		0.03			0.15		
v/s Ratio Perm			0.09			0.16			c0.36			0.13
v/c Ratio	0.89	0.94	0.13	7.59	0.95	0.25	0.23		2.58	1.05		0.91
Uniform Delay, d1	51.2	15.3	5.6	57.0	20.7	9.9	45.7		51.5	51.5		50.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	20.4	6.3	0.3	2988.5	8.2	0.6	0.5		723.1	72.3		36.4
Delay (s)	71.6	21.6	5.9	3045.5	28.9	10.5	46.2		774.6	123.8		87.2
Level of Service	E	C	A	F	C	B	D		F	F		F
Approach Delay (s)		25.3			500.0			716.5			106.0	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM Average Control Delay	287.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.52		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	118.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

FRESNO AREA ANALYSIS

(BETWEEN HERNDON AVENUE AND SHAW AVENUE)

2035 BUILD-PM CONDITIONS

– LEVEL OF SERVICE SHEETS

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	3	631	1182	723	441	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	686	1285	786	479	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3836	480	482			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3836	480	482			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	0			
cM capacity (veh/h)	0	586	1081			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	689	2071	482
Volume Left	3	1285	0
Volume Right	686	0	2
cSH	0	1081	1700
Volume to Capacity	Err	1.19	0.28
Queue Length 95th (ft)	Err	953	0
Control Delay (s)	Err	110.6	0.0
Lane LOS	F	F	
Approach Delay (s)	Err	110.6	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	176.0%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Yield		Yield			Yield
Volume (vph)	0	1181	10	5	602	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1284	11	5	654	0

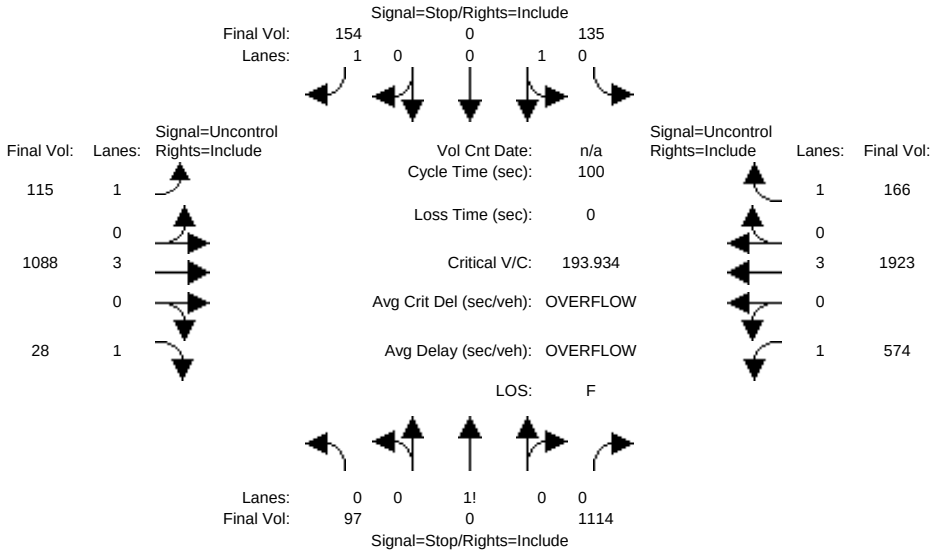
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	1284	16	654
Volume Left (vph)	0	0	654
Volume Right (vph)	1284	5	0
Hadj (s)	-0.57	-0.17	0.23
Departure Headway (s)	5.2	6.8	6.0
Degree Utilization, x	1.87	0.03	1.10
Capacity (veh/h)	695	520	592
Control Delay (s)	410.9	10.0	90.1
Approach Delay (s)	410.9	10.0	90.1
Approach LOS	F	B	F

Intersection Summary			
Delay	300.1		
HCM Level of Service	F		
Intersection Capacity Utilization	119.8%	ICU Level of Service	H
Analysis Period (min)	15		

CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2035 HST PM

Intersection #3: Cornelia Avenue / Shaw Avenue




```
Street Name:         Cornelia Avenue                    Shaw Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      97    0  1114   135    0   154   115 1088    28   574 1923   166
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   97    0  1114   135    0   154   115 1088    28   574 1923   166
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   97    0  1114   135    0   154   115 1088    28   574 1923   166
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    97    0  1114   135    0   154   115 1088    28   574 1923   166
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   97    0  1114   135    0   154   115 1088    28   574 1923   166
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9   7.5  6.5   6.9   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 3107 4555   363  3664 4417   641  2089 xxxx xxxxx  1116 xxxx xxxxx
Potent Cap.:    5    1   640     2    2   422   268 xxxx xxxxx   633 xxxx xxxxx
Move Cap.:      1    0   640     0    0   422   268 xxxx xxxxx   633 xxxx xxxxx
Volume/Cap:  xxxx 0.00  1.74  xxxx 0.00  0.36  0.43 xxxx  xxxx  0.91 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   1.6   2.0 xxxx xxxxx  11.4 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  18.3  28.1 xxxx xxxxx  42.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     C     D    *     *     E    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx    6 xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  154 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             +Inf           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #3 Cornelia Avenue / Shaw Avenue
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```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```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  1  0  0  1    1  0  3  0  1    1  0  3  0  1
Initial Vol:   97    0  1114   135    0   154   115 1088    28   574 1923   166
ApproachDel:    xxxxxx             +Inf           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=29861.6]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=1211]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=5394]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=289]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=5394]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #3 Cornelia Avenue / Shaw Avenue
********************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  1  0  0  1    1  0  3  0  1    1  0  3  0  1
Initial Vol:   97    0  1114   135    0   154   115 1088    28   574 1923   166
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3894
Minor Approach Volume:           1211
Minor Approach Volume Threshold: -184 [less than minimum of 100]
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```


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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	701	2341	29	34	1996	553	40	19	23	347	3	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1711		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.27	1.00		0.73	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	510	1711		1354	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	762	2545	32	37	2170	601	43	21	25	377	3	234
RTOR Reduction (vph)	0	0	5	0	0	225	0	22	0	0	0	166
Lane Group Flow (vph)	762	2545	27	37	2170	376	43	24	0	377	3	68
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			3			4	
Permitted Phases			2			6	3			4		4
Actuated Green, G (s)	4.0	49.8	49.8	3.2	49.0	49.0	14.6	14.6		34.7	34.7	34.7
Effective Green, g (s)	4.0	49.8	49.8	3.2	49.0	49.0	14.6	14.6		34.7	34.7	34.7
Actuated g/C Ratio	0.03	0.42	0.42	0.03	0.41	0.41	0.12	0.12		0.29	0.29	0.29
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	59	2110	657	47	2076	646	62	208		392	539	458
v/s Ratio Prot	c0.43	c0.50		0.02	0.43			0.01			0.00	
v/s Ratio Perm			0.02			0.24	c0.08			c0.28		0.04
v/c Ratio	12.92	1.21	0.04	0.79	1.05	0.58	0.69	0.12		0.96	0.01	0.15
Uniform Delay, d1	58.0	35.1	20.9	58.1	35.5	27.6	50.6	46.9		42.0	30.4	31.7
Progression Factor	1.00	1.00	1.00	0.91	1.68	3.20	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5394.7	97.5	0.1	7.1	22.0	0.3	23.7	0.1		35.2	0.0	0.1
Delay (s)	5452.7	132.6	21.0	59.9	81.8	88.7	74.2	47.0		77.2	30.4	31.7
Level of Service	F	F	C	E	F	F	E	D		E	C	C
Approach Delay (s)		1345.7			83.0			60.2			59.6	
Approach LOS		F			F			E			E	

Intersection Summary			
HCM Average Control Delay	696.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	114.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	428	2172	208	230	1839	199	352	897	194	312	311	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	4.9	4.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4940	1583	3433	4940	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	465	2361	226	250	1999	216	383	975	211	339	338	166
RTOR Reduction (vph)	0	0	49	0	0	53	0	0	62	0	0	114
Lane Group Flow (vph)	465	2361	177	250	1999	163	383	975	149	339	338	52
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	11.5	47.7	47.7	7.5	43.7	43.7	9.0	36.7	36.7	9.5	37.6	37.6
Effective Green, g (s)	11.5	47.7	47.7	7.5	43.7	43.7	9.0	36.7	36.7	9.5	37.6	37.6
Actuated g/C Ratio	0.10	0.40	0.40	0.06	0.36	0.36	0.08	0.31	0.31	0.08	0.31	0.31
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	5.3	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6	2.0	3.6	3.6
Lane Grp Cap (vph)	329	1964	629	215	1799	576	257	1082	484	272	1109	496
v/s Ratio Prot	c0.14	c0.48		0.07	c0.40		c0.11	c0.28		0.10	0.10	
v/s Ratio Perm			0.11			0.10			0.09			0.03
v/c Ratio	1.41	1.20	0.28	1.16	1.11	0.28	1.49	0.90	0.31	1.25	0.30	0.10
Uniform Delay, d1	54.2	36.2	24.5	56.2	38.1	27.0	55.5	39.9	31.9	55.2	31.3	29.3
Progression Factor	1.41	1.65	2.29	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	187.7	91.5	0.0	112.3	58.6	0.3	240.2	11.9	1.6	137.8	0.7	0.4
Delay (s)	264.1	151.1	56.1	168.5	96.7	27.4	295.7	51.9	33.6	193.0	32.0	29.7
Level of Service	F	F	E	F	F	C	F	D	C	F	C	C
Approach Delay (s)		161.3			97.9			108.9			96.3	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	124.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.9
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	229	8	8	536	290	269
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	9	9	583	315	292
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	915	158	608			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	915	158	608			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	8	99	99			
cM capacity (veh/h)	270	860	967			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2	SB 3
Volume Total	258	591	158	158	292
Volume Left	249	9	0	0	0
Volume Right	9	0	0	0	292
cSH	276	967	1700	1700	1700
Volume to Capacity	0.93	0.01	0.09	0.09	0.17
Queue Length 95th (ft)	219	1	0	0	0
Control Delay (s)	78.7	0.2	0.0	0.0	0.0
Lane LOS	F	A			
Approach Delay (s)	78.7	0.2	0.0		
Approach LOS	F				

Intersection Summary			
Average Delay	14.0		
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	572	71	61	1117	4	984	489
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1583	1770	3539	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	622	77	66	1214	4	1070	532
RTOR Reduction (vph)	0	57	0	0	0	0	153
Lane Group Flow (vph)	622	20	66	1214	4	1070	379
Turn Type		custom	Prot		Prot		Perm
Protected Phases	3	8	1	6	5	2	
Permitted Phases							2
Actuated Green, G (s)	9.4	16.3	3.3	30.9	0.8	28.4	28.4
Effective Green, g (s)	9.4	16.3	3.3	30.9	0.8	28.4	28.4
Actuated g/C Ratio	0.15	0.26	0.05	0.50	0.01	0.46	0.46
Clearance Time (s)	4.0	4.9	4.0	4.9	4.0	4.9	4.9
Vehicle Extension (s)	3.5	3.5	2.0	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	522	418	95	1770	23	1626	727
v/s Ratio Prot	c0.18	c0.01	c0.04	c0.34	0.00	0.30	
v/s Ratio Perm							0.24
v/c Ratio	1.19	0.05	0.69	0.69	0.17	0.66	0.52
Uniform Delay, d1	26.2	17.0	28.8	11.8	30.2	12.9	11.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	104.0	0.1	16.3	1.2	1.3	1.0	0.8
Delay (s)	130.2	17.0	45.0	12.9	31.5	14.0	12.6
Level of Service	F	B	D	B	C	B	B
Approach Delay (s)	117.7			14.6		13.6	
Approach LOS	F			B		B	

Intersection Summary			
HCM Average Control Delay	34.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	61.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	436	86	736	278	372	189	421	905	79	118	159	930
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3539	1583	1770	3539	1583		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	474	93	800	302	404	205	458	984	86	128	173	1011
RTOR Reduction (vph)	0	0	159	0	0	48	0	0	21	0	0	0
Lane Group Flow (vph)	474	93	641	302	404	157	458	984	65	0	301	1011
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot	Prot	
Protected Phases	3	8		7	4		1	6		5	5	2
Permitted Phases			8			4			6			
Actuated Green, G (s)	24.0	44.0	44.0	6.0	26.0	26.0	13.0	35.2	35.2		12.0	34.2
Effective Green, g (s)	24.0	44.0	44.0	6.0	26.0	26.0	13.0	35.2	35.2		12.0	34.2
Actuated g/C Ratio	0.21	0.38	0.38	0.05	0.23	0.23	0.11	0.31	0.31		0.10	0.30
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0	2.0	4.3	4.3		2.0	4.3
Lane Grp Cap (vph)	369	713	606	92	800	358	200	1083	485		185	1052
v/s Ratio Prot	c0.27	0.05		c0.17	0.11		c0.26	0.28			0.17	c0.29
v/s Ratio Perm			c0.41			0.10			0.04			
v/c Ratio	1.28	0.13	1.06	3.28	0.50	0.44	2.29	0.91	0.13		1.63	0.96
Uniform Delay, d1	45.5	23.1	35.5	54.5	38.9	38.2	51.0	38.4	28.9		51.5	39.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	147.2	0.0	53.0	1054.6	0.2	0.3	596.1	11.3	0.2		305.5	19.1
Delay (s)	192.7	23.1	88.5	1109.1	39.1	38.5	647.1	49.7	29.1		357.0	58.9
Level of Service	F	C	F	F	D	D	F	D	C		F	E
Approach Delay (s)		120.2			393.7			227.6				105.6
Approach LOS		F			F			F				F

Intersection Summary			
HCM Average Control Delay	190.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

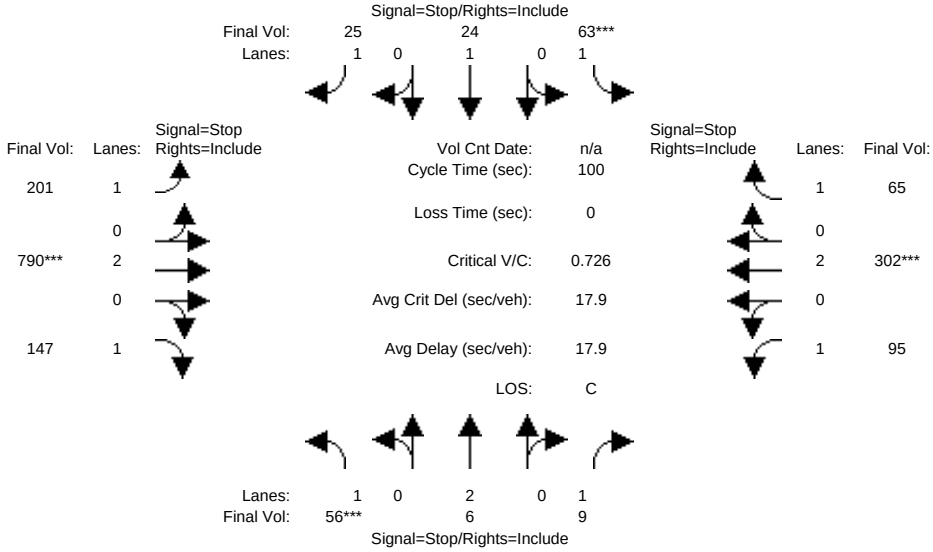
Movement	SBR
Lane Configurations	
Volume (vph)	389
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.9
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	423
RTOR Reduction (vph)	124
Lane Group Flow (vph)	299
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	34.2
Effective Green, g (s)	34.2
Actuated g/C Ratio	0.30
Clearance Time (s)	4.9
Vehicle Extension (s)	4.3
Lane Grp Cap (vph)	471
v/s Ratio Prot	
v/s Ratio Perm	0.19
v/c Ratio	0.63
Uniform Delay, d1	35.0
Progression Factor	1.00
Incremental Delay, d2	3.3
Delay (s)	38.3
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary

CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 HST PM

Intersection #10: Bullard Ave / Dante Ave



Street Name:	Bullard Avenue						Dante Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	56	6	9	63	24	25	201	790	147	95	302	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	6	9	63	24	25	201	790	147	95	302	65
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	6	9	63	24	25	201	790	147	95	302	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	6	9	63	24	25	201	790	147	95	302	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	6	9	63	24	25	201	790	147	95	302	65
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	6	9	63	24	25	201	790	147	95	302	65
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	341	707	380	348	362	390	500	1088	596	426	910	494
Capacity Analysis Module:												
Vol/Sat:	0.16	0.01	0.02	0.18	0.07	0.06	0.40	0.73	0.25	0.22	0.33	0.13
Crit Moves:	****			****				****			****	
Delay/Veh:	13.8	11.7	11.1	13.8	12.0	11.3	14.2	24.2	10.4	12.9	13.7	10.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.8	11.7	11.1	13.8	12.0	11.3	14.2	24.2	10.4	12.9	13.7	10.5
LOS by Move:	B	B	B	B	B	B	B	C	B	B	B	B
ApproachDel:	13.2			12.9			20.6			13.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	13.2			12.9			20.6			13.1		
LOS by Appr:	B			B			C			B		
AllWayAvgQ:	0.2	0.0	0.0	0.2	0.1	0.1	0.6	2.3	0.3	0.3	0.4	0.1

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #10 Bullard Ave / Dante Ave

****

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Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0 2 0 1			1 0 1 0 1			1 0 2 0 1			1 0 2 0 1		
Initial Vol:	56	6	9	63	24	25	201	790	147	95	302	65

Major Street Volume: 1600
Minor Approach Volume: 112
Minor Approach Volume Threshold: 172

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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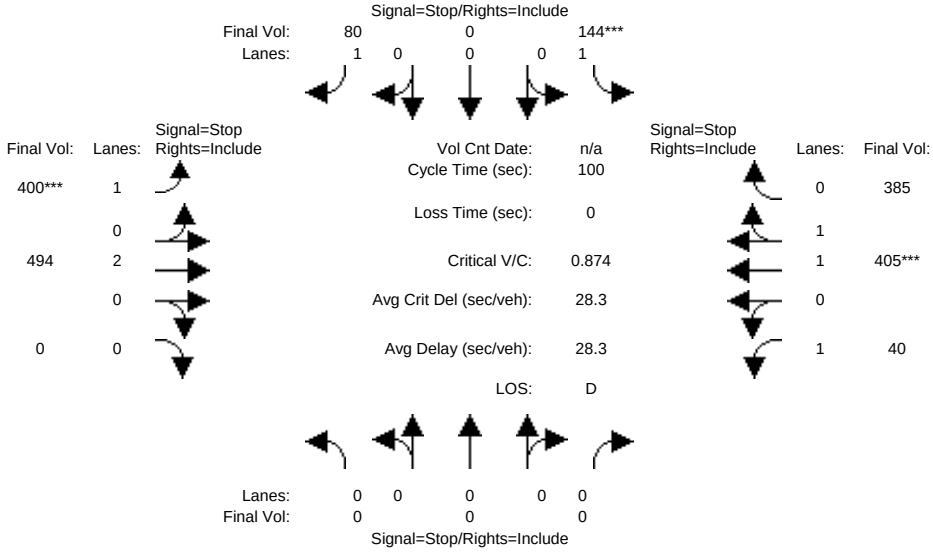
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 HST PM

Intersection #11: Bullard Ave / Polk Ave



Street Name:	Polk Ave						Bullard Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	0	0	0	144	0	80	400	494	0	40	405	385
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	144	0	80	400	494	0	40	405	385
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	144	0	80	400	494	0	40	405	385
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	144	0	80	400	494	0	40	405	385
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	144	0	80	400	494	0	40	405	385
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	144	0	80	400	494	0	40	405	385
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	1.00	1.03	0.97
Final Sat.:	0	0	0	402	0	460	457	964	0	436	489	508
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.36	xxxx	0.17	0.87	0.51	xxxx	0.09	0.83	0.76
Crit Moves:				****			****				****	
Delay/Veh:	0.0	0.0	0.0	15.7	0.0	11.5	44.1	17.2	0.0	11.5	36.5	27.2
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	15.7	0.0	11.5	44.1	17.2	0.0	11.5	36.5	27.2
LOS by Move:	*	*	*	C	*	B	E	C	*	B	E	D
ApproachDel:	xxxxxx			14.2			29.2			31.0		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			14.2			29.2			31.0		
LOS by Appr:	*			B			D			D		
AllWayAvgQ:	0.0	0.0	0.0	0.5	0.0	0.2	4.3	1.0	0.0	0.1	3.5	2.6

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

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Intersection #11 Bullard Ave / Polk Ave

****

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Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 0 0 0			1 0 0 0 1			1 0 2 0 0			1 0 1 1 0		
Initial Vol:	0	0	0	144	0	80	400	494	0	40	405	385

Major Street Volume: 1724
Minor Approach Volume: 224
Minor Approach Volume Threshold: 140 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER
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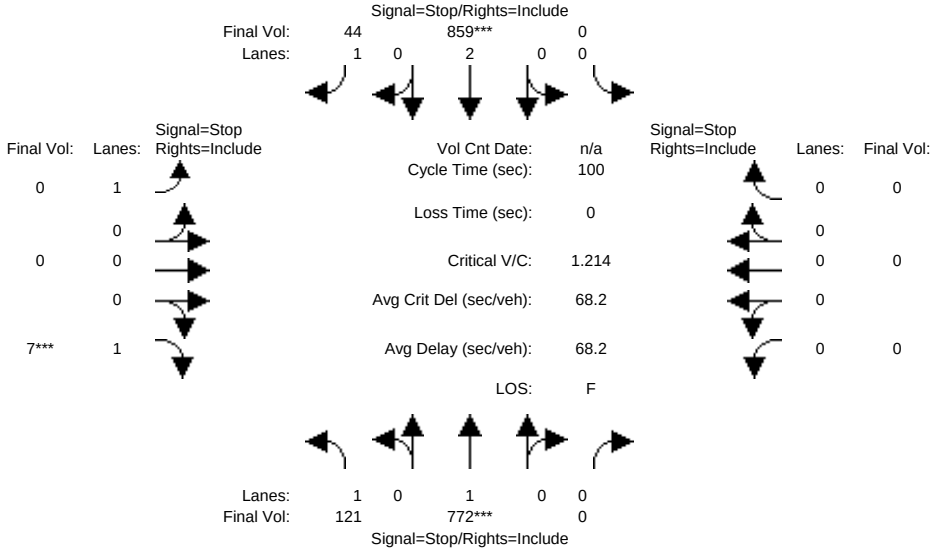
CALIFORNIA HIGH SPEED TRAIN
MERCED TO FRESNO
FRESNO AREA

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
2035 HST PM

Intersection #12: Bullard Ave / Carnegie Ave

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Street Name:          Bullard Avenue                    Carnegie Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     121  772     0     0  859    44     0    0     7     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  121  772     0     0  859    44     0    0     7     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  121  772     0     0  859    44     0    0     7     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   121  772     0     0  859    44     0    0     7     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  121  772     0     0  859    44     0    0     7     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  121  772     0     0  859    44     0    0     7     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.00  0.00  0.00 2.00  1.00  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:   570  636     0     0 1164   655   429    0   500     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.21 1.21  xxxx  xxxx 0.74  0.07  0.00 xxxx  0.01  xxxx xxxx  xxxx
Crit Moves:       ****             ****                    ****
Delay/Veh:   10.5  130   0.0   0.0 24.2   8.6   0.0  0.0   9.7   0.0  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  10.5  130   0.0   0.0 24.2   8.6   0.0  0.0   9.7   0.0  0.0   0.0
LOS by Move:    B    F     *     *    C     A     *    *     A     *    *     *
ApproachDel:     114.0             23.4              9.7           xxxxxx
Delay Adj:        1.00             1.00             1.00            xxxxx
ApprAdjDel:      114.0             23.4              9.7           xxxxxx
LOS by Appr:         F                C                A                *
AllWayAvgQ:   0.3 21.5   0.0   0.0  2.5   0.1   0.0  0.0   0.0   0.0  0.0   0.0
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #12 Bullard Ave / Carnegie Ave

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0 1 0 0			0 0 2 0 1			1 0 0 0 1			0 0 0 0 0		
Initial Vol:	121	772	0	0	859	44	0	0	7	0	0	0

Major Street Volume: 1796
Minor Approach Volume: 7
Minor Approach Volume Threshold: 122 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER
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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	6	1	5	888	925	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	1	5	965	1005	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1986	508	1015			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1986	508	1015			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	100	99			
cM capacity (veh/h)	53	510	679			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	8	971	670	345
Volume Left	7	5	0	0
Volume Right	1	0	0	10
cSH	61	679	1700	1700
Volume to Capacity	0.13	0.01	0.39	0.20
Queue Length 95th (ft)	10	1	0	0
Control Delay (s)	72.8	0.2	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	72.8	0.2	0.0	
Approach LOS	F			

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	291	2150	1789	90	2010	150	1419	280	120	200	310	500
Ideal Flow (vphpl)	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3162	5085	1583	3162	5085	1583	3162	3539	1583	3162	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3162	5085	1583	3162	5085	1583	3162	3539	1583	3162	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	316	2337	1945	98	2185	163	1542	304	130	217	337	543
RTOR Reduction (vph)	0	0	83	0	0	40	0	0	16	0	0	0
Lane Group Flow (vph)	316	2337	1862	98	2185	123	1542	304	114	217	337	543
Turn Type	Prot		pm+ov	Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	13.1	57.8	82.1	5.0	49.7	49.7	24.3	34.0	34.0	11.1	20.8	33.9
Effective Green, g (s)	13.1	59.5	82.1	5.0	51.4	51.4	24.3	34.9	34.9	11.1	21.7	33.9
Actuated g/C Ratio	0.10	0.47	0.65	0.04	0.41	0.41	0.19	0.28	0.28	0.09	0.17	0.27
Clearance Time (s)	4.0	5.7	4.0	4.0	5.7	5.7	4.0	4.9	4.9	4.0	4.9	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	327	2392	1027	125	2066	643	607	976	437	277	607	424
v/s Ratio Prot	0.10	0.46	c0.35	0.03	0.43		c0.49	0.09		0.07	0.10	c0.13
v/s Ratio Perm			0.83			0.08			0.07			0.21
v/c Ratio	0.97	0.98	1.81	0.78	1.06	0.19	2.54	0.31	0.26	0.78	0.56	1.28
Uniform Delay, d1	56.5	32.8	22.2	60.2	37.6	24.2	51.1	36.3	35.7	56.5	48.0	46.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	40.4	13.7	369.8	26.7	37.1	0.7	698.0	0.2	0.3	13.5	1.1	143.4
Delay (s)	96.8	46.6	392.0	86.9	74.6	24.8	749.1	36.5	36.1	70.0	49.1	189.7
Level of Service	F	D	F	F	E	C	F	D	D	E	D	F
Approach Delay (s)		196.1			71.8			592.6			122.8	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	235.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.82		
Actuated Cycle Length (s)	126.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	132.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	280	2954	137	766	2876	286	144	0	819	458	0	490
Ideal Flow (vphpl)	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00		1.00	1.00		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	3072	5085	1538	1630	5085	1583	1583		1583	1630		1538
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	3072	5085	1538	1630	5085	1583	1583		1583	1630		1538
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	3211	149	833	3126	311	157	0	890	498	0	533
RTOR Reduction (vph)	0	0	43	0	0	64	0	0	21	0	0	30
Lane Group Flow (vph)	304	3211	106	833	3126	247	157	0	869	498	0	503
Heavy Vehicles (%)	5%	2%	5%	2%	2%	2%	5%	2%	2%	2%	2%	5%
Turn Type	Prot		Perm	Prot		Perm	Prot		custom	Prot		custom
Protected Phases	5	2		1	6		8			4		
Permitted Phases			2			6			8			4
Actuated Green, G (s)	15.2	83.3	83.3	6.0	74.1	74.1	16.1		16.1	16.1		16.1
Effective Green, g (s)	15.2	85.0	85.0	6.0	75.8	75.8	17.0		17.0	17.0		17.0
Actuated g/C Ratio	0.13	0.71	0.71	0.05	0.63	0.63	0.14		0.14	0.14		0.14
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.9		4.9	4.9		4.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	389	3602	1089	82	3212	1000	224		224	231		218
v/s Ratio Prot	c0.10	0.63		c0.51	c0.61		0.10			0.31		
v/s Ratio Perm			0.07			0.16			c0.55			0.33
v/c Ratio	0.78	0.89	0.10	10.16	0.97	0.25	0.70		3.88	2.16		2.31
Uniform Delay, d1	50.8	13.8	5.5	57.0	21.1	9.6	49.1		51.5	51.5		51.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	9.8	3.8	0.2	4145.5	10.8	0.6	9.5		1305.6	534.3		602.4
Delay (s)	60.6	17.7	5.7	4202.5	31.9	10.2	58.6		1357.1	585.8		653.9
Level of Service	E	B	A	F	C	B	E		F	F		F
Approach Delay (s)		20.7			843.9			1162.4			621.0	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM Average Control Delay	553.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	145.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

FRESNO AREA ANALYSIS

(BETWEEN HERNDON AVENUE AND SHAW AVENUE)

2035 BUILD_MITIGATION-AM CONDITIONS

– LEVEL OF SERVICE SHEETS

HCM Signalized Intersection Capacity Analysis
1: Santa Ana Avenue & Golden State Boulevard

4/13/2011

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	6	499	703	453	476	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		0.97	1.00	1.00	
Frt	0.87		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1613		3433	1863	1861	
Flt Permitted	1.00		0.41	1.00	1.00	
Satd. Flow (perm)	1613		1469	1863	1861	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	542	764	492	517	3
RTOR Reduction (vph)	272	0	0	0	0	0
Lane Group Flow (vph)	277	0	764	492	520	0
Turn Type			Perm			
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	12.5		31.4	31.4	31.4	
Effective Green, g (s)	12.5		31.4	31.4	31.4	
Actuated g/C Ratio	0.24		0.61	0.61	0.61	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	388		889	1127	1126	
v/s Ratio Prot	c0.17			0.26	0.28	
v/s Ratio Perm			c0.52			
v/c Ratio	0.71		0.86	0.44	0.46	
Uniform Delay, d1	18.1		8.4	5.5	5.6	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	6.1		8.3	0.3	0.3	
Delay (s)	24.2		16.7	5.8	5.9	
Level of Service	C		B	A	A	
Approach Delay (s)	24.2			12.4	5.9	
Approach LOS	C			B	A	

Intersection Summary			
HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	51.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	35	691	9	7	486	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.87		0.94			1.00
Flt Protected	1.00		1.00			0.95
Satd. Flow (prot)	1619		1751			1776
Flt Permitted	1.00		1.00			0.72
Satd. Flow (perm)	1619		1751			1336
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	751	10	8	528	10
RTOR Reduction (vph)	544	0	4	0	0	0
Lane Group Flow (vph)	245	0	14	0	0	538
Turn Type					Perm	
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	11.2		21.5			21.5
Effective Green, g (s)	11.2		21.5			21.5
Actuated g/C Ratio	0.28		0.53			0.53
Clearance Time (s)	4.0		4.0			4.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	446		925			706
v/s Ratio Prot	c0.15		0.01			
v/s Ratio Perm						c0.40
v/c Ratio	0.55		0.02			0.76
Uniform Delay, d1	12.6		4.6			7.6
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	1.4		0.0			4.9
Delay (s)	14.0		4.6			12.5
Level of Service	B		A			B
Approach Delay (s)	14.0		4.6			12.5
Approach LOS	B		A			B

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	40.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	117	1622	95	403	1086	96	50	0	641	86	0	296
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00		1.00	0.88		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583		1770	2787		1770	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.70	1.00		0.72	1.00
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583		1298	2787		1345	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	127	1763	103	438	1180	104	54	0	697	93	0	322
RTOR Reduction (vph)	0	0	30	0	0	43	0	0	367	0	0	228
Lane Group Flow (vph)	127	1763	73	438	1180	61	0	54	330	0	93	94
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	7.6	25.8	25.8	9.0	27.2	27.2		16.0	16.0		16.0	16.0
Effective Green, g (s)	7.6	25.8	25.8	9.0	27.2	27.2		16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.12	0.41	0.41	0.14	0.43	0.43		0.25	0.25		0.25	0.25
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	214	2089	650	492	2202	686		331	710		343	403
v/s Ratio Prot	0.07	c0.35		c0.13	0.23							
v/s Ratio Perm			0.05			0.04		0.04	c0.12		0.07	0.06
v/c Ratio	0.59	0.84	0.11	0.89	0.54	0.09		0.16	0.47		0.27	0.23
Uniform Delay, d1	26.1	16.7	11.4	26.4	13.1	10.5		18.2	19.8		18.7	18.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	4.4	3.3	0.1	17.9	0.3	0.1		0.2	0.5		0.4	0.3
Delay (s)	30.5	20.0	11.5	44.4	13.4	10.6		18.4	20.3		19.2	18.8
Level of Service	C	B	B	D	B	B		B	C		B	B
Approach Delay (s)		20.2			21.1			20.1			18.9	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	262	1369	76	24	801	138	64	14	14	113	26	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1723		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.14	1.00		0.74	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	267	1723		1374	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	285	1488	83	26	871	150	70	15	15	123	28	196
RTOR Reduction (vph)	0	0	21	0	0	99	0	12	0	0	0	169
Lane Group Flow (vph)	285	1488	62	26	871	51	70	18	0	123	28	27
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			3			4	
Permitted Phases			2			6	3			4		4
Actuated Green, G (s)	17.1	54.4	54.4	3.5	40.8	40.8	27.9	27.9		16.5	16.5	16.5
Effective Green, g (s)	17.1	54.4	54.4	3.5	40.8	40.8	27.9	27.9		16.5	16.5	16.5
Actuated g/C Ratio	0.14	0.45	0.45	0.03	0.34	0.34	0.23	0.23		0.14	0.14	0.14
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	252	2305	718	52	1729	538	62	401		189	256	218
v/s Ratio Prot	c0.16	c0.29		0.01	0.17			0.01			0.02	
v/s Ratio Perm			0.04			0.03	c0.26			c0.09		0.02
v/c Ratio	1.13	0.65	0.09	0.50	0.50	0.09	1.13	0.05		0.65	0.11	0.12
Uniform Delay, d1	51.4	25.3	18.7	57.4	31.5	27.0	46.1	35.7		49.0	45.3	45.4
Progression Factor	1.00	1.00	1.00	0.88	1.68	6.84	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	96.6	1.4	0.2	2.1	0.8	0.3	153.9	0.0		6.0	0.1	0.1
Delay (s)	148.0	26.8	18.9	52.9	53.8	185.1	200.0	35.7		55.0	45.4	45.5
Level of Service	F	C	B	D	D	F	F	D		E	D	D
Approach Delay (s)		45.0			72.5			150.7			48.9	
Approach LOS		D			E			F			D	

Intersection Summary			
HCM Average Control Delay	57.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	268	16	3	287	303	471
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	1.00			1.00	0.95	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	0.95			1.00	1.00	1.00
Satd. Flow (prot)	1765			1862	3539	1583
Flt Permitted	0.95			1.00	1.00	1.00
Satd. Flow (perm)	1765			1857	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	291	17	3	312	329	512
RTOR Reduction (vph)	6	0	0	0	0	277
Lane Group Flow (vph)	302	0	0	315	329	235
Turn Type			Perm			Perm
Protected Phases	4			2	6	
Permitted Phases			2			6
Actuated Green, G (s)	8.7			14.2	14.2	14.2
Effective Green, g (s)	8.7			14.2	14.2	14.2
Actuated g/C Ratio	0.28			0.46	0.46	0.46
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	497			853	1626	727
v/s Ratio Prot	c0.17				0.09	
v/s Ratio Perm				c0.17		0.15
v/c Ratio	0.61			0.37	0.20	0.32
Uniform Delay, d1	9.6			5.4	5.0	5.3
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	2.1			0.3	0.1	0.3
Delay (s)	11.7			5.7	5.0	5.6
Level of Service	B			A	A	A
Approach Delay (s)	11.7			5.7	5.4	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	6.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	30.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	507	37	796	133	68	290	203	597	24	36	44	1010
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	0.86	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1528	1504	1770	3539	1583	1770	3539	1583		1770	3539
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1528	1504	1770	3539	1583	1770	3539	1583		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	551	40	865	145	74	315	221	649	26	39	48	1098
RTOR Reduction (vph)	0	185	185	0	0	129	0	0	8	0	0	0
Lane Group Flow (vph)	551	270	265	145	74	186	221	649	18	0	87	1098
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot	Prot	
Protected Phases	3	8		7	4		1	6		5	5	2
Permitted Phases			8			4			6			
Actuated Green, G (s)	27.1	31.8	31.8	11.6	16.3	16.3	11.0	37.3	37.3		7.9	34.2
Effective Green, g (s)	27.1	31.8	31.8	11.6	16.3	16.3	11.0	37.3	37.3		7.9	34.2
Actuated g/C Ratio	0.25	0.30	0.30	0.11	0.15	0.15	0.10	0.35	0.35		0.07	0.32
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0	2.0	4.3	4.3		2.0	4.3
Lane Grp Cap (vph)	451	457	450	193	542	243	183	1241	555		131	1138
v/s Ratio Prot	c0.31	0.18		0.08	0.02		c0.12	c0.18			0.05	c0.31
v/s Ratio Perm			0.18			c0.12			0.01			
v/c Ratio	1.22	0.59	0.59	0.75	0.14	0.77	1.21	0.52	0.03		0.66	0.96
Uniform Delay, d1	39.6	31.8	31.7	46.0	39.0	43.2	47.7	27.5	22.7		48.0	35.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	118.3	1.4	1.3	13.6	0.0	12.2	133.5	0.6	0.0		9.4	18.8
Delay (s)	158.0	33.1	33.0	59.6	39.0	55.4	181.2	28.1	22.7		57.4	54.3
Level of Service	F	C	C	E	D	E	F	C	C		E	D
Approach Delay (s)		80.3			54.3			65.7				51.3
Approach LOS		F			D			E				D

Intersection Summary			
HCM Average Control Delay	64.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	106.4	Sum of lost time (s)	22.7
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	143
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.9
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	155
RTOR Reduction (vph)	40
Lane Group Flow (vph)	115
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	34.2
Effective Green, g (s)	34.2
Actuated g/C Ratio	0.32
Clearance Time (s)	4.9
Vehicle Extension (s)	4.3
Lane Grp Cap (vph)	509
v/s Ratio Prot	
v/s Ratio Perm	0.07
v/c Ratio	0.23
Uniform Delay, d1	26.4
Progression Factor	1.00
Incremental Delay, d2	0.4
Delay (s)	26.8
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	352	0	1255	120	0	200	1423	130	50	140	220	230
Ideal Flow (vphpl)	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900
Total Lost time (s)	4.0		5.7	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		0.88	0.97		1.00	0.94	1.00	1.00	0.97	0.95	1.00
Frt	1.00		0.85	1.00		0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1630		2787	3162		1583	4596	1863	1583	3162	3539	1583
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1630		2787	3162		1583	4596	1863	1583	3162	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	383	0	1364	130	0	217	1547	141	54	152	239	250
RTOR Reduction (vph)	0	0	707	0	0	169	0	0	14	0	0	162
Lane Group Flow (vph)	383	0	657	130	0	48	1547	141	40	152	239	88
Turn Type	Prot		custom	Prot		custom	Prot		Perm	Prot		pm+ov
Protected Phases	5			1			3	8		7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	35.2		58.0	9.8		32.6	49.3	57.0	57.0	12.1	19.8	55.0
Effective Green, g (s)	35.2		58.0	9.8		34.3	49.3	57.9	57.9	12.1	20.7	55.0
Actuated g/C Ratio	0.23		0.37	0.06		0.22	0.32	0.37	0.37	0.08	0.13	0.35
Clearance Time (s)	4.0		5.7	4.0		5.7	4.0	4.9	4.9	4.0	4.9	4.0
Vehicle Extension (s)	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	369		1040	199		349	1457	694	589	246	471	560
v/s Ratio Prot	c0.23			0.04			c0.34	0.08		0.05	c0.07	0.04
v/s Ratio Perm			c0.24			0.03			0.03			0.02
v/c Ratio	1.04		0.63	0.65		0.14	1.06	0.20	0.07	0.62	0.51	0.16
Uniform Delay, d1	60.2		40.0	71.2		48.7	53.1	33.1	31.4	69.5	62.7	34.4
Progression Factor	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	57.0		2.9	7.5		0.8	41.9	0.1	0.0	4.6	0.9	0.1
Delay (s)	117.2		42.9	78.7		49.5	95.0	33.3	31.5	74.0	63.5	34.5
Level of Service	F		D	E		D	F	C	C	E	E	C
Approach Delay (s)		59.2			60.4			88.0			54.7	
Approach LOS		E			E			F			D	

Intersection Summary			
HCM Average Control Delay	69.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	155.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	330	3113	187	572	2792	289	48	0	551	223	0	210
Ideal Flow (vphpl)	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		3.1	4.0		3.1
Lane Util. Factor	1.00	0.86	1.00	0.97	0.86	1.00	1.00		1.00	1.00		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	1583	6408	1538	3162	6408	1583	1583		1583	1630		1538
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	1583	6408	1538	3162	6408	1583	1583		1583	1630		1538
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	359	3384	203	622	3035	314	52	0	599	242	0	228
RTOR Reduction (vph)	0	0	94	0	0	86	0	0	0	0	0	0
Lane Group Flow (vph)	359	3384	109	622	3035	228	52	0	599	242	0	228
Heavy Vehicles (%)	5%	2%	5%	2%	2%	2%	5%	2%	2%	2%	2%	5%
Turn Type	Prot		Perm	Prot		Perm	Prot		Free	Prot		Free
Protected Phases	5	2		1	6		8			4		
Permitted Phases			2			6			Free			Free
Actuated Green, G (s)	22.0	52.2	52.2	19.0	49.2	49.2	14.2		100.0	14.2		100.0
Effective Green, g (s)	22.0	53.9	53.9	19.0	50.9	50.9	15.1		100.0	15.1		100.0
Actuated g/C Ratio	0.22	0.54	0.54	0.19	0.51	0.51	0.15		1.00	0.15		1.00
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.9			4.9		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0		
Lane Grp Cap (vph)	348	3454	829	601	3262	806	239		1583	246		1538
v/s Ratio Prot	c0.23	c0.53		0.20	0.47		0.03			c0.15		
v/s Ratio Perm			0.07			0.14			c0.38			0.15
v/c Ratio	1.03	0.98	0.13	1.03	0.93	0.28	0.22		0.38	0.98		0.15
Uniform Delay, d1	39.0	22.5	11.4	40.5	22.9	14.1	37.3		0.0	42.3		0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	56.6	11.3	0.3	46.0	6.2	0.9	0.5		0.7	52.5		0.2
Delay (s)	95.6	33.8	11.8	86.5	29.1	15.0	37.7		0.7	94.8		0.2
Level of Service	F	C	B	F	C	B	D		A	F		A
Approach Delay (s)		38.3			36.9			3.6			48.9	
Approach LOS		D			D			A			D	

Intersection Summary			
HCM Average Control Delay	35.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

FRESNO AREA ANALYSIS

(BETWEEN HERNDON AVENUE AND SHAW AVENUE)

2035 BUILD_MITIGATION-PM CONDITIONS

– LEVEL OF SERVICE SHEETS

HCM Signalized Intersection Capacity Analysis
1: Santa Ana Avenue & Golden State Boulevard

4/13/2011

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	3	631	1182	723	441	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		0.97	1.00	1.00	
Frt	0.87		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1612		3433	1863	1862	
Flt Permitted	1.00		0.45	1.00	1.00	
Satd. Flow (perm)	1612		1640	1863	1862	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	686	1285	786	479	2
RTOR Reduction (vph)	407	0	0	0	0	0
Lane Group Flow (vph)	282	0	1285	786	481	0
Turn Type			Perm			
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	24.0		108.0	108.0	108.0	
Effective Green, g (s)	24.0		108.0	108.0	108.0	
Actuated g/C Ratio	0.17		0.77	0.77	0.77	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	276		1265	1437	1436	
v/s Ratio Prot	c0.18			0.42	0.26	
v/s Ratio Perm			c0.78			
v/c Ratio	1.02		1.02	0.55	0.33	
Uniform Delay, d1	58.0		16.0	6.3	4.9	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	60.0		29.3	0.4	0.1	
Delay (s)	118.0		45.3	6.8	5.1	
Level of Service	F		D	A	A	
Approach Delay (s)	118.0			30.7	5.1	
Approach LOS	F			C	A	

Intersection Summary			
HCM Average Control Delay	45.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	1181	10	5	602	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.86		0.96			1.00
Flt Protected	1.00		1.00			0.95
Satd. Flow (prot)	1611		1784			1770
Flt Permitted	1.00		1.00			0.75
Satd. Flow (perm)	1611		1784			1392
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1284	11	5	654	0
RTOR Reduction (vph)	621	0	3	0	0	0
Lane Group Flow (vph)	663	0	13	0	0	654
Turn Type					Perm	
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	29.0		33.0			33.0
Effective Green, g (s)	29.0		33.0			33.0
Actuated g/C Ratio	0.41		0.47			0.47
Clearance Time (s)	4.0		4.0			4.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	667		841			656
v/s Ratio Prot	c0.41		0.01			
v/s Ratio Perm						c0.47
v/c Ratio	0.99		0.02			1.00
Uniform Delay, d1	20.4		9.9			18.4
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	33.2		0.0			34.1
Delay (s)	53.6		9.9			52.6
Level of Service	D		A			D
Approach Delay (s)	53.6		9.9			52.6
Approach LOS	D		A			D

Intersection Summary			
HCM Average Control Delay	52.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	119.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	1088	28	574	1923	166	97	0	1114	135	0	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00		1.00	0.88		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583		1770	2787		1770	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.64	1.00		0.69	1.00
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583		1197	2787		1284	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	1183	30	624	2090	180	105	0	1211	147	0	167
RTOR Reduction (vph)	0	0	12	0	0	39	0	0	456	0	0	121
Lane Group Flow (vph)	125	1183	18	624	2090	141	0	105	755	0	147	46
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	6.0	23.6	23.6	16.4	34.0	34.0		20.0	20.0		20.0	20.0
Effective Green, g (s)	6.0	23.6	23.6	16.4	34.0	34.0		20.0	20.0		20.0	20.0
Actuated g/C Ratio	0.08	0.33	0.33	0.23	0.47	0.47		0.28	0.28		0.28	0.28
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	148	1667	519	782	2401	748		333	774		357	440
v/s Ratio Prot	0.07	0.23		c0.18	c0.41							
v/s Ratio Perm			0.01			0.09		0.09	c0.27		0.11	0.03
v/c Ratio	0.84	0.71	0.03	0.80	0.87	0.19		0.32	0.98		0.41	0.11
Uniform Delay, d1	32.5	21.2	16.5	26.2	17.0	11.0		20.6	25.8		21.2	19.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	33.3	1.4	0.0	5.7	3.7	0.1		0.5	26.2		0.8	0.1
Delay (s)	65.9	22.6	16.5	31.9	20.8	11.1		21.1	52.0		22.0	19.5
Level of Service	E	C	B	C	C	B		C	D		C	B
Approach Delay (s)		26.5			22.6			49.5			20.6	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	701	2341	29	34	1996	553	40	19	23	347	3	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1711		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.33	1.00		0.73	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	611	1711		1354	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	762	2545	32	37	2170	601	43	21	25	377	3	234
RTOR Reduction (vph)	0	0	5	0	0	224	0	22	0	0	0	168
Lane Group Flow (vph)	762	2545	27	37	2170	377	43	24	0	377	3	66
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			3			4	
Permitted Phases			2			6	3			4		4
Actuated Green, G (s)	22.0	52.8	52.8	3.2	34.0	34.0	12.2	12.2		34.1	34.1	34.1
Effective Green, g (s)	22.0	52.8	52.8	3.2	34.0	34.0	12.2	12.2		34.1	34.1	34.1
Actuated g/C Ratio	0.18	0.44	0.44	0.03	0.28	0.28	0.10	0.10		0.28	0.28	0.28
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.2	4.2		4.6	4.6	4.6
Vehicle Extension (s)	2.0	3.6	3.6	2.0	3.6	3.6	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	325	2237	697	47	1441	449	62	174		385	529	450
v/s Ratio Prot	c0.43	0.50		0.02	c0.43			0.01			0.00	
v/s Ratio Perm			0.02			0.24	c0.07			c0.28		0.04
v/c Ratio	2.34	1.14	0.04	0.79	1.51	0.84	0.69	0.14		0.98	0.01	0.15
Uniform Delay, d1	49.0	33.6	19.1	58.1	43.0	40.4	52.1	49.1		42.6	30.8	32.1
Progression Factor	1.00	1.00	1.00	0.86	1.55	2.30	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	614.6	68.0	0.1	7.1	228.0	1.8	23.7	0.1		39.7	0.0	0.1
Delay (s)	663.6	101.6	19.2	57.3	294.7	94.8	75.8	49.2		82.3	30.8	32.1
Level of Service	F	F	B	E	F	F	E	D		F	C	C
Approach Delay (s)		229.1			248.8			62.0			62.9	
Approach LOS		F			F			E			E	

Intersection Summary			
HCM Average Control Delay	220.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	114.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	229	8	8	536	290	269
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	1.00			1.00	0.95	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	0.95			1.00	1.00	1.00
Satd. Flow (prot)	1769			1861	3539	1583
Flt Permitted	0.95			0.99	1.00	1.00
Satd. Flow (perm)	1769			1853	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	249	9	9	583	315	292
RTOR Reduction (vph)	3	0	0	0	0	133
Lane Group Flow (vph)	255	0	0	592	315	159
Turn Type			Perm			Perm
Protected Phases	4			2	6	
Permitted Phases			2			6
Actuated Green, G (s)	8.8			20.0	20.0	20.0
Effective Green, g (s)	8.8			20.0	20.0	20.0
Actuated g/C Ratio	0.24			0.54	0.54	0.54
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	423			1007	1923	860
v/s Ratio Prot	c0.14				0.09	
v/s Ratio Perm				c0.32		0.10
v/c Ratio	0.60			0.59	0.16	0.18
Uniform Delay, d1	12.4			5.6	4.2	4.3
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	2.4			0.9	0.0	0.1
Delay (s)	14.9			6.5	4.2	4.4
Level of Service	B			A	A	A
Approach Delay (s)	14.9			6.5	4.3	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	7.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	36.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	436	86	736	278	372	189	421	905	79	118	159	930
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	0.88	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1559	1504	1770	3539	1583	1770	3539	1583		1770	3539
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1559	1504	1770	3539	1583	1770	3539	1583		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	474	93	800	302	404	205	458	984	86	128	173	1011
RTOR Reduction (vph)	0	98	264	0	0	108	0	0	16	0	0	0
Lane Group Flow (vph)	474	355	176	302	404	97	458	984	70	0	301	1011
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot	Prot	
Protected Phases	3	8		7	4		1	6		5	5	2
Permitted Phases			8			4			6			
Actuated Green, G (s)	32.0	34.7	34.7	20.0	22.7	22.7	30.0	45.1	45.1		24.0	39.1
Effective Green, g (s)	32.0	34.7	34.7	20.0	22.7	22.7	30.0	45.1	45.1		24.0	39.1
Actuated g/C Ratio	0.23	0.25	0.25	0.14	0.16	0.16	0.21	0.32	0.32		0.17	0.28
Clearance Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9		4.0	4.9
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0	2.0	4.3	4.3		2.0	4.3
Lane Grp Cap (vph)	400	382	369	250	567	254	375	1127	504		300	977
v/s Ratio Prot	c0.27	c0.23		0.17	0.11		c0.26	0.28			0.17	c0.29
v/s Ratio Perm			0.12			0.06			0.04			
v/c Ratio	1.18	0.93	0.48	1.21	0.71	0.38	1.22	0.87	0.14		1.00	1.03
Uniform Delay, d1	54.8	52.2	45.7	60.8	56.4	53.2	55.8	45.5	34.4		58.8	51.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	105.9	28.1	0.4	124.9	3.5	0.3	121.3	8.0	0.2		52.8	38.1
Delay (s)	160.7	80.3	46.0	185.7	59.9	53.5	177.1	53.6	34.6		111.6	89.4
Level of Service	F	F	D	F	E	D	F	D	C		F	F
Approach Delay (s)		97.2			100.2			89.5				84.7
Approach LOS		F			F			F				F

Intersection Summary			
HCM Average Control Delay	91.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	141.6	Sum of lost time (s)	12.9
Intersection Capacity Utilization	98.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	389
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.9
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	423
RTOR Reduction (vph)	98
Lane Group Flow (vph)	325
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	39.1
Effective Green, g (s)	39.1
Actuated g/C Ratio	0.28
Clearance Time (s)	4.9
Vehicle Extension (s)	4.3
Lane Grp Cap (vph)	437
v/s Ratio Prot	
v/s Ratio Perm	0.21
v/c Ratio	0.74
Uniform Delay, d1	46.7
Progression Factor	1.00
Incremental Delay, d2	7.4
Delay (s)	54.1
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	291	0	1789	90	0	150	1419	280	120	200	310	500
Ideal Flow (vphpl)	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900
Total Lost time (s)	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		0.88	0.97		1.00	0.94	1.00	1.00	0.97	0.95	1.00
Frt	1.00		0.85	1.00		0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1630		2787	3162		1583	4596	1863	1583	3162	3539	1583
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1630		2787	3162		1583	4596	1863	1583	3162	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	316	0	1945	98	0	163	1542	304	130	217	337	543
RTOR Reduction (vph)	0	0	101	0	0	127	0	0	13	0	0	294
Lane Group Flow (vph)	316	0	1844	98	0	36	1542	304	117	217	337	249
Turn Type	Prot		custom	Prot		custom	Prot		Perm	Prot		pm+ov
Protected Phases	5		3	1			3	8		7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	30.1		107.6	9.3		33.6	53.2	61.1	61.1	15.5	23.4	53.5
Effective Green, g (s)	30.1		107.6	9.3		35.3	53.2	62.0	62.0	15.5	24.3	53.5
Actuated g/C Ratio	0.19		0.68	0.06		0.22	0.33	0.39	0.39	0.10	0.15	0.34
Clearance Time (s)	4.0		4.0	4.0		5.7	4.0	4.9	4.9	4.0	4.9	4.0
Vehicle Extension (s)	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	309		1887	185		352	1539	727	618	308	541	533
v/s Ratio Prot	c0.19		c0.33	0.03			c0.34	0.16		0.07	c0.10	0.09
v/s Ratio Perm			0.33			0.02			0.07			0.07
v/c Ratio	1.02		0.98	0.53		0.10	1.00	0.42	0.19	0.70	0.62	0.47
Uniform Delay, d1	64.4		24.5	72.7		49.2	52.9	35.3	31.9	69.5	63.0	41.5
Progression Factor	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	57.1		15.5	2.7		0.6	23.4	0.4	0.1	7.1	2.2	0.7
Delay (s)	121.5		40.0	75.4		49.8	76.3	35.7	32.0	76.6	65.2	42.1
Level of Service	F		D	E		D	E	D	C	E	E	D
Approach Delay (s)		51.4			59.4			67.1			56.1	
Approach LOS		D			E			E			E	

Intersection Summary			
HCM Average Control Delay	58.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	158.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	280	2954	137	766	2876	286	144	0	819	458	0	490
Ideal Flow (vphpl)	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		3.1	4.0		3.1
Lane Util. Factor	1.00	0.86	1.00	0.97	0.86	1.00	1.00		1.00	1.00		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	1583	6408	1538	3162	6408	1583	1583		1583	1630		1538
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	1583	6408	1538	3162	6408	1583	1583		1583	1630		1538
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	3211	149	833	3126	311	157	0	890	498	0	533
RTOR Reduction (vph)	0	0	68	0	0	92	0	0	0	0	0	0
Lane Group Flow (vph)	304	3211	81	833	3126	219	157	0	890	498	0	533
Heavy Vehicles (%)	5%	2%	5%	2%	2%	2%	5%	2%	2%	2%	2%	5%
Turn Type	Prot		Perm	Prot		Perm	Prot		Free	Prot		Free
Protected Phases	5	2		1	6		8			4		
Permitted Phases			2			6			Free			Free
Actuated Green, G (s)	18.0	44.3	44.3	24.0	50.3	50.3	27.1		110.0	27.1		110.0
Effective Green, g (s)	18.0	46.0	46.0	24.0	52.0	52.0	28.0		110.0	28.0		110.0
Actuated g/C Ratio	0.16	0.42	0.42	0.22	0.47	0.47	0.25		1.00	0.25		1.00
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.9			4.9		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0		
Lane Grp Cap (vph)	259	2680	643	690	3029	748	403		1583	415		1538
v/s Ratio Prot	0.19	c0.50		c0.26	0.49		0.10			c0.31		
v/s Ratio Perm			0.05			0.14			0.56			0.35
v/c Ratio	1.17	1.20	0.13	1.21	1.03	0.29	0.39		0.56	1.20		0.35
Uniform Delay, d1	46.0	32.0	19.7	43.0	29.0	17.7	33.9		0.0	41.0		0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	111.2	93.1	0.4	106.6	25.3	1.0	0.6		1.4	111.1		0.6
Delay (s)	157.2	125.1	20.1	149.6	54.3	18.7	34.6		1.4	152.1		0.6
Level of Service	F	F	C	F	D	B	C		A	F		A
Approach Delay (s)		123.4			70.3			6.4			73.8	
Approach LOS		F			E			A			E	

Intersection Summary			
HCM Average Control Delay	83.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX D

Trip Generation Details

Merced Station Trip Generation

Introduction

Future project only trip generation is based upon HST boardings and alightings of the HST riders who would utilize the proposed stations.

The authority provided estimates of design-day boardings by station along with information on usage by time of day, mode of access, party size and parking accumulation factor. The supplied boardings were segregated into the following access modes:

- Pick-up/Drop-off
- Drive Parked Vehicle
- Rental Car
- Taxis
- Transit/Shuttle
- Bike/Walk/Other

The projected boardings for each station were converted into vehicle trips based on the type of trip and party size (vehicle occupancy excluding non-boarding drivers). This appendix provides the detailed steps following in arriving at the trip generation numbers for the Merced Station.

Average Daily and Peak Hour Boardings

Average design-day boardings for Merced station are shown in Table 1.1-1. Boardings are divided into inter-regional riders and local riders. For Merced station, all boardings are considered as inter-regional boardings per the information provided by CHSRA.

The peak hour boardings are calculated by multiplying the average daily boardings by the peak hour factor. For inter-regional trips, CHSRA provided the peak hour trip percentage as 12% of the average daily boardings. The daily passenger boardings are multiplied by 12% to arrive at the peak hour passenger boardings also shown in Table 1.1-1.

TABLE 0-1
Year 2035 Average Daily and Peak Hour Boardings

Station	Daily Passenger Boardings			Peak Hour Passenger Boardings [a]		
	Inter-regional	Local	Total	Inter-regional	Local	Total
Merced	7,600	0	7,600	910	0	910

Source: CHSRA, May 2010
a. Passengers are rounded to the nearest 10

Trip Distribution by Mode

The peak-hour trips are then segregated into the various access modes using the mode distribution factors presented in Table 1.1-2. These factors determine the percentage of total patrons that arrive and

depart the stations via the various access modes. The modes included in the ridership data included: Picked-up/Dropped Off, Drive and Parked Vehicles, Rental Car, Taxi, Transit/Shuttle and Walk/Bike/Other.

Multiplying the total weekday peak-hour boardings in Table 1.1-1 by the modal percentages provides the number of passengers by mode in the peak hour. Table 1.1-3 lists the number of passengers by mode during the design-day peak hour for Merced Station. Because bicycles and pedestrians are not used in the roadway trip assignments, they are not used after this point in the roadway trip calculations.

TABLE 0-2
Mode Distribution Percentage

Station	Mode Percentage [a]						
	Pick-up/ Drop Off	Drive Parked Vehicle	Rental Car	Taxi	Transit/ Shuttle	Walk/ Bike/ Other	Total
Merced	26%	45%	10%	7%	8%	4%	100%

Notes:
a. Percentage rounded to the nearest 1%

TABLE 0-3
Peak Hour Passenger Boardings

Station	Pick-up/ Drop Off	Drive Parked Vehicle	Rental Car	Taxi	Transit/ Shuttle	Total
Merced	237	408	91	67	72	36

Source: CHSRA

To determine the number of vehicles generated by each of the various access modes, the number of passengers arriving and departing by each mode are divided by the average vehicle occupancy for that respective mode. The Average Vehicle Occupancy Factors are listed in Table 1.1-4.

TABLE 0-4
Average Vehicle Occupancy Factors

Station	Pick-up/ Drop Off	Drive Parked Vehicle	Rental Car	Taxi	Transit/ Shuttle
Merced	1.65	1.48	1.9	1.4	40

Source: CHSRA

Dividing the weekday peak hour boardings by the occupancy factors generates the number of weekday peak-hour boarding vehicles by mode. The results of this calculation are presented in Table 1.1-5.

TABLE 0-5
Peak Hour Passenger Boardings by Mode

Station	Pick-up/ Drop Off	Drive Parked Vehicle	Rental Car	Taxi	Transit/ Shuttle
Merced	144	276	48	48	2

Source: CHSRA

The trip patterns at the stations and the station-to-station trip data provided by CHSRA indicate that the predominant outbound (boarding) pattern would be for passengers to board the trains during the AM peak hour and return (alight) during the PM peak hour. According to the ridership data, the peak travel direction will have 100% of the peak-hour boardings and the station will experience alightings during the same hour equal to 25% of the boarding traffic. During the PM peak hour, the trip patterns would be reversed. Table 1.1-6 summarizes the projected number of vehicles generated by the AM and PM peak hour boardings and alightings.

TABLE 0-6
Peak Hour Passenger Vehicles – Boardings and Alightings

Station	Peak Hour	Pick-up/ Drop Off	Drive Parked Vehicle	Rental Car	Taxi	Transit/ Shuttle	Total
Merced	AM Boarding	144	276	48	48	2	518
	AM Alighting	36	69	12	12	2	131
	PM Boarding	36	69	12	12	2	131
	PM Alighting	144	276	48	48	2	518

Source: CHSRA

Peak Hour Trip Generation

After determining the total number of peak-hour vehicles generated the Merced station, those vehicle counts must be translated into inbound and outbound vehicle trips. The assumptions and processes for calculating the peak-hour inbound and outbound trips for each of the travel modes are outlined as follow.

- Each vehicle picking up or dropping off a passenger(s) is assumed to enter the station area, stop at the curbfront, pick-up/drop off a passenger and then leave. Therefore, each vehicle will account for two trips, one inbound and one outbound trip during the each peak hour
- Private autos parking at the station are assumed to be using the on-site parking facilities for the duration of the trip. Boarding passengers parking at the station will have one inbound vehicle trip during the peak hour in which they arrive and alighting passengers will have one outbound vehicle trip during the peak hour in which they leave
- Rental cars are proposed to be available at each of the proposed stations. Each rental car vehicle will generate one inbound trip for a boarding passenger and one outbound trip for an alighting passenger
- Transit trips are assumed to be passenger trips using already available scheduled services operating during the year of analysis. No new transit services have been assumed. However, shuttle service was assumed for Merced Station connecting the station to the remote parking facilities under the parking option 2
- Taxis are assumed to provide on-demand service at the station. Boarding passengers will generate inbound taxi trip that will pickup alighting passengers generating outbound taxi trip. Taxis are assumed to wait at the station for the next demand

Based on the above assumptions and the vehicle occupancy factors, vehicle trips have been generated for Merced station. Table 1.1-7 presents the trip generation by mode, peak hour and inbound, outbound

trips and Table 1.1-8 presents the overall summary of the trip generation at the proposed Merced Station.

TABLE 0-7
Vehicle Trip Generation at Merced HST Station

Merced Station	Pick-up/ Drop Off	Drive Parked Vehicle	Rental Car	Taxi	Transit/ Shuttle	Total
Daily Total	2,399	2,299	400	800	30	5,927
AM Inbound Vehicle Trips	180	276	48	48	4	556
AM Outbound Vehicle Trips	180	69	12	12	4	227
PM Inbound Vehicle Trips	180	69	12	12	4	227
PM Outbound Vehicle Trips	180	276	48	48	4	556
Source: CHSRA						

TABLE 0-8
Summary Vehicle Trip Generation at Merced HST Station

Station	Daily Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Merced	5,927	556	227	832	227	556	832
Source: CHSRA							

APPENDIX E

Proposed SR 99 Realignment Traffic Assessment Memo

California High Speed Train Merced to Fresno Section: SR 99/Fresno Traffic Assessment

PREPARED BY: Jim Roldan, P.E.
Loren Bloomberg, P.E.

DATE: April 14, 2011

Overview

The California High-Speed Train (HST) section from Merced to Fresno starts at the Castle Commerce Center in Atwater, north of the City of Merced, and ends in downtown Fresno. This HST section crosses the southeastern part of Merced County, Madera County, and parts of Fresno County.

For the Merced to Fresno section, a variety of HST alignments were analyzed for the Project EIR/EIS. In the Fresno area, along State Route (SR) 99 from Ashlan Avenue to Clinton Avenue, the alternatives have a common alignment that requires improvements to SR 99 and several roads/ramps adjacent to SR 99. The common alignment segment is shown in its regional setting in Figure 1. Traffic analysis of this common alignment section is the subject of this technical memorandum.

CH2M HILL performed a traffic assessment to evaluate the proposed improvements to SR 99 in Fresno (from Ashlan Avenue to Clinton Avenue). The traffic assessment is documented in this technical memorandum and evaluates the future traffic operations of the proposed SR 99 realignment. The traffic analysis will be used to support the engineering and environmental analysis/documentation, and will ultimately aid decision-making for the HST effort. The goal of the traffic assessment was to validate the operational benefits and identify any design modifications needed to improve operations.

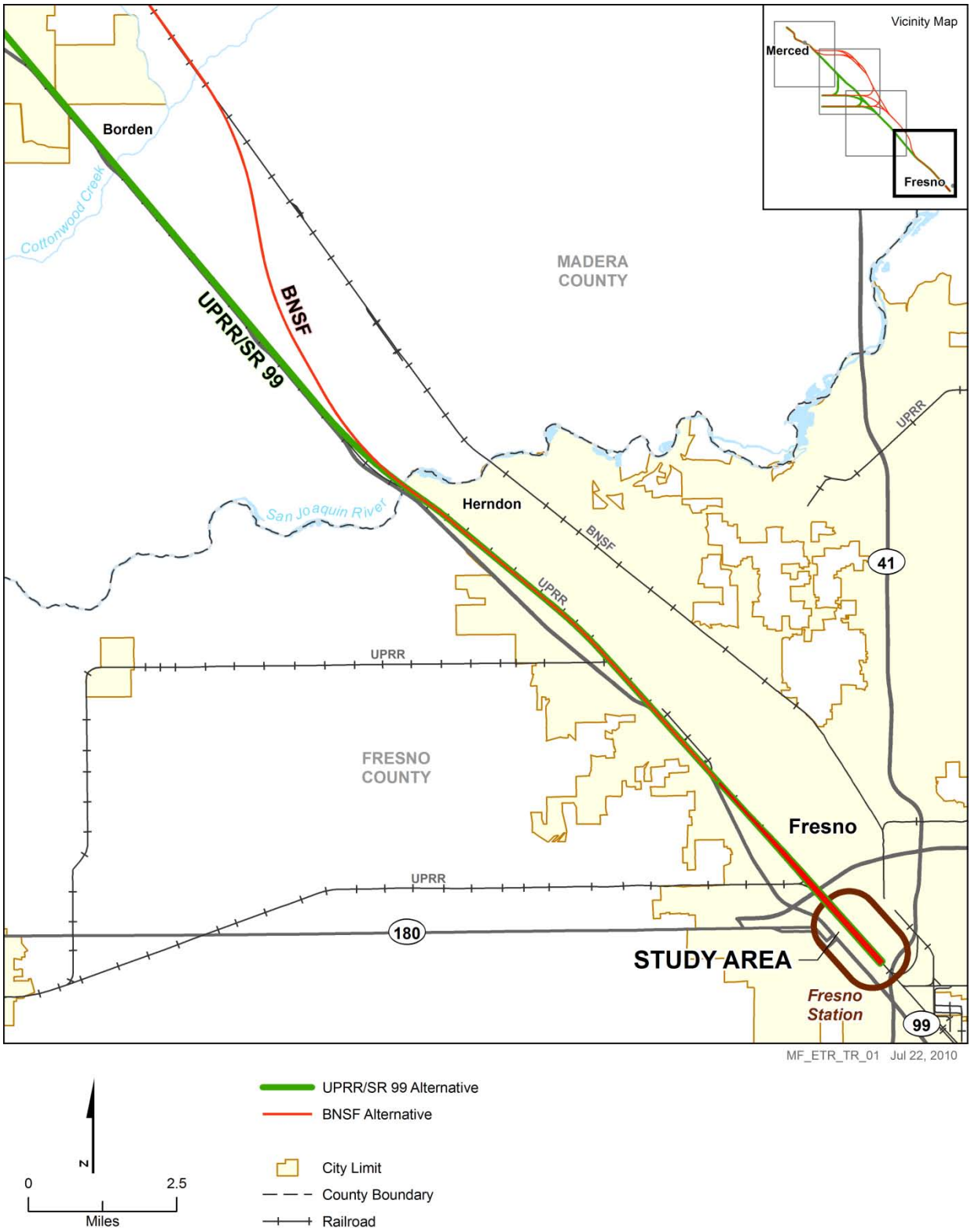
Analysis Approach

Study Area

The study area includes 18 study intersections in the vicinity of the project along the SR 99 corridor, between Ashlan Avenue and Clinton Avenue. Figure 2 is a map of the study area intersections. Since the HST improvements will improve and eliminate several freeway ramps in the study area, local traffic will need to find new ways to access and leave SR 99. The study area intersections were selected based on these anticipated redistribution patterns.

The study area also includes northbound and southbound freeway segments on SR 99 from Shaw Avenue to McKinley Avenue. Figure 3 is an illustration the freeway segment study area. The study freeway segments were selected to capture the impacts of the mainline and ramp improvements associated with the HST alignment and SR 99 modifications.

FIGURE 1
Project Vicinity Map



Scenarios for Evaluation

Existing and future year (2020 and 2035) no-build and build conditions were analyzed as part of the study. Existing and 2035 AM and PM peak hour volumes were analyzed for both intersection and freeway segment analysis. 2020 analysis was also conducted for the intersections.

The build conditions reflect the proposed geometry, which originally included two different interchange configurations being considered for the SR 99/Clinton Avenue interchange. The two configurations were a tight diamond and L-8 (a two-quadrant cloverleaf or "buttonhook" interchange). In this document, the analysis is reported for the tight diamond configuration.

Intersection Analysis

Traffic analysis for the intersections was based on the methodologies in the *Highway Capacity Manual* (HCM). Intersection operations were assessed using the Synchro software package (version 7), using the "HCM reports" function. Existing conditions geometrics were assumed for the intersection analysis where project improvements are not anticipated, along with optimized, actuated traffic signal timing for future conditions. A local street truck factor of 3 percent and a saturation flow rate of 1,800 vehicles/hour/lane (based on typical traffic engineering values) were assumed in the analysis.

Intersection Impact Criteria

The Authority has determined impact criteria to be used in the evaluation of intersections. These criteria will govern if a Project-related impact would exist with the implementation of the project. The traffic impact criteria for signalized and unsignalized intersections are defined below.

For signalized intersections, the recommended thresholds of significance are based on an increase in delay based on LOS, as follows:

- An impact is considered to be significant if the addition of project-related traffic results in a reduction in LOS below LOS D.
- For intersections that are projected to operate at LOS E or F under the no-build conditions, an impact is considered to be significant if the addition of project-related traffic results in an increase in average critical delay at an intersection by 4 seconds..

For unsignalized intersections, the recommended thresholds of significance are based on an increase in delay for the worst movement for a multi-way stop and the average intersection delay for an all-way stop, as follows:

- An impact is considered to be significant if the addition of project-related traffic results in a reduction in LOS below LOS D.
- For intersections that are projected to operate at LOS E or F under the no-build conditions, an impact is considered to be significant if the addition of project-related traffic results in an increase in delay by 5 seconds or more and the intersection satisfies one or more traffic signal warrants. The increase in delay is measured for the overall intersection at all-way stop-controlled intersections, and for the worst movement at one- or two-way stop-controlled intersections.

FIGURE 2
Study Area Intersections

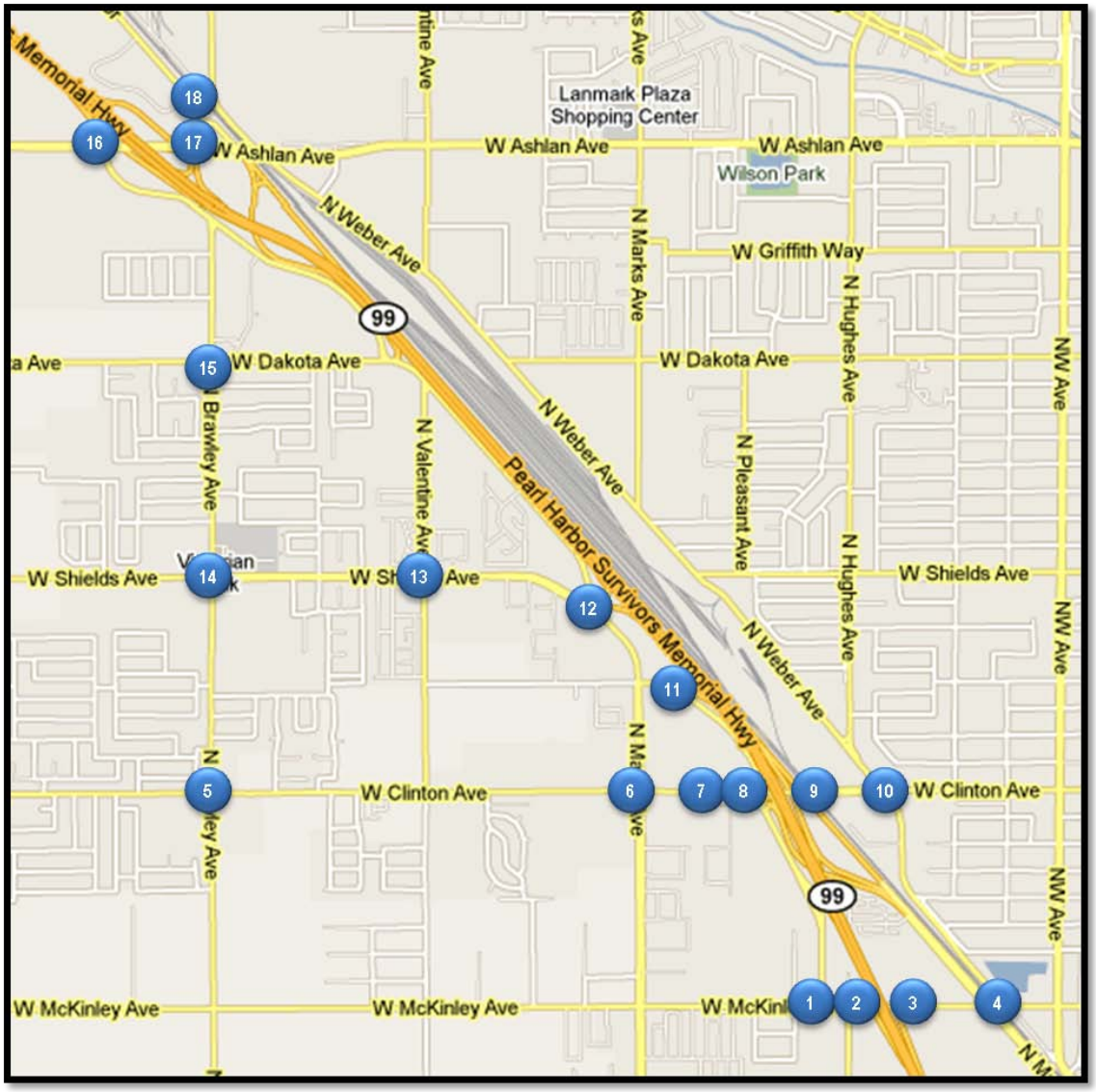
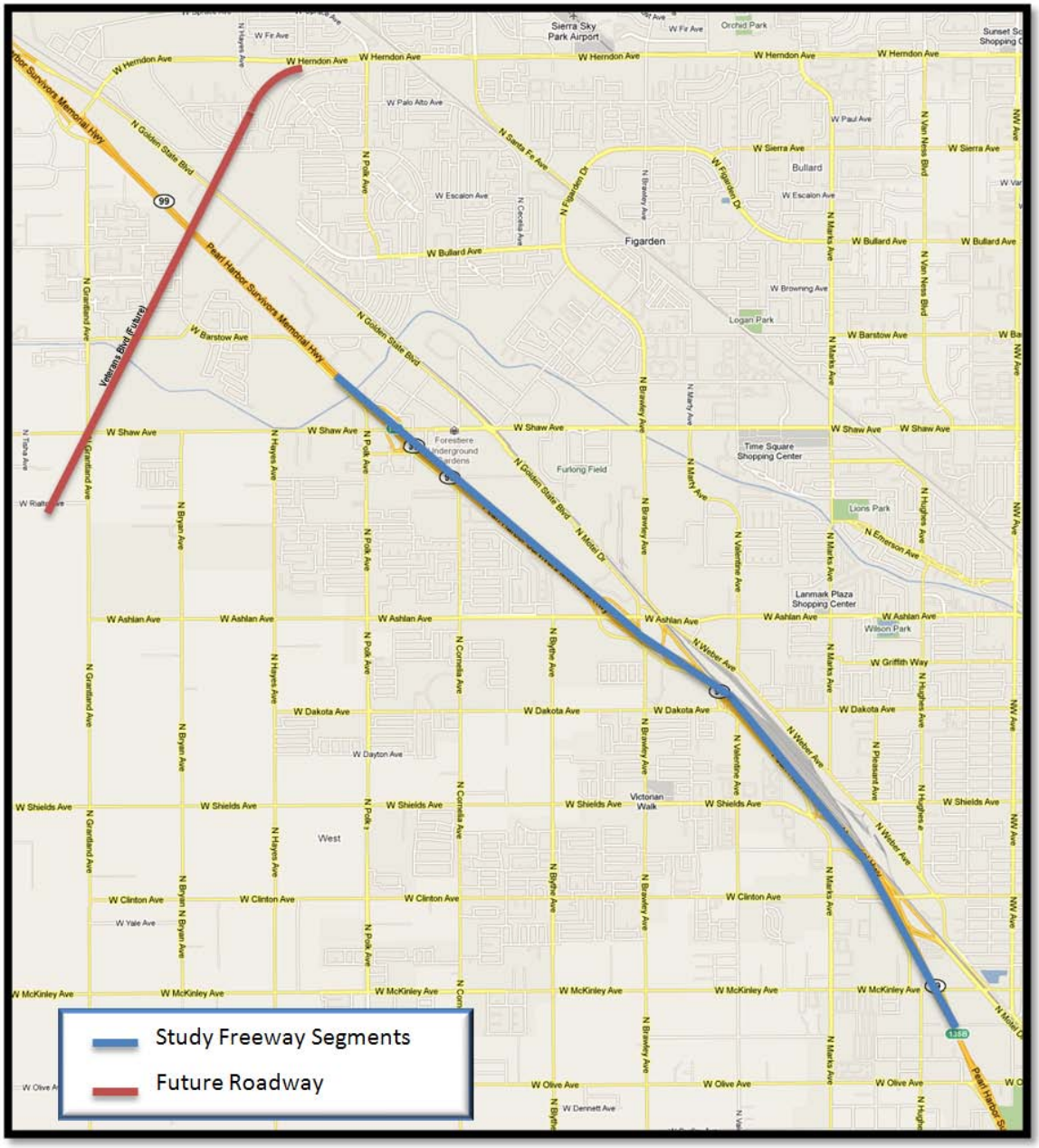


FIGURE 3
Study Area Freeway Segments



Freeway Segment Analysis

Traffic analysis for the freeway was also based on the methodologies in the HCM. The basic analysis includes HCM assessments of future level of service (LOS) for the AM and PM peak hours using the HCM procedures for basic, merge, diverge, and weave sections. Figure 4 illustrates the freeway study areas for the No-build and Build scenarios, as they were analyzed with the HCM methodology. A freeway truck factor of 6% was assumed in the analysis. This truck factor is based on existing Caltrans truck data on SR 99 in the vicinity of the project.

Freeway Impact Criteria

For freeway segments, the recommended thresholds of significance are based on an increase in density based on LOS. An impact is considered to be significant if the addition of project-related traffic results in degradation to LOS E or F.

Traffic Forecasting

Freeway Segments

Future freeway traffic demands were a critical input to the traffic modeling that was conducted for this study. Travel demands were forecast for SR 99 mainline and ramps, from south of McKinley Avenue to north of Shaw Avenue.

Caltrans provided existing counts and travel demand model forecasts for 2003 and 2035 on all ramps. Mainline counts and travel demand model forecasts were provided between the Princeton Avenue ramps, and a balancing process was used to calculate all other mainline segments. Using the available data, a series of post-processing adjustment calculations was used to develop freeway and ramp forecasts. A sample forecast calculation for the AM peak hour for the southbound (SB) SR 99 on-ramp from McKinley Avenue is provided below to illustrate this process:

<u>Sample Calculation</u>

- Existing ramp count (2010) = 474 vehicles/hour
- 2003 Model Demand = 670 vehicles/hour
- 2035 Model Demand = 866 vehicles/hour

2035 Traffic Forecast =

2035 Traffic Forecast =

2035 Traffic Forecast = 627 vehicles/hour

FIGURE 4
HCM Freeway Study Area Definitions

The forecast network differed slightly from the Build Alternative network, and was adjusted accordingly using spreadsheet processing. The adjustments made are the following:

- ***SB Dakota Avenue off-ramp:*** The Existing and 2035 No-Build networks include a southbound off-ramp to Dakota Avenue which did not exist in the 2035 travel demand model forecast or in the Build alternative. To calculate the traffic volumes for the No Build and Build alternatives, it was assumed that all existing traffic on the southbound off-ramp to Dakota Avenue would use the southbound off-ramp to Ashlan Avenue.
- ***SB ramps at Shields Avenue:*** The Existing and 2035 No-Build networks include southbound ramps at Shields Avenue which do not exist in the Build alternative. To calculate the traffic volumes for these alternatives, it was assumed that all traffic using Shields Avenue would be redirected to use the Clinton Avenue ramps.
- ***SB Ramps at Princeton Avenue:*** The existing and 2035 No-Build networks include southbound ramps at Princeton Avenue which did not exist in the 2035 travel demand model forecast or in the Build alternative. To calculate the traffic volumes, it was assumed that all traffic using Princeton Avenue would use the Clinton Avenue ramps. Therefore, it was assumed that the percentage of traffic using the Princeton Avenue ramps would not change in the future.

The adjusted 2035 traffic forecasts were used directly for the HCS freeway segment analysis. The 2035 traffic forecasts and HCS freeway segment analysis are provided in the Analysis Results section.

Intersections

Existing intersection data was collected for the study intersections from the following sources:

- Caltrans intersection counts taken in May 2010
- West Area Transportation Study, prepared by Fehr & Peers, Inc in 2010
- Veterans Boulevard Traffic Study, prepared by Fehr & Peers, Inc in 2008
- Fresno-Madera Freeway/Interchange Deficiency Study, prepared by Fehr & Peers, Inc in 2008
- Archived traffic counts from local data collection firms taken in 2008
- New traffic counts at several locations in July 2010 and March 2011.

To forecast future year intersection traffic volumes (for the No-Build and Build scenarios), the existing traffic counts were adjusted to future conditions by adapting the growth rates at adjacent freeway ramps to the intersections on each arterial. Once the adjacent growth rates were applied to the intersection volumes, adjustments were made to each intersection to account for volume balancing and redistribution patterns anticipated with the Build scenario. A final set of Existing, 2020, and 2035 intersection traffic volumes for each scenario is provided in Appendix A. The intersection lane geometry assumptions for Existing, 2020, and 2035 are also provided in Appendix A. These volumes and lane assumptions served as the basis for the intersection analysis.

Analysis Results

Freeway Segments

Figure 5 and 6 are summaries of the freeway volume, density (passenger cars/mile/lane (pc/mi/ln)), and LOS along SR 99 during the AM and PM peak hours of the Existing No-Build and Existing Build scenarios. Each freeway study segment is also labeled with the type of HCM analysis method was performed (i.e., basic, merge/diverge, weaving). A complete set of HCM output files are provided in Appendix B.

Based on the Authority's impact criterion (where the addition of project-related traffic results in a change from LOS D or better to LOS E or worse) there will be no freeway related impacts in the Existing Build condition.

For northbound SR 99, operations for the Existing Build option south of Ashlan Avenue are the same or better than the Existing No-Build condition. North of Ashlan Avenue, operations for the Existing No-Build and Build scenario are the same since the mainline improvements end south of Ashlan Avenue.

For southbound SR 99 north of Ashlan Avenue, operations for the no-build and build option are the same since the mainline improvements end south of Ashlan Avenue. Operations from Ashlan Avenue to Clinton Avenue improve in the build option due to the addition of the auxiliary lane and the elimination of several southbound ramps. Overall, the peak period LOS improves from approximately LOS D in the Existing No-Build scenario to LOS B in the Existing Build scenario.

Figures 7 and 8 are summaries of the freeway volume, density, and LOS along SR 99 during the AM and PM peak hours of the 2035 No-Build and Build scenarios. Each freeway study segment is also labeled with the type of HCM analysis method was performed (i.e., basic, merge/diverge, weaving). Again, the HCM output files are provided in Appendix B.

Again, freeway impacts were identified where the LOS was reduced below LOS D. Future operational deficiencies are a result of the projected growth and the impact of the SR 99 realignment, so potential mitigations may be developed as part of plans to address future growth.

For northbound SR 99, the freeway operations results with the 2035 Build scenario are as follows:

- South of Ashlan Avenue, operations for the Build scenario are the same of better than the No-Build scenario.
- North of Ashlan Avenue, operations for the 2035 No-Build and Build scenarios are the same since the mainline improvements end south of Ashlan Avenue.

FIGURE 5
Freeway Operations Summary – Existing No-Build Scenario

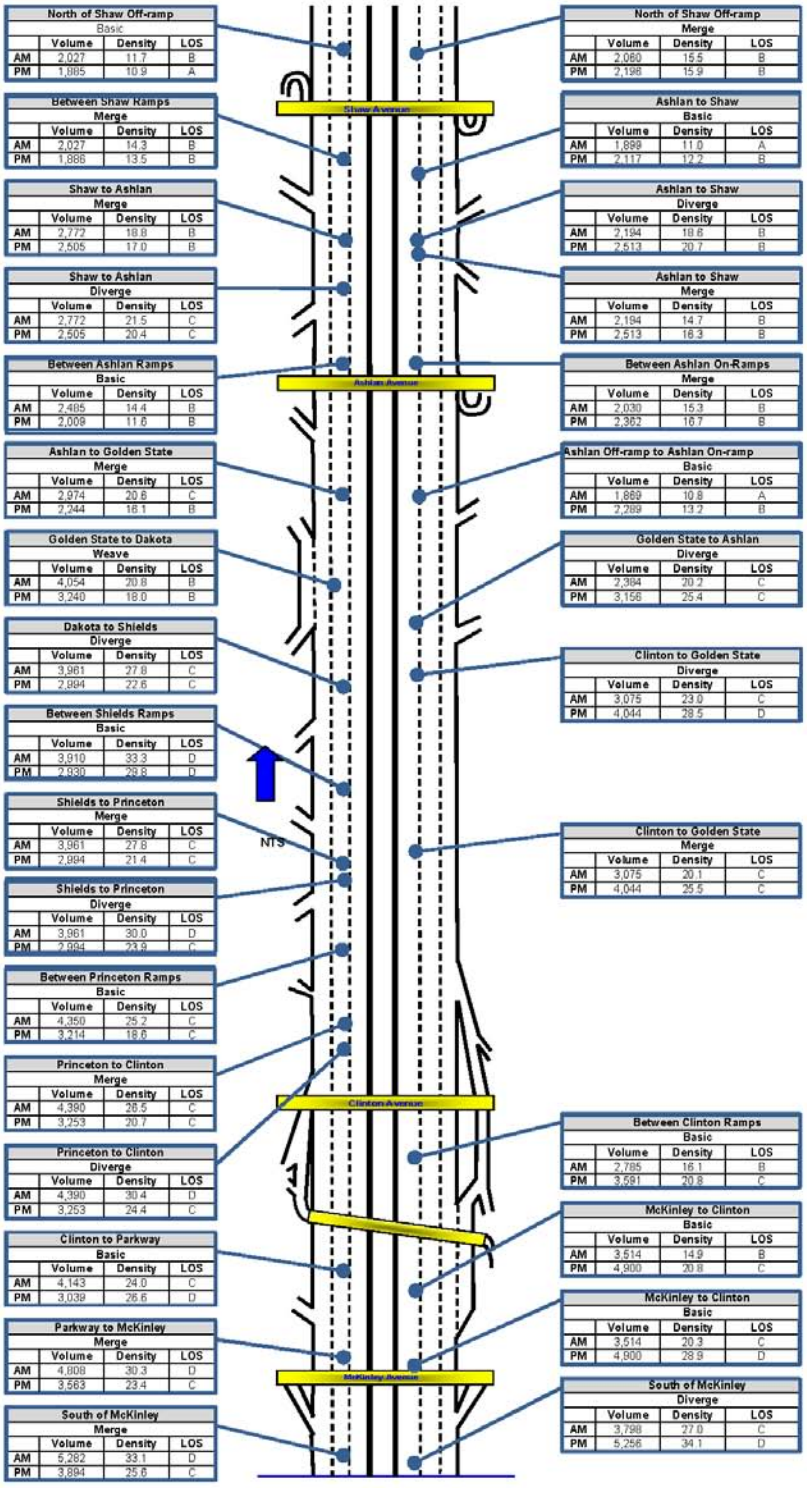


FIGURE 6
Freeway Operations Summary – Existing Build Scenario

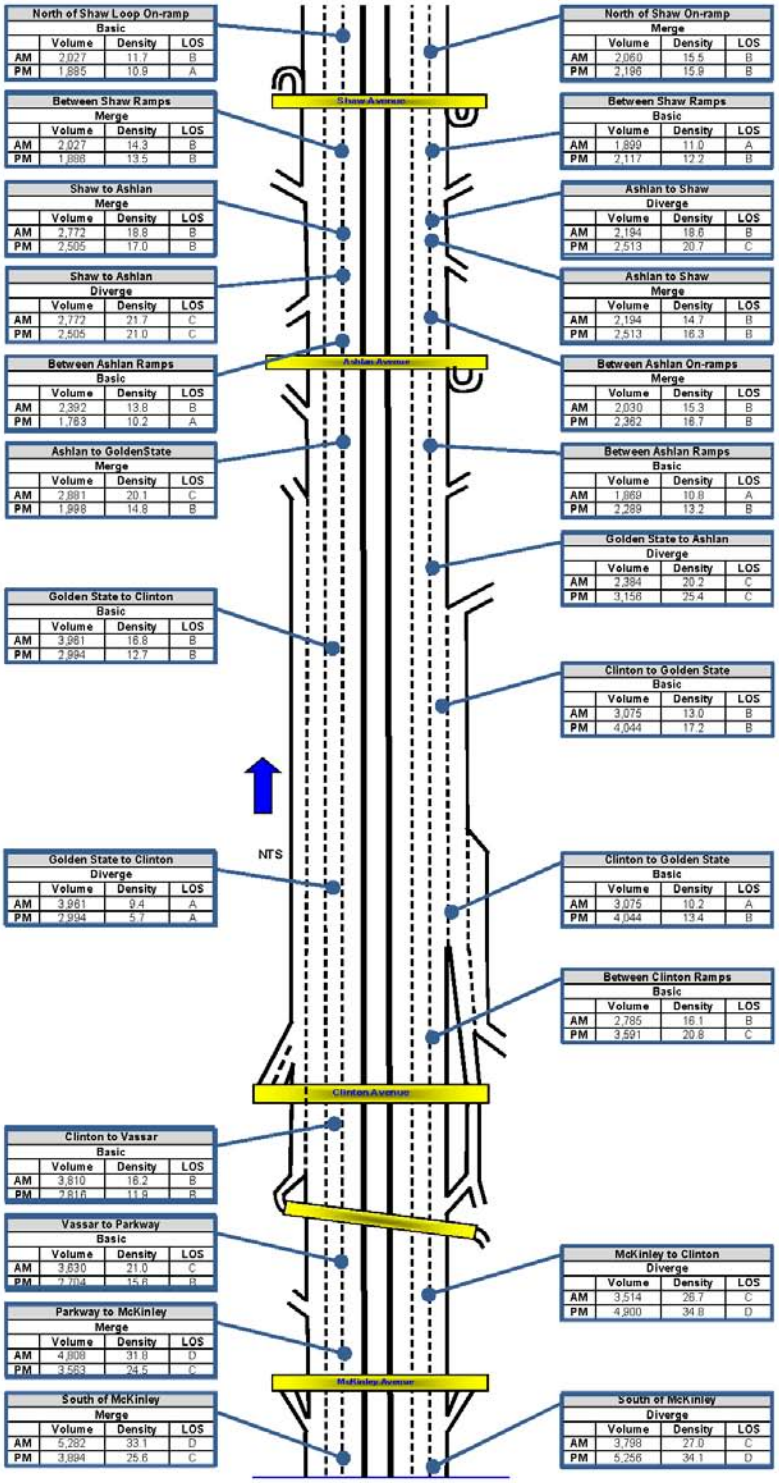
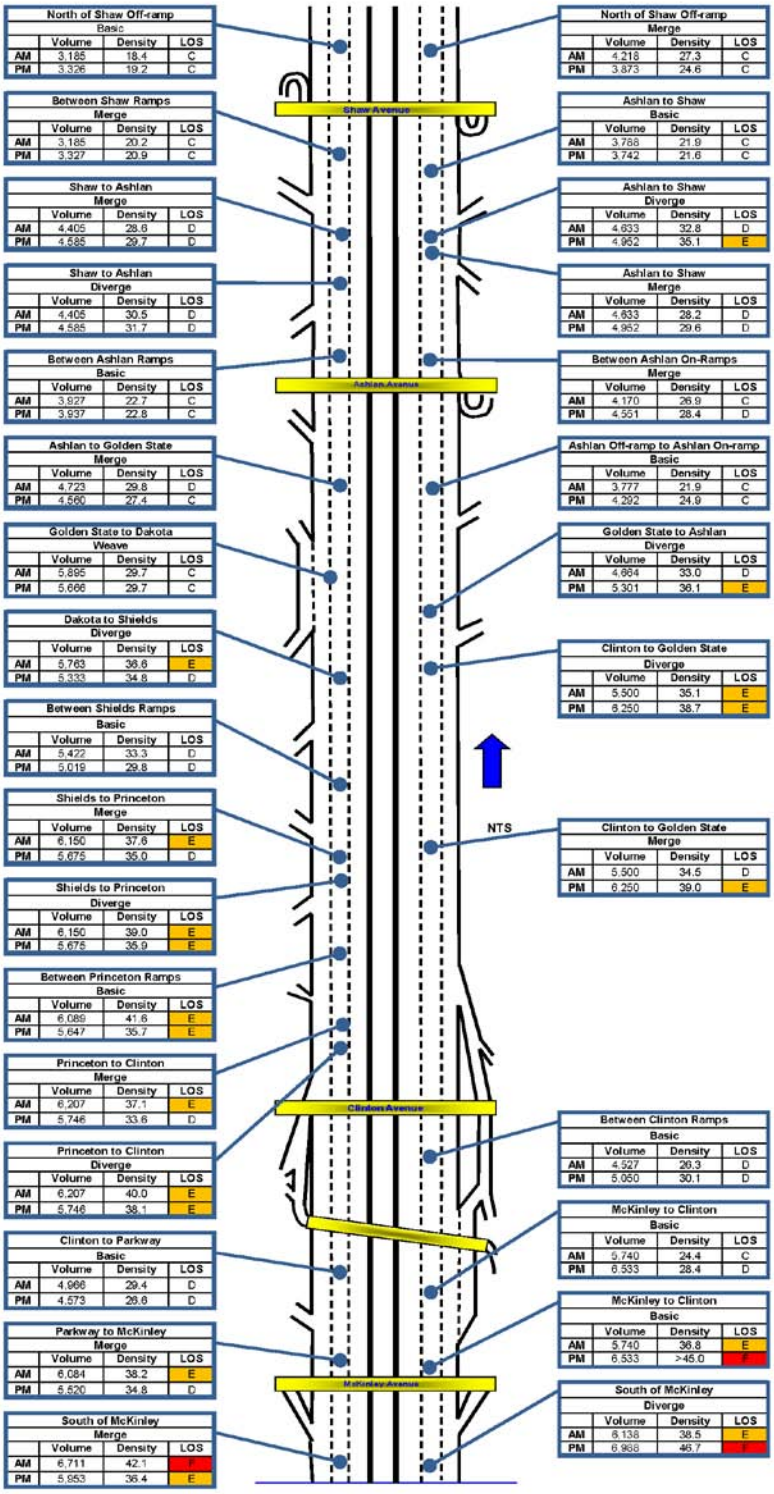


FIGURE 7

Freeway Operations Summary – 2035 No-Build Scenario



North of Shaw Off-ramp			
Basic			
	Volume	Density	LOS
AM	3,185	18.4	C
PM	3,326	19.2	C

Between Shaw Ramps			
Merge			
	Volume	Density	LOS
AM	3,185	20.2	C
PM	3,327	20.9	C

Shaw to Ashlan			
Merge			
	Volume	Density	LOS
AM	4,405	28.6	D
PM	4,585	29.7	D

Shaw to Ashlan			
Diverge			
	Volume	Density	LOS
AM	4,405	30.5	D
PM	4,585	31.7	D

Between Ashlan Ramps			
Basic			
	Volume	Density	LOS
AM	3,927	22.7	C
PM	3,937	22.8	C

Ashlan to Golden State			
Merge			
	Volume	Density	LOS
AM	4,723	29.8	D
PM	4,560	27.4	C

Golden State to Dakota			
Weave			
	Volume	Density	LOS
AM	5,895	29.7	C
PM	5,666	29.7	C

Dakota to Shields			
Diverge			
	Volume	Density	LOS
AM	5,763	36.6	E
PM	5,333	34.8	D

Between Shields Ramps			
Basic			
	Volume	Density	LOS
AM	5,422	33.3	D
PM	5,019	29.8	D

Shields to Princeton			
Merge			
	Volume	Density	LOS
AM	6,150	37.6	E
PM	5,675	35.0	D

Shields to Princeton			
Diverge			
	Volume	Density	LOS
AM	6,150	39.0	E
PM	5,675	35.9	E

Between Princeton Ramps			
Basic			
	Volume	Density	LOS
AM	6,089	41.6	E
PM	5,647	35.7	E

Princeton to Clinton			
Merge			
	Volume	Density	LOS
AM	6,207	37.1	E
PM	5,746	33.6	D

Princeton to Clinton			
Diverge			
	Volume	Density	LOS
AM	6,207	40.0	E
PM	5,746	38.1	E

Clinton to Parkway			
Basic			
	Volume	Density	LOS
AM	4,966	29.4	D
PM	4,573	26.6	D

Parkway to McKinley			
Merge			
	Volume	Density	LOS
AM	6,084	38.2	E
PM	5,520	34.8	D

South of McKinley			
Merge			
	Volume	Density	LOS
AM	6,711	42.1	F
PM	5,953	36.4	E

North of Shaw Off-ramp			
Merge			
	Volume	Density	LOS
AM	4,218	27.3	C
PM	3,873	24.6	C

Ashlan to Shaw			
Basic			
	Volume	Density	LOS
AM	3,766	21.9	C
PM	3,742	21.6	C

Ashlan to Shaw			
Diverge			
	Volume	Density	LOS
AM	4,633	32.8	D
PM	4,952	35.1	E

Ashlan to Shaw			
Merge			
	Volume	Density	LOS
AM	4,633	28.2	D
PM	4,952	29.6	D

Between Ashlan On-Ramps			
Merge			
	Volume	Density	LOS
AM	4,170	26.9	C
PM	4,551	28.4	D

Ashlan Off-ramp to Ashlan On-ramp			
Basic			
	Volume	Density	LOS
AM	3,777	21.9	C
PM	4,292	24.9	C

Golden State to Ashlan			
Diverge			
	Volume	Density	LOS
AM	4,664	33.0	D
PM	5,301	36.1	E

Clinton to Golden State			
Diverge			
	Volume	Density	LOS
AM	5,500	35.1	E
PM	6,250	38.7	E

Clinton to Golden State			
Merge			
	Volume	Density	LOS
AM	5,500	34.5	D
PM	6,250	39.0	E

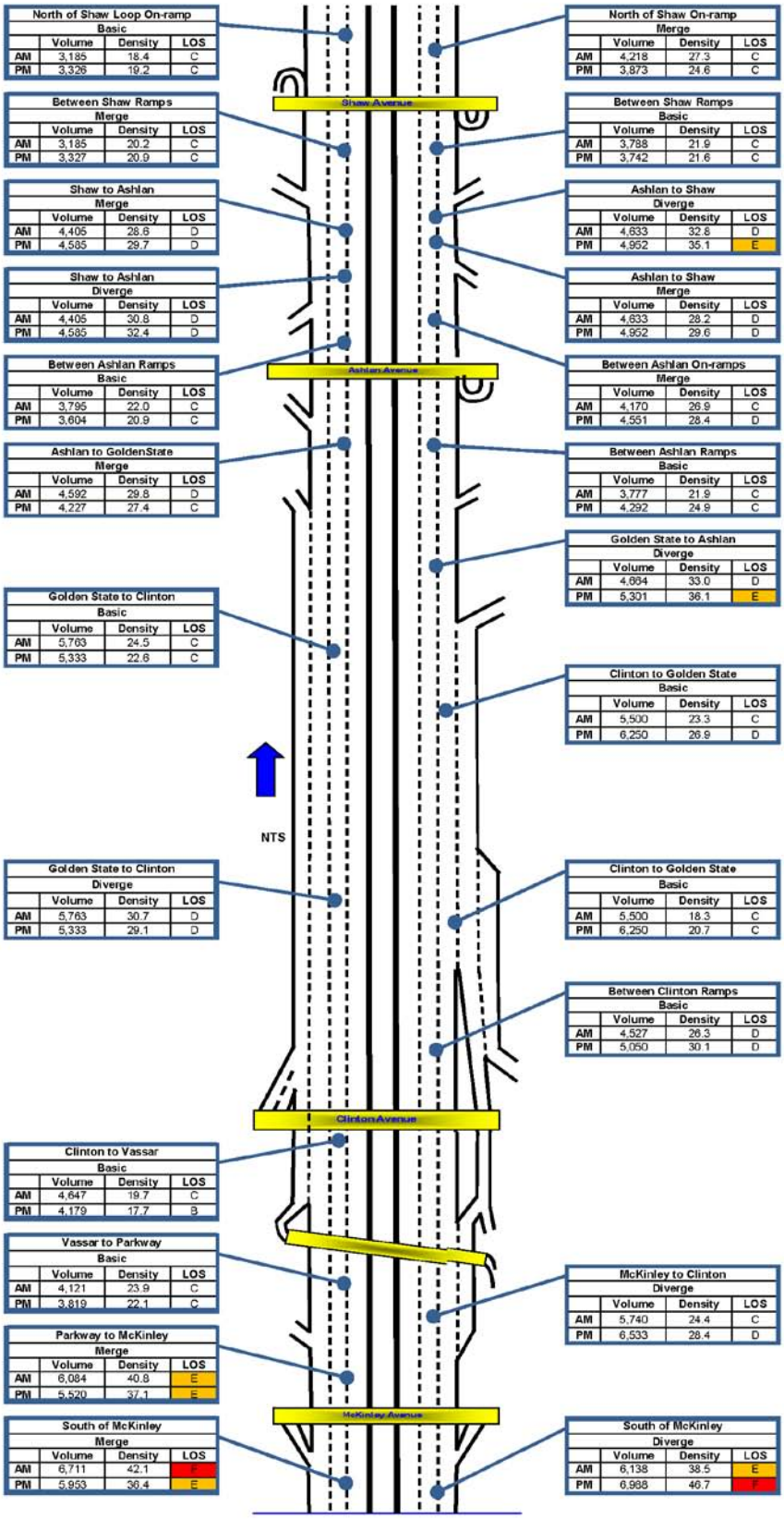
Between Clinton Ramps			
Basic			
	Volume	Density	LOS
AM	4,527	26.3	D
PM	5,050	30.1	D

McKinley to Clinton			
Basic			
	Volume	Density	LOS
AM	5,740	24.4	C
PM	6,533	28.4	D

McKinley to Clinton			
Basic			
	Volume	Density	LOS
AM	5,740	36.8	E
PM	6,533	>45.0	F

South of McKinley			
Diverge			
	Volume	Density	LOS
AM	6,138	38.5	E
PM	6,988	46.7	F

FIGURE 8
Freeway Operations Summary – 2035 Build Scenario



For southbound SR 99, the freeway operations results with the 2035 Build scenario are as follows:

- North of Ashlan Avenue, operations are for the No-Build and Build scenarios are the same since the mainline improvements end south of Ashlan Avenue.
- Operations from Ashlan Avenue to Clinton Avenue improve in the Build scenario due to the addition of the auxiliary lane and the elimination of several southbound ramps. Overall, the peak period LOS improves from approximately LOS E in the No-Build scenario to LOS C in the Build scenario.
- The analysis indicates an impact south of where the existing southbound Parkway Drive on-ramp is located. Operations in the Build scenario are slightly worse than No-Build scenario because the redistribution of traffic creates a concentrated merge at the southbound Clinton Avenue on-ramp. A potential mitigation would be to add a southbound auxiliary lane where the southbound on-ramp from Clinton Avenue enters the mainline, and then continue this auxiliary lane to Olive Avenue.

Intersections

Tables 1 to 3 are summaries of intersection delay and LOS for each scenario for the AM and PM peak hours. There are separate tables for the Existing, 2020, and 2035 scenarios.

The tables also include data on Intersection Capacity Utilization (ICU). ICU is an additional metric that gives insight into how an intersection is functioning and how much extra capacity is available (values less than 1.0) or if an intersection is over capacity (values greater than 1.0). At the bottom of the tables, the average ICU values for the signalized and unsignalized intersections are reported to give an indication of how the scenarios compare from an intersection capacity standpoint. Synchro intersection worksheets are provided in Appendix C.

Existing Conditions

In the Existing scenario, most of the study intersections operate at LOS D or better. Four intersections currently operate at LOS E or F during one or more of the peak hours:

- #7 Clinton Avenue and Vassar Avenue (unsignalized)
- #10 Clinton Avenue and Weber Avenue (signalized)
- #17 Ashlan Avenue and SR 99 northbound (NB) Ramp/Brawley Avenue (signalized)
- #18 Brawley Avenue and Golden State Boulevard (unsignalized)

Under build conditions, traffic will redistribute due to the improvements along SR 99, which include the elimination of southbound SR 99 ramps between Ashlan Avenue and Clinton Avenue (at Dakota Avenue, Shields Avenue, and Princeton Avenue). Due to these improvements, intersection operations are projected to worsen at many of the intersections west of SR 99. This is due to the fact that several southbound ramps are removed in the build condition. The increase in average ICU ranges from 1 to 4 percent, which is consistent with the re-directed travel expected on local streets. With the closed ramps, there will be slightly longer travel distance to access freeway ramps.

TABLE 1
Existing Intersection Operations Summary

		Existing No-Build Conditions									Existing Build Conditions										Proposed Mitigation	Existing Build Conditions with Mitigation						
	Intersection	AM Peak Hour					PM Peak Hour				AM Peak Hour					PM Peak Hour												
		Control	Volume (veh)	Delay (sec)	LOS	ICU	Volume (veh)	Delay (sec)	LOS	ICU	Control	Volume (veh)	Delay (sec)	LOS	ICU	Volume (veh)	Delay (sec)	LOS	ICU	Impact?		Control	Delay (sec)	LOS	ICU	Delay (sec)	LOS	ICU
1	McKinley Avenue and Woodson Avenue	U*	538	12	B	0.34	699	14	B	0.33	U*	568	11	B	0.47	729	13	B	0.49	No		U*						
2	McKinley Avenue and SR-99 SB Ramp	U*	1031	10	A	0.44	955	9	A	0.43	U*	1011	9	A	0.43	940	9	A	0.42	No		U*						
3	McKinley Avenue and SR-99 NB Ramp	U*	1006	17	C	0.44	1048	16	C	0.43	U*	986	16	C	0.43	1033	16	C	0.42	No		U*						
4	McKinley Avenue and Motel Drive	S	1221	15	B	0.47	1457	14	B	0.46	S	1201	16	B	0.47	1442	15	B	0.46	No		S						
5	Clinton Avenue and Brawley Avenue	S	1289	15	B	0.41	1765	20	B	0.46	S	1443	20	B	0.48	1889	24	C	0.51	No		S						
6	Clinton Avenue and Marks Avenue	S	1888	34	C	0.66	2568	45	D	0.86	S	2316	41	D	0.77	2814	43	D	0.87	No		S						
7	Clinton Avenue and Vassar Avenue	U*	2087	391	F	0.73	2585	487	F	0.63	U*	1975	42	E	0.50	2480	19	C	0.52	No		U*						
8	Clinton Avenue and SR-99 SB Ramps	Does not Exist									S	2394	15	B	0.48	2811	9	A	0.55	No		S						
9	Clinton Avenue and SR-99 NB Ramps	S	2244	10	A	0.45	3141	13	B	0.55	S	2320	17	B	0.48	3178	17	B	0.55	No		S						
10	Clinton Avenue and Weber Avenue	S	2117	36	D	0.71	2835	64	E	0.91	S	2173	33	C	0.72	2857	68	E	0.91	Yes	Add second SBL and EBL	S	27	C	0.60	32	C	0.75
11	Princeton Avenue and SR-99 SB Ramp/Parkway Drive	U*	98	9	A	0.16	79	9	A	0.21	Intersection removed as part of the project improvements																	
12	Shields Avenue and SR-99 SB Ramp/Parkway Drive	U	1013	14	B	0.56	1088	22	C	0.61	Intersection removed as part of the project improvements																	
13	Shields Avenue and Valentine Avenue	U	699	12	B	0.47	813	12	B	0.43	U	606	9	A	0.41	858	11	B	0.44	No		U						
14	Shields Avenue and Brawley Ave	U	630	9	A	0.41	1028	13	B	0.52	U	640	9	A	0.39	1058	14	B	0.52	No		U						
15	Dakota Avenue and Brawley Avenue	U	848	14	B	0.61	950	16	C	0.62	U	939	16	C	0.67	1197	53	F	0.77	Yes	Signalize, add SBL and SBR, restripe NB approach to include an exclusive NBL and shared through-right	S	7	A	0.52	7	A	0.52
16	Ashlan Avenue and SR-99 SB Ramp/Parkway Drive	S	2108	38	D	0.70	2827	49	D	0.63	S	2201	36	D	0.70	3073	34	C	0.70	No		S						
17	Ashlan Avenue and SR-99 NB Ramp/Brawley Avenue	S	2857	32	C	0.78	3936	56	E	0.83	S	2857	32	C	0.78	3936	57	E	0.83	No		S						
18	Brawley Avenue and Golden State Boulevard	U*	1358	81	F	0.64	1456	123	F	0.66	U*	1358	81	F	0.64	1456	123	F	0.66	No		U*						
				Signalized Avg ICU		0.60		Signalized Avg ICU		0.69			Signalized Avg ICU		0.63		Signalized Avg ICU		0.69				Signalized Avg ICU		0.60	Signalized Avg ICU		0.66
				Unsignalized Avg ICU		0.48		Unsignalized Avg ICU		0.49			Unsignalized Avg ICU		0.49		Unsignalized Avg ICU		0.53				Unsignalized Avg ICU		0.47	Unsignalized Avg ICU		0.50

U = Unsignalized, S = Signalized

*Two-way stop controlled intersection, Delay reported for worst-case stop-controlled movement only

TABLE 2
2020 Intersection Operations Summary

		2020 No-Build Conditions									2020 Build Conditions										Proposed Mitigation	2020 Build Conditions with Mitigation						
	Intersection	AM Peak Hour					PM Peak Hour				AM Peak Hour					PM Peak Hour												
		Control	Volume (veh)	Delay (sec)	LOS	ICU	Volume (veh)	Delay (sec)	LOS	ICU	Control	Volume (veh)	Delay (sec)	LOS	ICU	Volume (veh)	Delay (sec)	LOS	ICU	Impact?		Control	Delay (sec)	LOS	ICU	Delay (sec)	LOS	ICU
1	McKinley Avenue and Woodson Avenue	U*	640	13	B	0.39	830	16	C	0.38	U*	680	12	B	0.52	865	15	B	0.57	No		U*						
2	McKinley Avenue and SR-99 SB Ramp	U*	1205	11	B	0.50	1120	9	A	0.49	U*	1180	11	B	0.49	1100	9	A	0.47	No		U*						
3	McKinley Avenue and SR-99 NB Ramp	U*	1175	24	C	0.50	1225	22	C	0.49	U*	1150	22	C	0.49	1205	21	C	0.47	No		U*						
4	McKinley Avenue and Motel Drive	S	1450	15	B	0.51	1725	15	B	0.50	S	1425	16	B	0.51	1705	15	B	0.50	No		S						
5	Clinton Avenue and Brawley Avenue	S	1860	19	B	0.47	2545	25	C	0.59	S	2075	24	C	0.59	2720	31	C	0.66	No		S						
6	Clinton Avenue and Marks Avenue	S	2515	49	D	0.87	2960	56	E	0.95	S	3245	82	F	1.02	3445	69	E	1.01	Yes	Add an exclusive NBR and restripe SB approach to include two SBL and one shared through-right	S	47	D	0.80	37	D	0.80
7	Clinton Avenue and Vassar Avenue	U*	2087	High	F	0.87	2585	High	F	0.72	U*	2720	209	F	0.65	2970	22	C	0.57	No		U*						
8	Clinton Avenue and SR-99 SB Ramps	Does not Exist									S	3346	16	B	0.62	3390	11	B	0.57	No		S						
9	Clinton Avenue and SR-99 NB Ramps	S	2930	14	B	0.53	3500	15	B	0.57	S	3079	17	B	0.62	3458	17	B	0.57	No		S						
10	Clinton Avenue and Weber Avenue	S	2980	48	D	0.83	3215	77	E	0.96	S	3205	48	D	0.84	3295	97	F	1.03	Yes	Add second SBL and EBL	S	30	C	0.77	39	D	0.83
11	Princeton Avenue and SR-99 SB Ramp/Parkway Drive	U*	98	9	A	0.16	79	9	A	0.22	Intersection removed as part of the project improvements																	
12	Shields Avenue and SR-99 SB Ramp/Parkway Drive	U	1013	31	D	0.69	1088	33	D	0.72	Intersection removed as part of the project improvements																	
13	Shields Avenue and Valentine Avenue	U	1030	33	D	0.63	1185	26	D	0.61	U	890	12	B	0.56	1250	17	C	0.60	No		U						
14	Shields Avenue and Brawley Ave	U	880	11	B	0.49	1410	28	D	0.63	U	890	11	B	0.49	1455	36	E	0.62	Yes	Signalize	S	7	A	0.49	9	A	0.62
15	Dakota Avenue and Brawley Avenue	U	1245	50	E	0.80	1385	69	F	0.91	U	1375	73	F	0.88	1735	239	F	1.12	Yes	Signalize, add SBL and SBR, restripe NB approach to include an exclusive NBL and shared through-right	S	11	B	0.65	9	A	0.76
16	Ashlan Avenue and SR-99 SB Ramp/Parkway Drive	S	3395	199	F	1.06	4295	98	F	0.89	S	3545	192	F	1.06	4670	103	F	0.95	Yes	Add second NBR	S	121	F	0.91	100	F	0.95
17	Ashlan Avenue and SR-99 NB Ramp/Brawley Avenue	S	3235	42	D	0.87	4100	64	E	0.86	S	3235	42	D	0.87	4100	64	E	0.86	No		S						
18	Brawley Avenue and Golden State Boulevard	U*	1520	172	F	0.69	1635	356	F	0.72	U*	1520	172	F	0.69	1635	356	F	0.72	No		U*						
					Signalized Avg ICU	0.73			Signalized Avg ICU	0.79				Signalized Avg ICU	0.76			Signalized Avg ICU	0.80					Signalized Avg ICU	0.69		Signalized Avg ICU	0.74
					Unsignalized Avg ICU	0.57			Unsignalized Avg ICU	0.59				Unsignalized Avg ICU	0.60			Unsignalized Avg ICU	0.64					Unsignalized Avg ICU	0.57		Unsignalized Avg ICU	0.57

U = Unsignalized, S = Signalized

*Two-way stop controlled intersection, Delay reported for worst-case stop-controlled movement only

TABLE 3
2035 Intersection Operations Summary

		2035 No-Build Conditions									2035 Build Conditions										Proposed Mitigation	2035 Build Conditions with Mitigation						
	Intersection	AM Peak Hour					PM Peak Hour				AM Peak Hour					PM Peak Hour												
		Control	Volume (veh)	Delay (sec)	LOS	ICU	Volume (veh)	Delay (sec)	LOS	ICU	Control	Volume (veh)	Delay (sec)	LOS	ICU	Volume (veh)	Delay (sec)	LOS	ICU	Impact?		Control	Delay (sec)	LOS	ICU	Delay (sec)	LOS	ICU
1	McKinley Avenue and Woodson Avenue	U*	795	15	C	0.48	1030	20	C	0.47	U*	839	13	B	0.61	1074	18	C	0.69	No		U*						
2	McKinley Avenue and SR-99 SB Ramp	U*	1500	13	B	0.61	1395	11	B	0.59	U*	1471	12	B	0.59	1373	11	B	0.57	No		U*						
3	McKinley Avenue and SR-99 NB Ramp	U*	1465	160	F	0.61	1530	177	F	0.59	U*	1436	125	F	0.59	1508	144	F	0.57	No		U*						
4	McKinley Avenue and Motel Drive	S	1805	17	B	0.58	2135	16	B	0.58	S	1776	17	B	0.58	2113	16	B	0.58	No		S						
5	Clinton Avenue and Brawley Avenue	S	2890	26	C	0.63	3960	42	D	0.82	S	3232	43	D	0.80	4236	63	E	0.94	Yes	Add second southbound left turn lane.	S	29	C	0.68	44	D	0.83
6	Clinton Avenue and Marks Avenue	S	3950	163	F	1.26	3535	108	F	1.08	S	5171	288	F	1.51	4639	203	F	1.29	Yes	Add an exclusive NBR and restripe SB approach to include two SBL and one shared through-right	S	161	F	1.16	93	F	1.01
7	Clinton Avenue and Vassar Avenue	U*	2087	High	F	1.14	2585	High	F	0.86	U*	4370	High	F	0.94	4030	34	D	0.74	No		U*						
8	Clinton Avenue and SR-99 SB Ramps	Does not Exist									S	5642	74	E	0.97	4799	20	B	0.82	Yes	Add exclusive EBR	S	49	D	1.01	19	B	0.94
9	Clinton Avenue and SR-99 NB Ramps	S	4160	28	C	0.67	4040	23	C	0.65	S	4758	27	C	0.97	3677	21	C	0.82	No		S						
10	Clinton Avenue and Weber Avenue	S	4515	107	F	1.07	3775	97	F	1.04	S	5080	138	F	1.15	3400	106	F	1.05	Yes	Add second SBL and EBL	S	88	F	1.15	41	D	0.87
11	Princeton Avenue and SR-99 SB Ramp/Parkway Drive	U*	98	9	A	0.18	79	9	A	0.22	Intersection removed as part of the project improvements																	
12	Shields Avenue and SR-99 SB Ramp/Parkway Drive	U	1013	150	F	0.98	1088	103	F	0.91	Intersection removed as part of the project improvements																	
13	Shields Avenue and Valentine Avenue	U	1575	209	F	0.95	1830	195	F	0.88	U	1369	52	F	0.83	1930	109	F	0.87	No		U						
14	Shields Avenue and Brawley Ave	U	1355	23	C	0.66	2175	155	F	0.88	U	1376	28	D	0.68	2238	193	F	0.85	Yes	Signalize	S	10	A	0.68	18	B	0.85
15	Dakota Avenue and Brawley Avenue	U	1910	245	F	1.20	2145	339	F	1.32	U	2113	294	F	1.33	2694	708	F	1.65	Yes	Signalize, add SBL and SBR, restripe NB approach to include an exclusive NBL and shared through-right	S	25	C	0.97	43	D	1.08
16	Ashlan Avenue and SR-99 SB Ramp/Parkway Drive	S	6095	766	F	1.81	7180	547	F	1.41	S	6363	736	F	1.81	7803	579	F	1.48	Yes	Add second NBR	S	515	F	1.54	496	F	1.48
17	Ashlan Avenue and SR-99 NB Ramp/Brawley Avenue	S	3765	74	E	0.99	4290	75	E	0.89	S	3765	74	E	0.99	4290	75	E	0.89	No		S						
18	Brawley Avenue and Golden State Boulevard	U*	1765	811	F	0.78	1895	1422	F	0.80	U*	1765	811	F	0.78	1895	1422	F	0.80	No		U*						
				Signalized Avg ICU		0.99		Signalized Avg ICU		0.98			Signalized Avg ICU		1.08		Signalized Avg ICU		1.02				Signalized Avg ICU		0.97	Signalized Avg ICU		0.97
				Unsignalized Avg ICU		0.76		Unsignalized Avg ICU		0.75			Unsignalized Avg ICU		0.79		Unsignalized Avg ICU		0.84				Unsignalized Avg ICU		0.72	Unsignalized Avg ICU		0.71

Intersection impacts were identified based on the Authority's impact criteria and are also summarized in Table 1. Two intersections are projected to have significant impacts due to the project, in the Existing Scenario:

- #10 Clinton Avenue and Weber Avenue (signalized)
- #15 Dakota Avenue and Brawley Avenue (unsignalized)

Potential mitigations for the Existing scenario are as follows:

- Clinton Avenue and Weber Avenue: Add a second SB and eastbound (EB) left-turn lane.
- Dakota Avenue and Brawley Avenue: Signalize, add a SB left- and right-turn lane, and restripe the NB approach to include an exclusive left-turn lane and a shared through-right lane. This mitigation is only appropriate if the intersection would meet the warrant with the addition of the proposed project. Given the theoretical nature of the "existing plus proposed project" calculation, this potential mitigation has not been evaluated for a warrant.

2020 Operations

In the 2020 scenario, most of the study intersections operate at LOS D or better. Six intersections are projected to operate at LOS E or F during one or more of the peak hours:

- #7 Clinton Avenue and Vassar Avenue (unsignalized)
- #10 Clinton Avenue and Weber Avenue (signalized)
- #15 Dakota Avenue and Brawley Avenue (unsignalized)
- #16 Ashlan Avenue and SR 99 SB ramp/Parkway Drive (signalized)
- #17 Ashlan Avenue and SR 99 NB ramp/Brawley Avenue (signalized)
- #18 Brawley Avenue and Golden State Boulevard (unsignalized)

Under 2020 Build conditions, the increase in average ICU ranges from 1 to 5 percent, which is consistent with the re-directed travel expected on local streets. Five intersections are projected to have significant impacts due to the project, in the 2020 Build scenario:

- #6 Clinton Avenue and Marks Avenue (signalized)
- #10 Clinton Avenue and Weber Avenue (signalized)
- #14 Shields Avenue and Brawley Avenue (unsignalized)
- #15 Dakota Avenue and Brawley Avenue (unsignalized)
- #16 Ashlan Avenue and SR 99 SB ramp/Parkway Drive (signalized)

Potential mitigations for the 2020 Build scenario are as follows:

- Clinton Avenue and Marks Avenue: Add an exclusive NB right-turn lane, and restripe the SB approach to include two SB left-turn lanes and one shared through-right lane.

- Clinton Avenue and Weber Avenue: Add a second SB and EB left-turn lane.
- Shields Avenue and Brawley Avenue: Signalize. Note that any signalization improvement would be completed only when the future traffic volumes met warrants for a signal.
- Dakota Avenue and Brawley Avenue: Signalize, add a SB left- and right-turn lane, and restripe the NB approach to include an exclusive left-turn lane and a shared through-right lane. Note that any signalization improvement would be completed only when the future traffic volumes met warrants for a signal.
- Ashlan Avenue and SR 99 SB ramp/Parkway Drive. Add a second NB right-turn lane.

2035 Operations

In the 2035 No-Build scenario, 11 of the 17 study intersections are projected to operate at LOS F due to background growth that is independent of the build conditions. In addition, the numerous unsignalized intersections are projected to deteriorate to LOS F because the peak hour volumes are projected to rise above the operational limits of a stop-controlled intersection. Many of these unsignalized intersections may meet traffic signal warrants based on traffic volume in the future, and the LOS will improve with signalization.

With the build scenario, traffic will redistribute due to the mainline SR 99 improvements, which include the elimination of three southbound SR 99 ramps between Ashlan Avenue and Clinton Avenue and the new alignment for the Clinton Avenue/southbound SR 99 ramp terminal intersection.

With these ramp changes, intersection operations are projected to degrade at many of the intersections west of SR 99. This is directly due to the fact that several SB ramps will be removed. The increase in average ICU ranges from 3 to 9 percent, which is consistent with the additional travel expected on local streets.

Intersection impacts were identified based on the impact criteria described previously. Future operational deficiencies are a result of the projected growth and the impact of the SR 99 realignment, so potential mitigations may be developed as part of plans to address future growth.

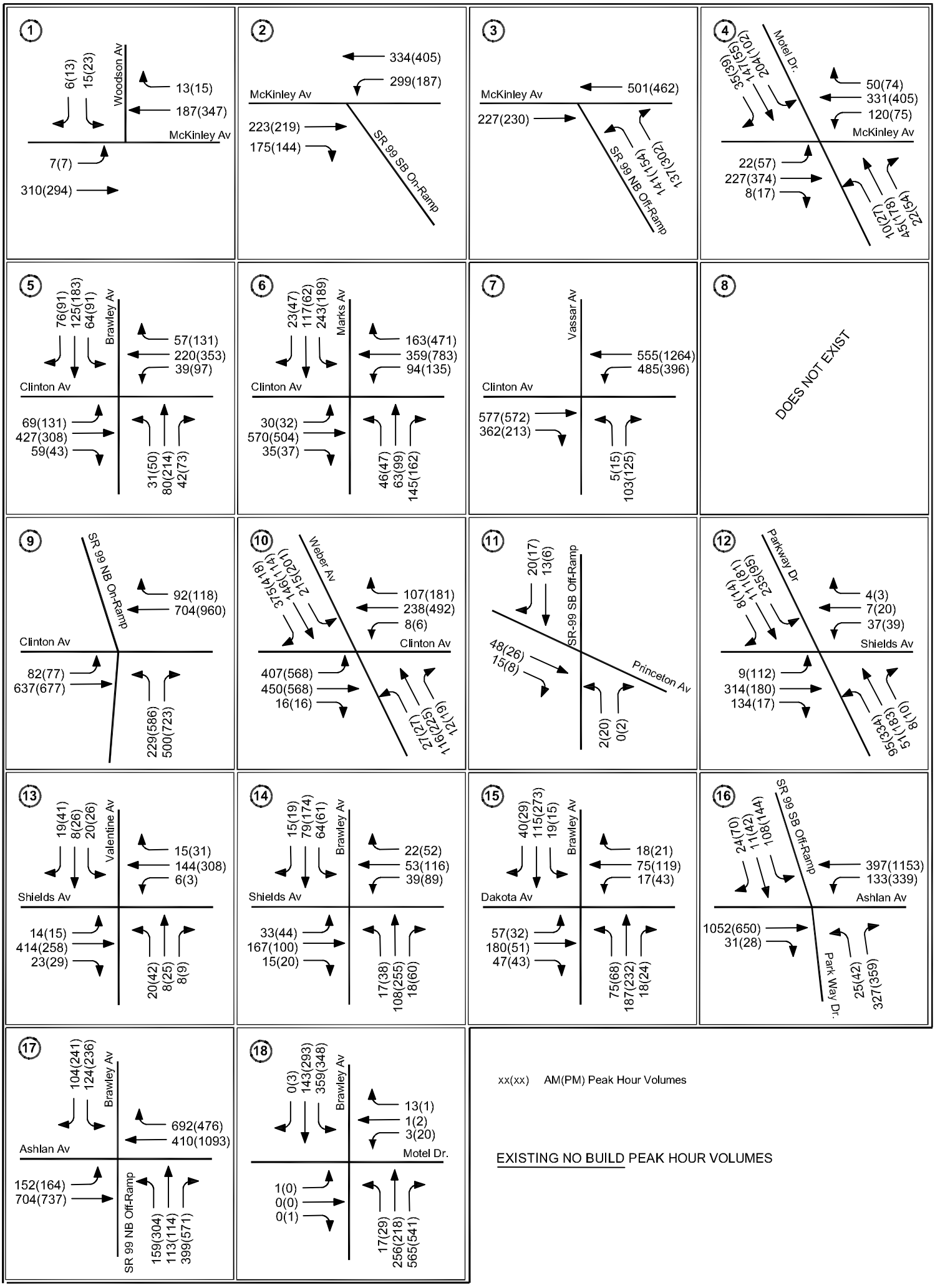
The following seven intersections were found to have impacts:

- #5 Clinton Avenue and Brawley Avenue
- #6 Clinton Avenue and Marks Avenue
- #8 Clinton Avenue and SB SR 99 ramps
- #10 Clinton Avenue and Weber Avenue
- #14 Shields Avenue and Brawley Avenue (unsignalized)
- #15 Dakota Avenue and Brawley Avenue (unsignalized)
- #16 Ashlan Avenue and SR 99 SB ramp/Parkway Drive (signalized)

Potential mitigation at these intersections includes roadway widening, additional turn bays, re-striping, and traffic signal improvements:

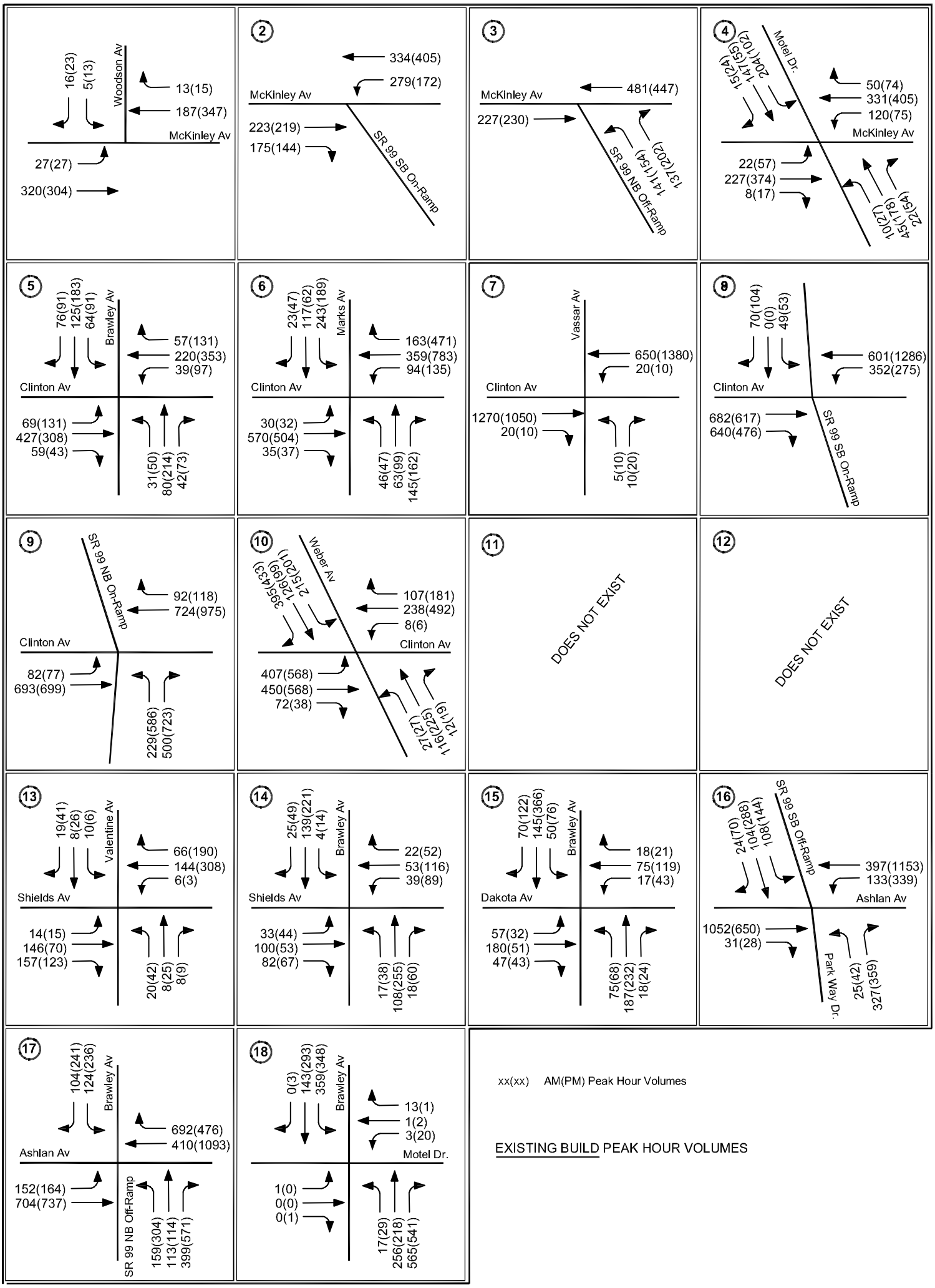
- Clinton Avenue and Brawley Avenue: Add a second SB left-turn lane.
- Clinton Avenue and Marks Avenue: Add an exclusive NB right-turn lane, and restripe the SB approach to include two SB left-turn lanes and one shared through-right lane.
- Clinton Avenue and SB SR 99 ramps: This is a new intersection, but an additional eastbound right-turn lane would be needed in addition to the geometry needed for the 2020 Build scenario.
- Clinton Avenue and Weber Avenue: Add a second SB and EB left-turn lane.
- Shields Avenue and Brawley Avenue: Signalize. Note that any signalization improvement would be completed only when the future traffic volumes met warrants for a signal.
- Dakota Avenue and Brawley Avenue: Signalize, add a SB left- and right-turn lane, and restripe the NB approach to include an exclusive left-turn lane and a shared through-right lane. Note that any signalization improvement would be completed only when the future traffic volumes met warrants for a signal.
- Ashlan Avenue and SR 99 SB ramp/Parkway Drive. Add a second NB right-turn lane.

Appendix A
Intersection Volumes and Geometry Assumptions



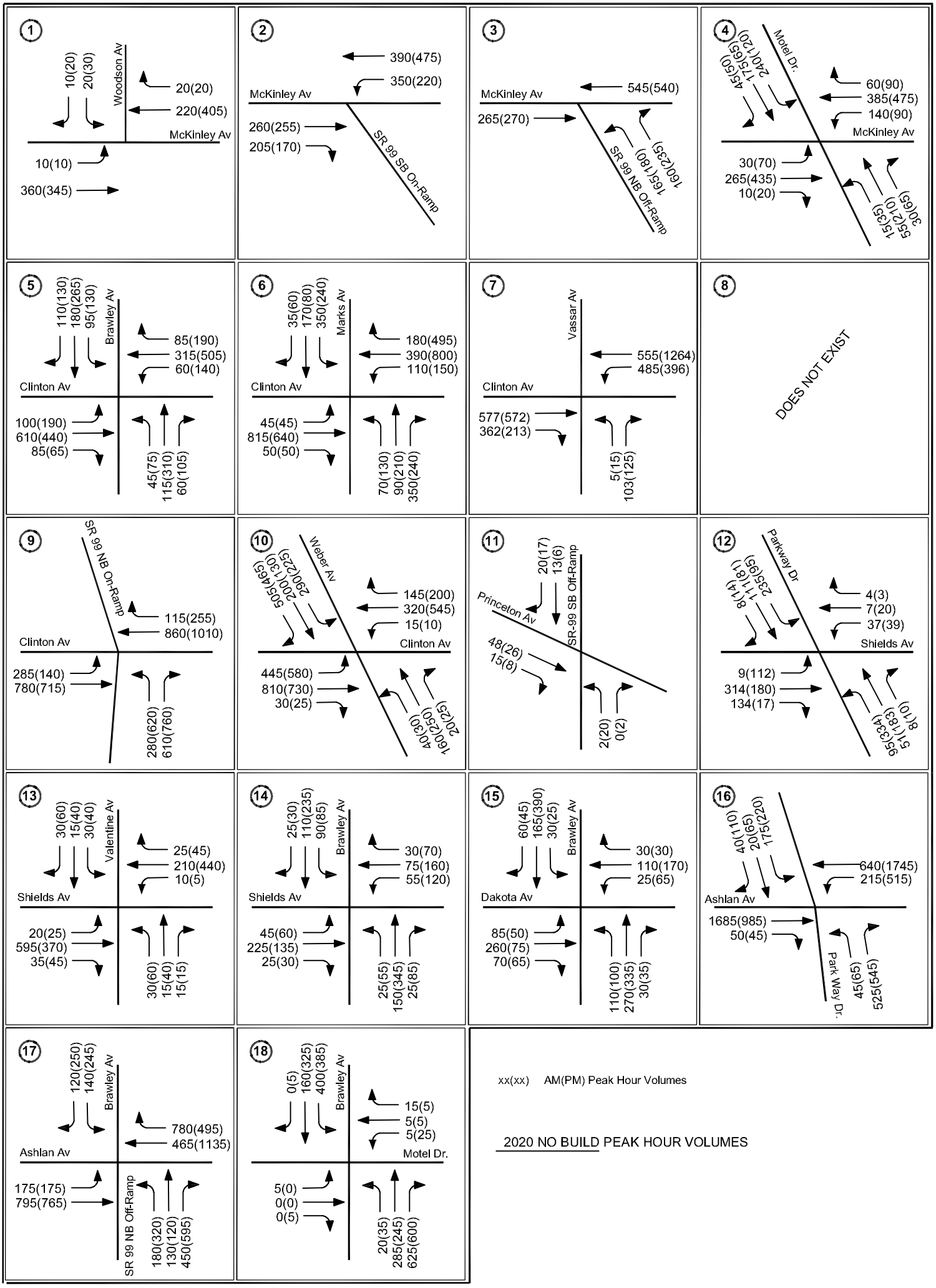
xx(xx) AM(PM) Peak Hour Volumes

EXISTING NO BUILD PEAK HOUR VOLUMES



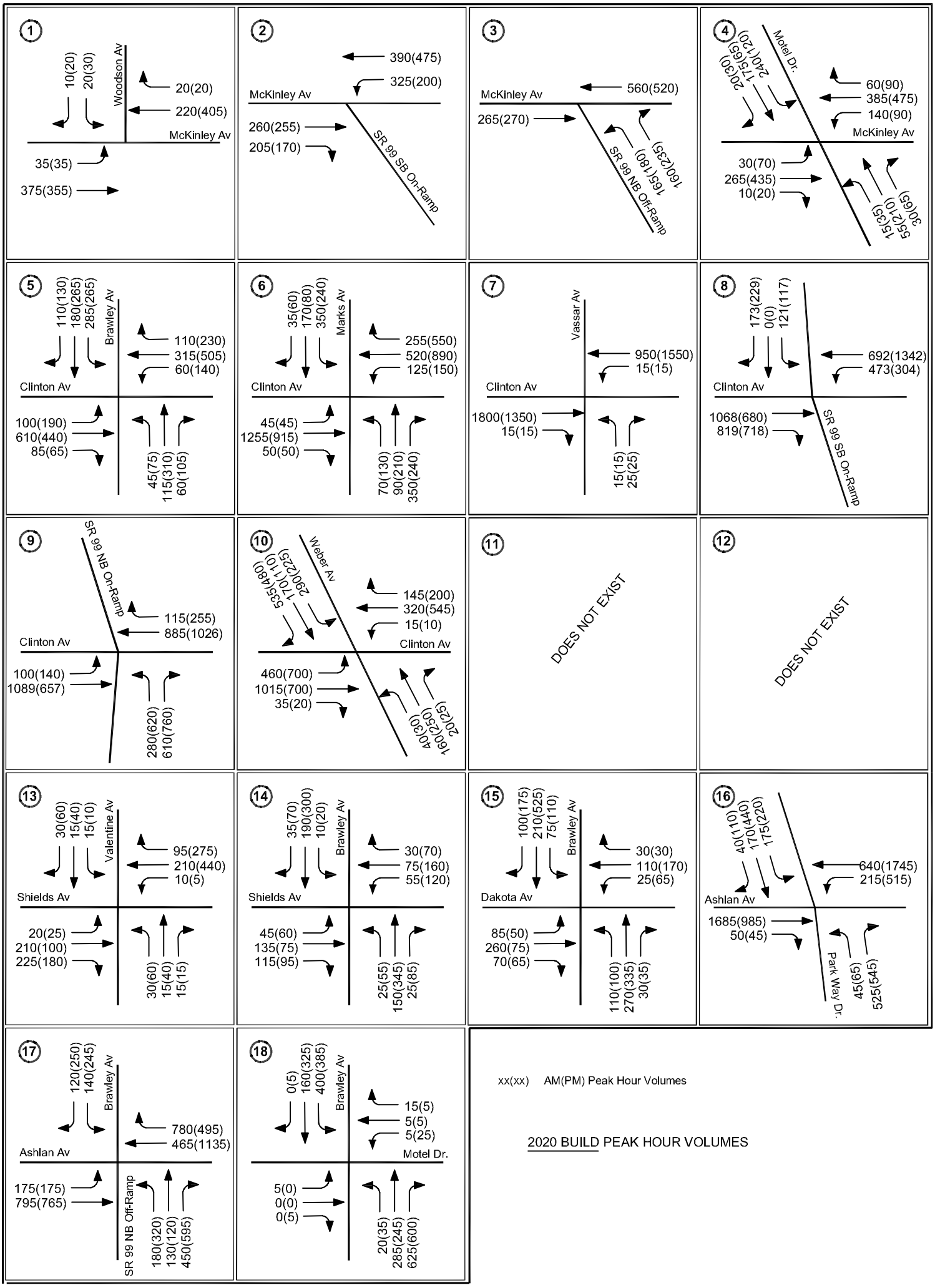
xx(xx) AM(PM) Peak Hour Volumes

EXISTING BUILD PEAK HOUR VOLUMES



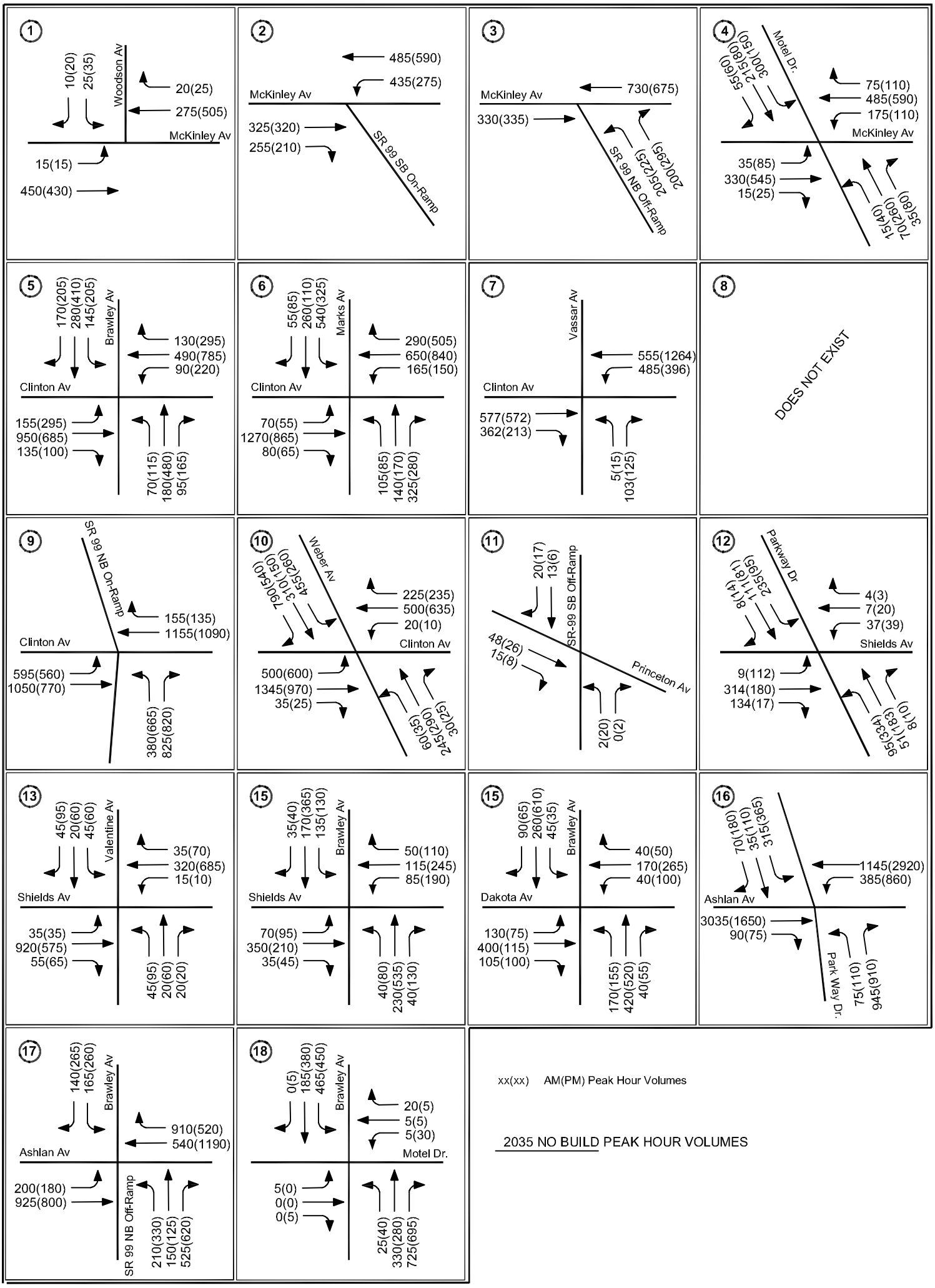
xx(xx) AM(PM) Peak Hour Volumes

2020 NO BUILD PEAK HOUR VOLUMES



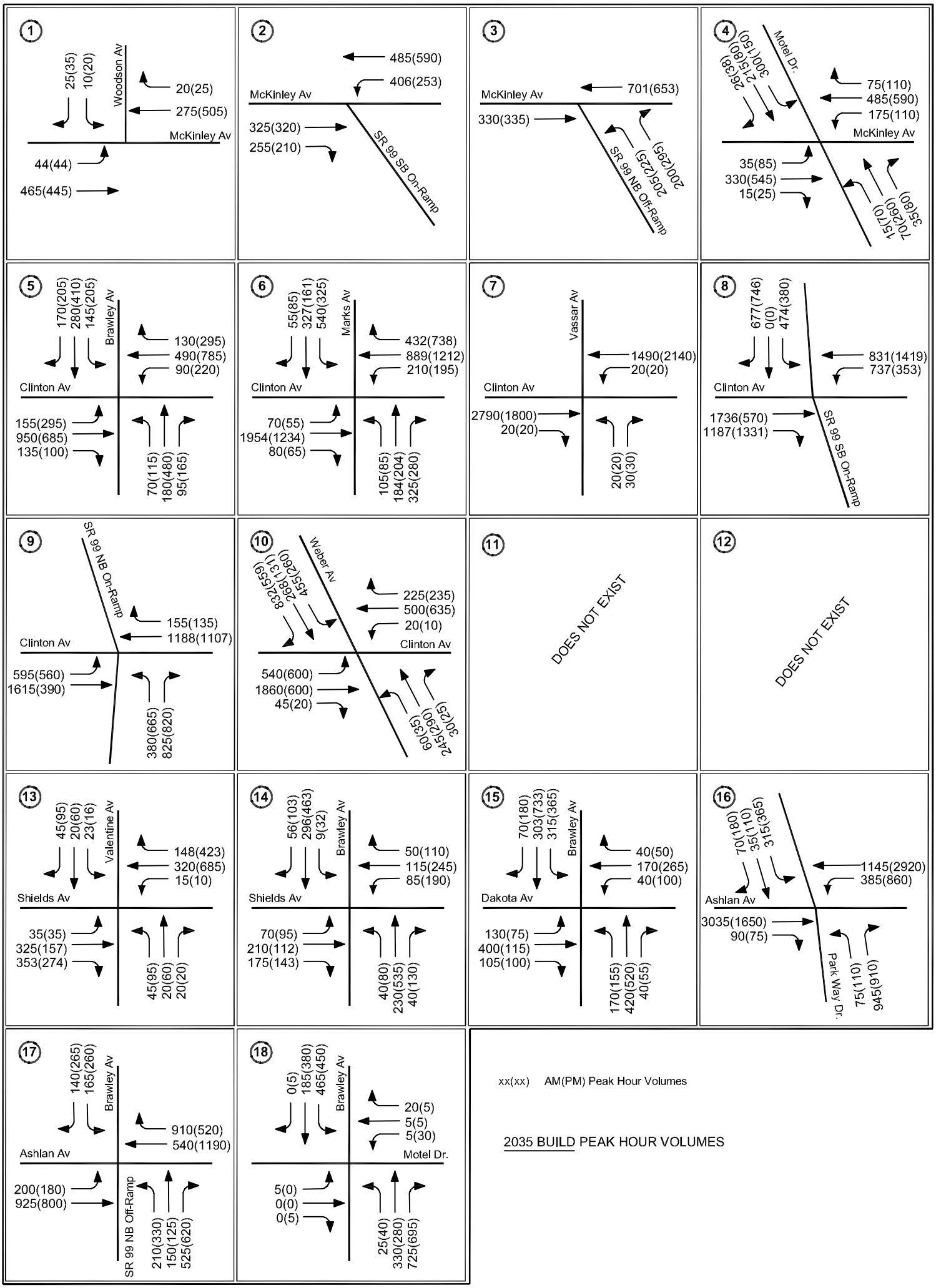
xx(xx) AM(PM) Peak Hour Volumes

2020 BUILD PEAK HOUR VOLUMES



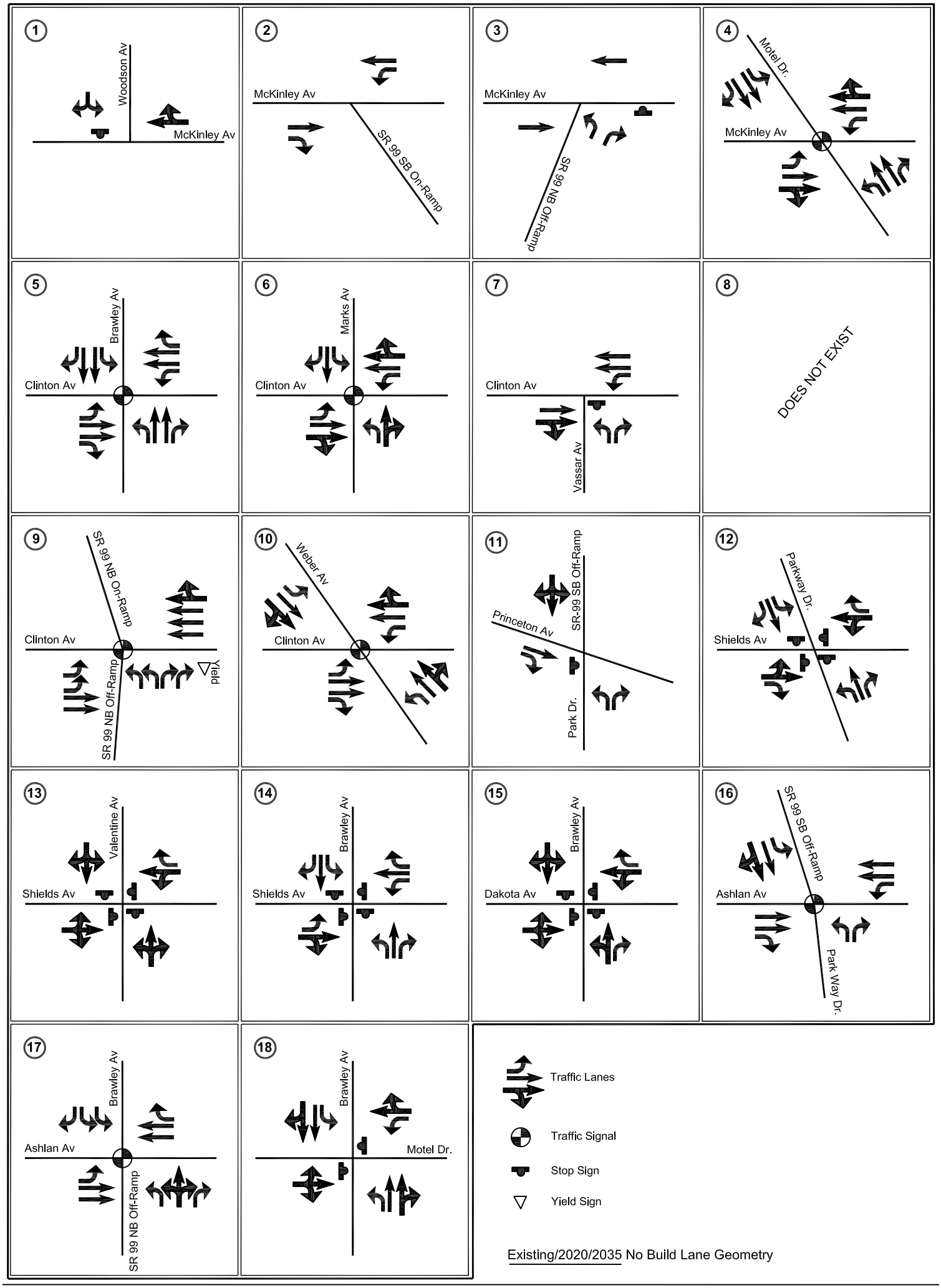
xx(xx) AM(PM) Peak Hour Volumes

2035 NO BUILD PEAK HOUR VOLUMES



xx(xx) AM(PM) Peak Hour Volumes

2035 BUILD PEAK HOUR VOLUMES



Existing/2020/2035 No Build Lane Geometry

Existing/2020/2035 Build Lane Geometry

Appendix B
Freeway Analysis Worksheets

Existing No-Build

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Off to McKinley Ave
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3798	0.92	Level	6	0	0.971	1.00	4252
Ramp	284	0.92	Level	6	0	0.971	1.00	318
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.639 using Equation (Exhibit 25-12)
V_{12} = 2832 pc/h
V_3 or V_{av34} 1420 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4252	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3934	Exhibit 25-14	7200	No
V_R	318	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2832	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 27.0 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.457 (Exhibit 25-19)
S_R= 57.2 mph (Exhibit 25-19)
S_0= 75.2 mph (Exhibit 25-19)
S = 62.2 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Off to McKinley Ave
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5256	0.92	Level	6	0	0.971	1.00	5884
Ramp	356	0.92	Level	6	0	0.971	1.00	399
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.595 using Equation (Exhibit 25-12)
V_{12} = 3660 pc/h
V_3 or V_{av34} 2224 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5884	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5485	Exhibit 25-14	7200	No
V_R	399	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3660	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 34.1 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.464 (Exhibit 25-19)
S_R= 57.0 mph (Exhibit 25-19)
S_0= 72.0 mph (Exhibit 25-19)
S = 61.9 mph (Exhibit 25-15)

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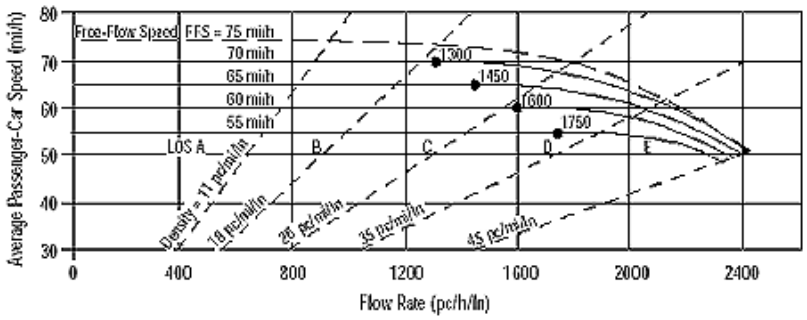
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*McKinley to Clinton - 1*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3514*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1311*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*20.3*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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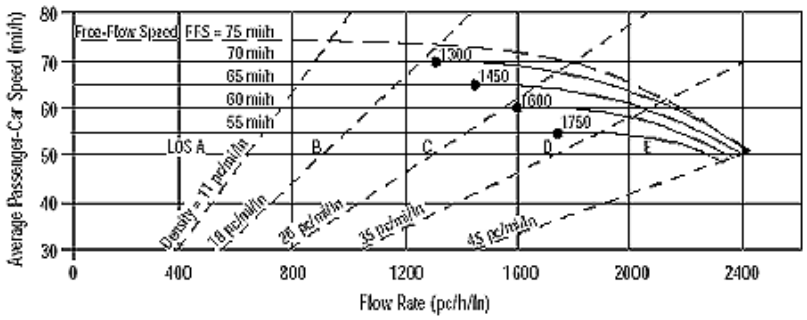
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Sajeev Kumar*
Agency or Company	*CH2M HILL*
Date Performed	*01/04/2011*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*NB SR 99*
From/To	*McKinley to Clinton - 1*
Jurisdiction	
Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4900*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*2.5*	mi/h
f_N	*3.0*	mi/h
FFS	*64.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1829*	pc/h/ln
S	*63.3*	mi/h
D = v_p / S	*28.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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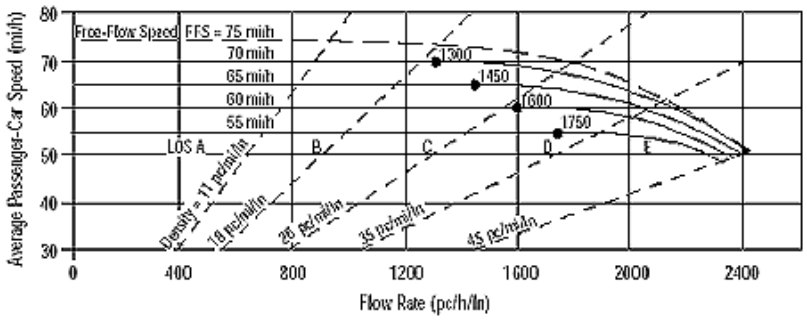
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*McKinley to Clinton - 1*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3514*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*4*		f_N	*1.5*	mi/h
FFS (measured)		mi/h	FFS	*66.0*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*984*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*66.0*	mi/h	S	mi/h
D = v_p / S	*14.9*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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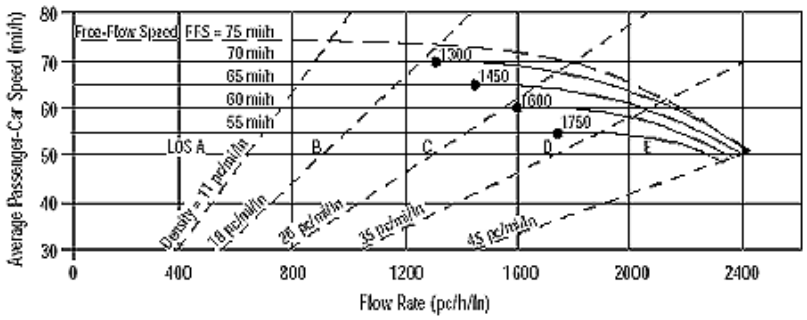
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*McKinley to Clinton - 1*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Exisitng

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4900*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*4*		f_N	*1.5*	mi/h
FFS (measured)		mi/h	FFS	*66.0*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1371*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*66.0*	mi/h	S	mi/h
D = v_p / S	*20.8*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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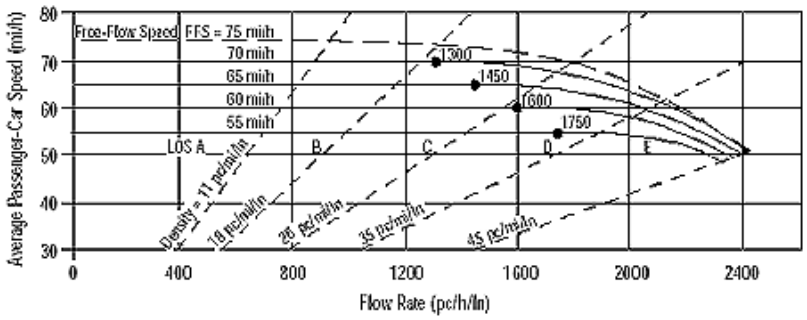
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Clinton Off to Clinton On*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2785*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1039*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*16.1*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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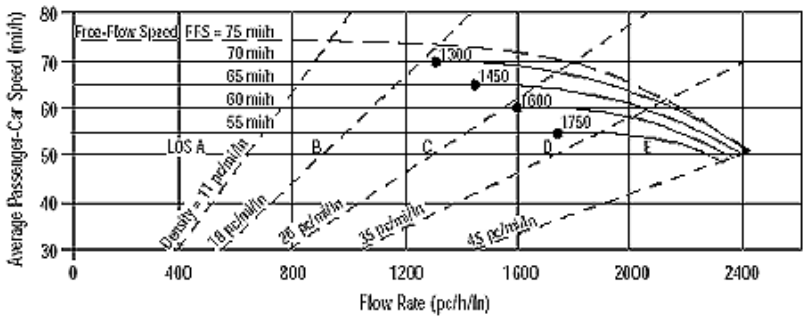
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Clinton Off to Clinton On*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3591*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Speed Inputs			Calc Speed Adj and FFS		
Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1340*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*20.8*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Onramp from Clinton
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2785	0.90	Level	0	0	1.000	1.00	3094
Ramp	290	0.90	Level	0	0	1.000	1.00	322
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 1813 pc/h
V_3 or V_{av34} 1281 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3416	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2135	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 20.1 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.333 (Exibit 25-19)
S_R= 60.7 mph (Exhibit 25-19)
S_0= 67.2 mph (Exhibit 25-19)
S = 63.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Onramp from Clinton
Date Performed	04/01/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3591	0.90	Level	0	0	1.000	1.00	3990
Ramp	453	0.90	Level	0	0	1.000	1.00	503
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 2338 pc/h
V_3 or V_{av34} 1652 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4493	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2841	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 25.5 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.367 (Exibit 25-19)
S_R= 59.7 mph (Exhibit 25-19)
S_0= 65.9 mph (Exhibit 25-19)
S = 61.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Off to Golden State
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3075	0.92	Level	6	0	0.971	1.00	3443
Ramp	691	0.92	Level	6	0	0.971	1.00	774
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.638 using Equation (Exhibit 25-12)
V_{12} = 2478 pc/h
V_3 or V_{av34} 965 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3443	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	2669	Exhibit 25-14	7200	No
V_R	774	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2478	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 23.0 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.498 (Exhibit 25-19)
S_R= 56.1 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 60.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Off to Golden State
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4044	0.92	Level	6	0	0.971	1.00	4528
Ramp	888	0.92	Level	6	0	0.971	1.00	994
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.601 using Equation (Exhibit 25-12)
V_{12} = 3118 pc/h
V_3 or V_{av34} 1410 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4528	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3534	Exhibit 25-14	7200	No
V_R	994	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3118	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 28.5 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.517 (Exhibit 25-19)
S_R= 55.5 mph (Exhibit 25-19)
S_0= 75.2 mph (Exhibit 25-19)
S = 60.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Off to Ashlan
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2384	0.92	Level	6	0	0.971	1.00	2669
Ramp	515	0.92	Level	6	0	0.971	1.00	577
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.667 using Equation (Exhibit 25-12)
V_{12} = 1972 pc/h
V_3 or V_{av34} 697 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2669	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	2092	Exhibit 25-14	7200	No
V_R	577	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1972	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 20.2 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.480 (Exhibit 25-19)
S_R= 56.6 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 60.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Off to Ashlan
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3156	0.92	Level	6	0	0.971	1.00	3533
Ramp	867	0.92	Level	6	0	0.971	1.00	971
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.627 using Equation (Exhibit 25-12)
V_{12} = 2577 pc/h
V_3 or V_{av34} 956 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3533	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	2562	Exhibit 25-14	7200	No
V_R	971	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2577	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 25.4 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.515 (Exhibit 25-19)
S_R= 55.6 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 60.1 mph (Exhibit 25-15)

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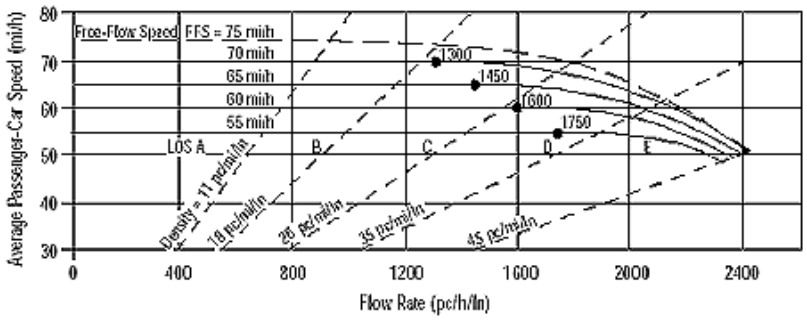
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Ashlan Off to Ashlan On*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1869*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*697*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*10.8*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*A*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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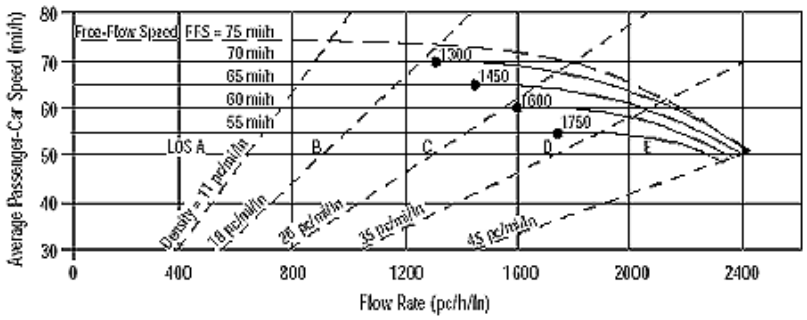
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Ashlan Off to Ashlan On*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2289*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*854*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*13.2*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB On from Ashlan
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1869	0.92	Level	6	0	0.971	1.00	2092
Ramp	161	0.92	Level	6	0	0.971	1.00	180
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.582 using Equation (Exhibit 25-5)
V_{12} = 1218 pc/h
V_3 or V_{av34} 874 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2272	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1398	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.3 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.326 (Exibit 25-19)
S_R= 60.9 mph (Exhibit 25-19)
S_0= 68.7 mph (Exhibit 25-19)
S = 63.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB On from Ashlan
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2289	0.92	Level	6	0	0.971	1.00	2563
Ramp	73	0.92	Level	6	0	0.971	1.00	82
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.582 using Equation (Exhibit 25-5)
V_{12} = 1492 pc/h
V_3 or V_{av34} 1071 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2645	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1574	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 16.7 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.329 (Exibit 25-19)
S_R= 60.8 mph (Exhibit 25-19)
S_0= 67.9 mph (Exhibit 25-19)
S = 63.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Onramp from Ashlan
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2030	0.92	Level	6	0	0.971	1.00	2273
Ramp	164	0.92	Level	6	0	0.971	1.00	184
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.589 using Equation (Exhibit 25-5)
V_{12} = 1339 pc/h
V_3 or V_{av34} 934 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2457	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1523	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 14.7 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.310 (Exibit 25-19)
S_R= 61.3 mph (Exhibit 25-19)
S_0= 68.4 mph (Exhibit 25-19)
S = 63.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Onramp from Ashlan
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2362	0.92	Level	6	0	0.971	1.00	2644
Ramp	151	0.92	Level	6	0	0.971	1.00	169
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.589 using Equation (Exhibit 25-5)
V_{12} = 1557 pc/h
V_3 or V_{av34} 1087 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2813	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1726	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 16.3 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.314 (Exibit 25-19)
S_R= 61.2 mph (Exhibit 25-19)
S_0= 67.9 mph (Exhibit 25-19)
S = 63.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Offramp to Shaw
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2194	0.92	Level	6	0	0.971	1.00	2456
Ramp	295	0.92	Level	6	0	0.971	1.00	330
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.683 using Equation (Exhibit 25-12)
V_{12} = 1783 pc/h
V_3 or V_{av34} 673 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2456	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	2126	Exhibit 25-14	7200	No
V_R	330	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1783	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 18.6 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

D_s = 0.458 (Exhibit 25-19)
S_R= 57.2 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 61.5 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Offramp to Shaw
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☑ No ☐ Off		☑ No ☐ Off
L_{up} = ft		L_{down} = ft
V_u = veh/h	S_{FF} = 70.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2513	0.92	Level	6	0	0.971	1.00	2813
Ramp	396	0.92	Level	6	0	0.971	1.00	443
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.669 using Equation (Exhibit 25-12)

V_{12} = 2029 pc/h

V_3 or V_{av34} 784 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2813	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	2370	Exhibit 25-14	7200	No
V_R	443	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2029	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 20.7 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.468 (Exhibit 25-19)

S_R= 56.9 mph (Exhibit 25-19)

S_0= 76.8 mph (Exhibit 25-19)

S = 61.3 mph (Exhibit 25-15)

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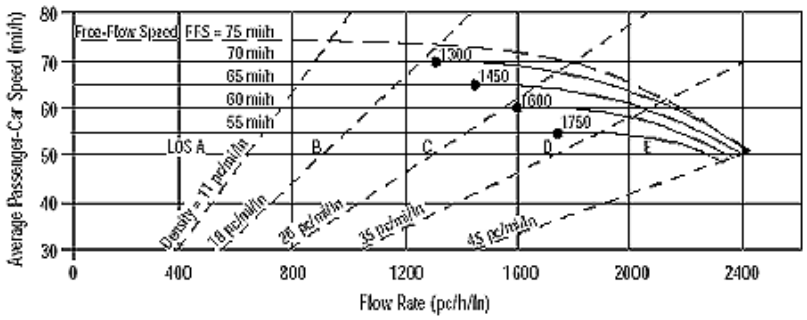
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Shaw Off to Shaw On*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1899*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*709*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*11.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*A*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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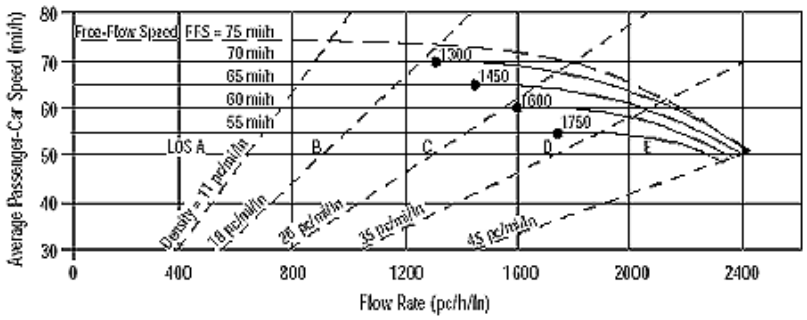
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Shaw Off to Shaw On*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2117*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Speed Inputs			Calc Speed Adj and FFS		
Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*790*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*12.2*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Onramp from Shaw
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1899	0.92	Level	6	0	0.971	1.00	2126
Ramp	161	0.92	Level	6	0	0.971	1.00	180
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.582 using Equation (Exhibit 25-5)
V_{12} = 1237 pc/h
V_3 or V_{av34} 889 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2306	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1417	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.5 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.327 (Exibit 25-19)
S_R= 60.9 mph (Exhibit 25-19)
S_0= 68.6 mph (Exhibit 25-19)
S = 63.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Onramp from Shaw
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2117	0.92	Level	6	0	0.971	1.00	2370
Ramp	79	0.92	Level	6	0	0.971	1.00	88
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.582 using Equation (Exhibit 25-5)
V_{12} = 1379 pc/h
V_3 or V_{av34} 991 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2458	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1467	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.9 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.327 (Exibit 25-19)
S_R= 60.8 mph (Exhibit 25-19)
S_0= 68.2 mph (Exhibit 25-19)
S = 63.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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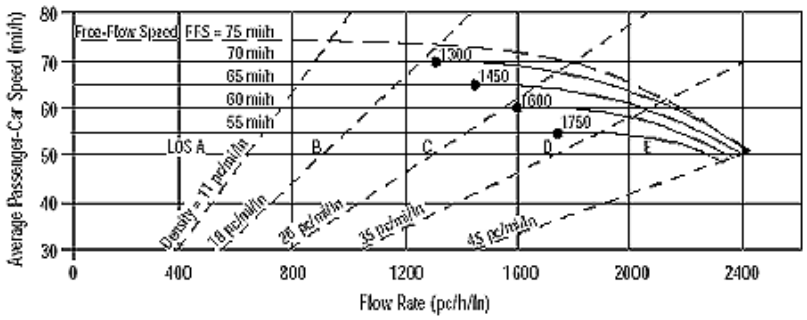
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*North of Shawn Onramp*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2027*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*756*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*11.7*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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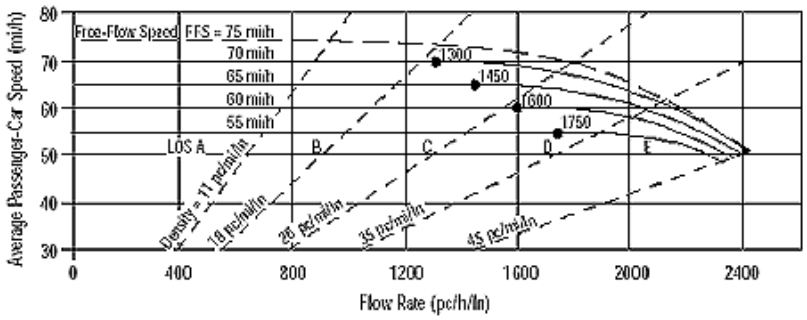
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*North of Shawn Onramp*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1885*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Speed Inputs			Calc Speed Adj and FFS		
Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*703*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*10.9*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*A*		Required Number of Lanes, N	

Glossary / Factor Location

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Shaw
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2027	0.92	Level	6	0	0.971	1.00	2269
Ramp	0	0.92	Level	6	0	0.971	1.00	0
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 1326 pc/h
V_3 or V_{av34} 943 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2269	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1326	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 14.3 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.318 (Exibit 25-19)
S_R= 61.1 mph (Exhibit 25-19)
S_0= 68.4 mph (Exhibit 25-19)
S = 63.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Shaw
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1886	0.92	Level	6	0	0.971	1.00	2111
Ramp	1	0.92	Level	6	0	0.971	1.00	1
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 1234 pc/h
V_3 or V_{av34} 877 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2112	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1235	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 13.5 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.317 (Exibit 25-19)
S_R= 61.1 mph (Exhibit 25-19)
S_0= 68.6 mph (Exhibit 25-19)
S = 64.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Shaw
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2027	0.92	Level	6	0	0.971	1.00	2269
Ramp	745	0.92	Level	6	0	0.971	1.00	834
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.592 using Equation (Exhibit 25-5)
V_{12} = 1344 pc/h
V_3 or V_{av34} 925 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3103	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2178	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 18.8 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.318 (Exibit 25-19)
S_R= 61.1 mph (Exhibit 25-19)
S_0= 68.5 mph (Exhibit 25-19)
S = 63.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Shaw
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1886	0.92	Level	6	0	0.971	1.00	2111
Ramp	619	0.92	Level	6	0	0.971	1.00	693
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.592 using Equation (Exhibit 25-5)
V_{12} = 1250 pc/h
V_3 or V_{av34} 861 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2804	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1943	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 17.0 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.311 (Exibit 25-19)
S_R= 61.3 mph (Exhibit 25-19)
S_0= 68.7 mph (Exhibit 25-19)
S = 63.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Off to Ashlan
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2772	0.92	Level	6	0	0.971	1.00	3103
Ramp	287	0.92	Level	6	0	0.971	1.00	321
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.668 using Equation (Exhibit 25-12)
V_{12} = 2178 pc/h
V_3 or V_{av34} 925 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3103	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	2782	Exhibit 25-14	7200	No
V_R	321	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2178	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 21.5 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.457 (Exhibit 25-19)
S_R= 57.2 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 61.9 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Off to Ashlan
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2505	0.92	Level	6	0	0.971	1.00	2805
Ramp	496	0.92	Level	6	0	0.971	1.00	555
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.664 using Equation (Exhibit 25-12)
V_{12} = 2050 pc/h
V_3 or V_{av34} 755 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2805	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	2250	Exhibit 25-14	7200	No
V_R	555	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2050	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 20.4 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.478 (Exhibit 25-19)
S_R= 56.6 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 60.9 mph (Exhibit 25-15)

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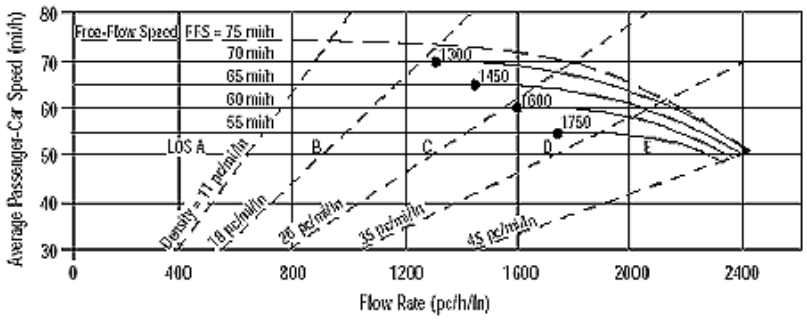
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Ashlan Off to Ashlan On*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2485*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Speed Inputs			Calc Speed Adj and FFS		
Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*927*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*14.4*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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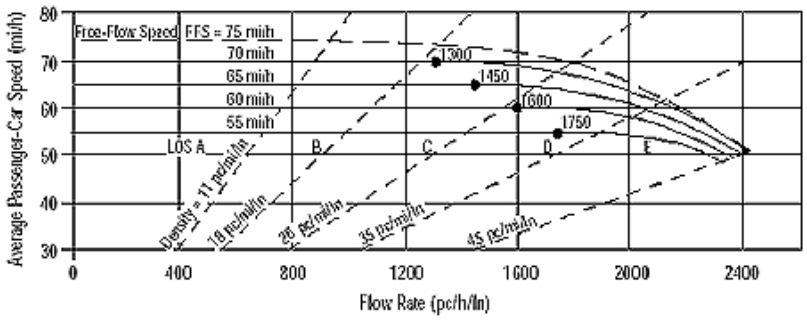
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Ashlan Off to Ashlan On*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2009*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*750*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*11.6*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Ashlan
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2485	0.92	Level	6	0	0.971	1.00	2782
Ramp	489	0.92	Level	6	0	0.971	1.00	547
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 1626 pc/h
V_3 or V_{av34} 1156 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3329	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2173	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 20.6 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.338 (Exibit 25-19)
S_R= 60.5 mph (Exhibit 25-19)
S_0= 67.6 mph (Exhibit 25-19)
S = 62.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Ashlan
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2009	0.92	Level	6	0	0.971	1.00	2249
Ramp	235	0.92	Level	6	0	0.971	1.00	263
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 1315 pc/h
V_3 or V_{av34} 934 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2512	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1578	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 16.1 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.322 (Exibit 25-19)
S_R= 61.0 mph (Exhibit 25-19)
S_0= 68.4 mph (Exhibit 25-19)
S = 63.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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FREEWAY WEAVING WORKSHEET

General Information

Analyst	Sajeev Kumar
Agency/Company	CH2M HILL
Date Performed	01/04/2011
Analysis Time Period	AM

Site Information

Freeway/Dir of Travel	SB SR 99
Weaving Seg Location	Golden State On to Dakota Off
Jurisdiction	
Analysis Year	2003

Inputs

Freeway free-flow speed, S_{FF} (mi/h)	70	Weaving type	A
Weaving number of lanes, N	4	Volume ratio, VR	0.28
Weaving seg length, L (ft)	1890	Weaving ratio, R	0.08
Terrain	Level		

Conversions to pc/h Under Base Conditions

(pc/h)	V	PHF	Truck %	RV %	E_T	E_R	f_{HV}	f_p	v
V_{o1}	2974	0.92	6	0	1.5	1.2	0.971	1.00	3329
V_{o2}	0	0.92	6	0	1.5	1.2	0.971	1.00	0
V_{w1}	1080	0.92	6	0	1.5	1.2	0.971	1.00	1209
V_{w2}	93	0.92	6	0	1.5	1.2	0.971	1.00	104
V_w				1313	V_{nw}				3329
V									4642

Weaving and Non-Weaving Speeds

	Unconstrained		Constrained	
	Weaving (i = w)	Non-Weaving (i = nw)	Weaving (i = w)	Non-Weaving (= nw)
a (Exhibit 24-6)			0.35	0.0020
b (Exhibit 24-6)			2.20	4.00
c (Exhibit 24-6)			0.97	1.30
d (Exhibit 24-6)			0.80	0.75
Weaving intensity factor, Wi			1.36	0.18
Weaving and non-weaving speeds, Si (mi/h)			40.42	65.75

Number of lanes required for unconstrained operation, Nw 1.48
Maximum number of lanes, Nw (max) 1.40

☐ If Nw < Nw(max) unconstrained operation ☑ if Nw > Nw (max) constrained operation

Weaving Segment Speed, Density, Level of Service, and Capacity

Weaving segment speed, S (mi/h)	55.85
Weaving segment density, D (pc/mi/ln)	20.78
Level of service, LOS	B
Capacity of base condition, c_b (pc/h)	8220
Capacity as a 15-minute flow rate, c (veh/h)	7981
Capacity as a full-hour volume, c_h (veh/h)	7343

Notes

a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
b. Capacity constrained by basic freeway capacity.
c. Capacity occurs under constrained operating conditions.
d. Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
e. Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
g. Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such cases.
h. Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
i. Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

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FREEWAY WEAVING WORKSHEET

General Information

Analyst	Sajeev Kumar
Agency/Company	CH2M HILL
Date Performed	01/04/2011
Analysis Time Period	PM

Site Information

Freeway/Dir of Travel	SB SR 99
Weaving Seg Location	Golden State On to Dakota Off
Jurisdiction	
Analysis Year	2003

Inputs

Freeway free-flow speed, S_{FF} (mi/h)	70	Weaving type	A
Weaving number of lanes, N	4	Volume ratio, VR	0.36
Weaving seg length, L (ft)	1890	Weaving ratio, R	0.20
Terrain	Level		

Conversions to pc/h Under Base Conditions

(pc/h)	V	PHF	Truck %	RV %	E_T	E_R	f_{HV}	f_p	v
V_{o1}	2244	0.92	6	0	1.5	1.2	0.971	1.00	2512
V_{o2}	0	0.92	6	0	1.5	1.2	0.971	1.00	0
V_{w1}	996	0.92	6	0	1.5	1.2	0.971	1.00	1115
V_{w2}	246	0.92	6	0	1.5	1.2	0.971	1.00	275
V_w				1390	V_{nw}				2512
V									3902

Weaving and Non-Weaving Speeds

	Unconstrained		Constrained	
	Weaving (i = w)	Non-Weaving (i = nw)	Weaving (i = w)	Non-Weaving (= nw)
a (Exhibit 24-6)			0.35	0.0020
b (Exhibit 24-6)			2.20	4.00
c (Exhibit 24-6)			0.97	1.30
d (Exhibit 24-6)			0.80	0.75
Weaving intensity factor, Wi			1.30	0.18
Weaving and non-weaving speeds, Si (mi/h)			41.10	65.78

Number of lanes required for unconstrained operation, Nw 1.68
Maximum number of lanes, Nw (max) 1.40

☐ If Nw < Nw(max) unconstrained operation ☑ if Nw > Nw (max) constrained operation

Weaving Segment Speed, Density, Level of Service, and Capacity

Weaving segment speed, S (mi/h)	54.19
Weaving segment density, D (pc/mi/ln)	18.00
Level of service, LOS	B
Capacity of base condition, c_b (pc/h)	7662
Capacity as a 15-minute flow rate, c (veh/h)	7439
Capacity as a full-hour volume, c_h (veh/h)	6844

Notes

a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
b. Capacity constrained by basic freeway capacity.
c. Capacity occurs under constrained operating conditions.
d. Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
e. Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
g. Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such cases.
h. Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
i. Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Off to Shields
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3961	0.92	Level	6	0	0.971	1.00	4435
Ramp	51	0.92	Level	6	0	0.971	1.00	57
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.647 using Equation (Exhibit 25-12)
V_{12} = 2887 pc/h
V_3 or V_{av34} 1548 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4435	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4378	Exhibit 25-14	7200	No
V_R	57	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2887	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 27.8 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.433 (Exhibit 25-19)
S_R= 57.9 mph (Exhibit 25-19)
S_0= 74.7 mph (Exhibit 25-19)
S = 62.8 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Off to Shields
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2994	0.92	Level	6	0	0.971	1.00	3352
Ramp	64	0.92	Level	6	0	0.971	1.00	72
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.673 using Equation (Exhibit 25-12)
V_{12} = 2279 pc/h
V_3 or V_{av34} 1073 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3352	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3280	Exhibit 25-14	7200	No
V_R	72	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2279	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 22.6 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.434 (Exhibit 25-19)
S_R= 57.8 mph (Exhibit 25-19)
S_0= 76.5 mph (Exhibit 25-19)
S = 62.7 mph (Exhibit 25-15)

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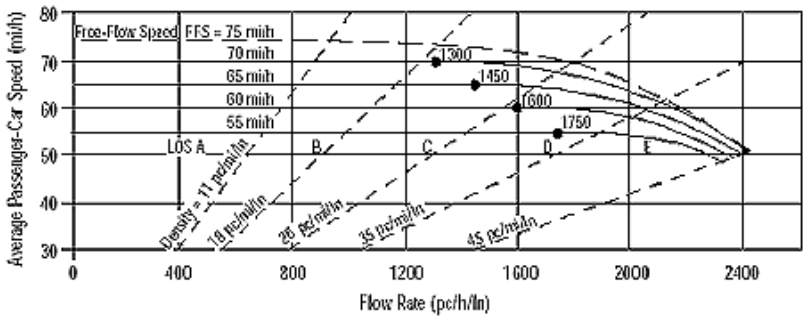
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Shields On to Shields Off*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5422*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2023*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*60.7*	mi/h	S	mi/h
D = v_p / S	*33.3*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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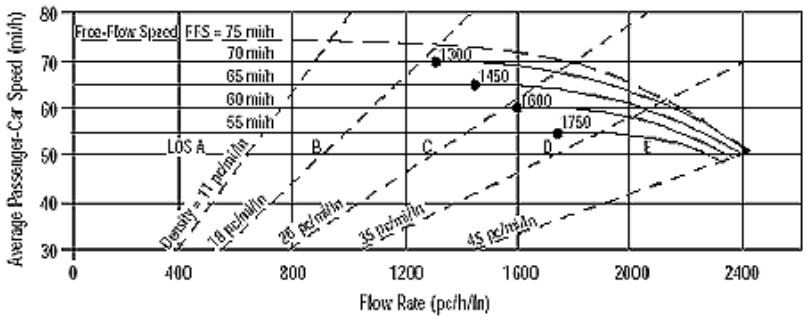
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Shields On to Shields Off*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5019*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1873*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*62.8*	mi/h	S	mi/h
D = v_p / S	*29.8*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Shields
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3910	0.92	Level	6	0	0.971	1.00	4377
Ramp	473	0.92	Level	6	0	0.971	1.00	530
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.584 using Equation (Exhibit 25-5)
V_{12} = 2557 pc/h
V_3 or V_{av34} 1820 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4907	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3087	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 27.8 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.390 (Exibit 25-19)
S_R= 59.1 mph (Exhibit 25-19)
S_0= 65.2 mph (Exhibit 25-19)
S = 61.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Shields
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2930	0.92	Level	6	0	0.971	1.00	3280
Ramp	296	0.92	Level	6	0	0.971	1.00	331
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.584 using Equation (Exhibit 25-5)
V_{12} = 1916 pc/h
V_3 or V_{av34} 1364 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3611	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2247	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 21.4 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.341 (Exibit 25-19)
S_R= 60.4 mph (Exhibit 25-19)
S_0= 66.9 mph (Exhibit 25-19)
S = 62.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Off to Princeton
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4383	0.92	Level	6	0	0.971	1.00	4907
Ramp	33	0.92	Level	6	0	0.971	1.00	37
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.636 using Equation (Exhibit 25-12)
V_{12} = 3132 pc/h
V_3 or V_{av34} 1775 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4907	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4870	Exhibit 25-14	7200	No
V_R	37	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3132	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 30.0 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.431 (Exhibit 25-19)
S_R= 57.9 mph (Exhibit 25-19)
S_0= 73.8 mph (Exhibit 25-19)
S = 62.8 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Off to Princeton
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3226	0.92	Level	6	0	0.971	1.00	3612
Ramp	12	0.92	Level	6	0	0.971	1.00	13
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.669 using Equation (Exhibit 25-12)
V_{12} = 2421 pc/h
V_3 or V_{av34} 1191 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3612	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3599	Exhibit 25-14	7200	No
V_R	13	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2421	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 23.9 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.429 (Exhibit 25-19)
S_R= 58.0 mph (Exhibit 25-19)
S_0= 76.0 mph (Exhibit 25-19)
S = 62.9 mph (Exhibit 25-15)

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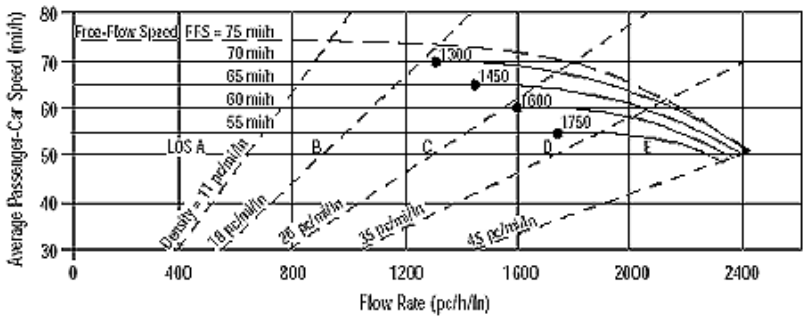
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Princeton Off to Princeton On*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4350*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1623*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.4*	mi/h	S	mi/h
D = v_p / S	*25.2*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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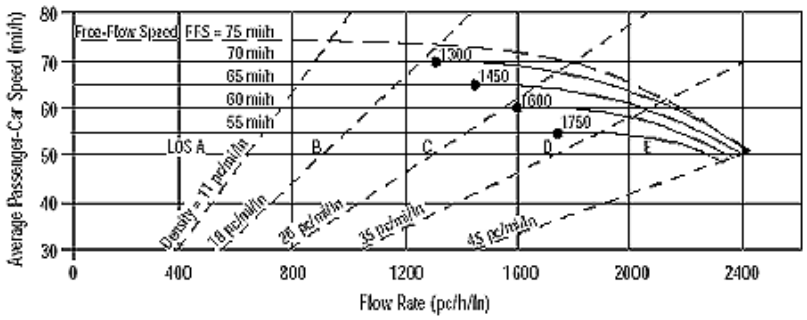
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Princeton Off to Princeton On*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3214*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1199*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*18.6*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Princeton
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4350	0.92	Level	6	0	0.971	1.00	4870
Ramp	40	0.92	Level	6	0	0.971	1.00	45
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.584 using Equation (Exhibit 25-5)
V_{12} = 2844 pc/h
V_3 or V_{av34} 2026 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4915	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2889	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 26.5 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.375 (Exibit 25-19)
S_R= 59.5 mph (Exhibit 25-19)
S_0= 64.5 mph (Exhibit 25-19)
S = 61.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Princeton
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3214	0.92	Level	6	0	0.971	1.00	3598
Ramp	39	0.92	Level	6	0	0.971	1.00	44
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.584 using Equation (Exhibit 25-5)
V_{12} = 2102 pc/h
V_3 or V_{av34} 1496 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3642	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2146	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 20.7 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.338 (Exibit 25-19)
S_R= 60.5 mph (Exhibit 25-19)
S_0= 66.4 mph (Exhibit 25-19)
S = 62.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Off to Clinton
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4390	0.92	Level	6	0	0.971	1.00	4915
Ramp	247	0.92	Level	6	0	0.971	1.00	277
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.624 using Equation (Exhibit 25-12)
V_{12} = 3173 pc/h
V_3 or V_{av34} 1742 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4915	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4638	Exhibit 25-14	7200	No
V_R	277	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3173	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 30.4 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.453 (Exhibit 25-19)
S_R= 57.3 mph (Exhibit 25-19)
S_0= 73.9 mph (Exhibit 25-19)
S = 62.3 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Off to Clinton
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3253	0.92	Level	6	0	0.971	1.00	3642
Ramp	214	0.92	Level	6	0	0.971	1.00	240
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.658 using Equation (Exhibit 25-12)
V_{12} = 2478 pc/h
V_3 or V_{av34} 1164 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3642	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3402	Exhibit 25-14	7200	No
V_R	240	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2478	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 24.4 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.450 (Exhibit 25-19)
S_R= 57.4 mph (Exhibit 25-19)
S_0= 76.2 mph (Exhibit 25-19)
S = 62.3 mph (Exhibit 25-15)

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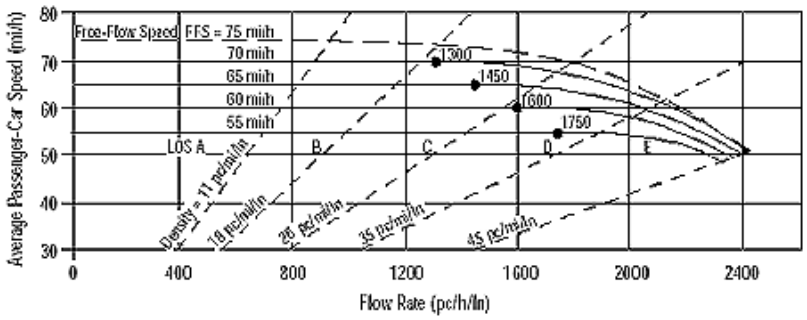
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Clinton Off to Parkway On*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4143*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1546*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*24.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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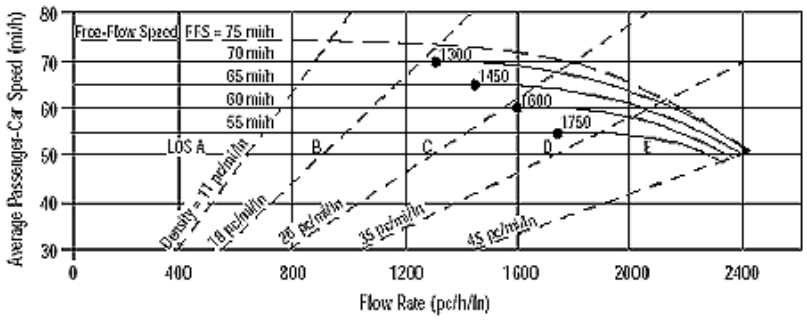
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Clinton Off to Parkway On*
Date Performed	*01/04/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4573*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1707*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.1*	mi/h	S	mi/h
D = v_p / S	*26.6*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Parkway
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4143	0.92	Level	6	0	0.971	1.00	4638
Ramp	665	0.92	Level	6	0	0.971	1.00	745
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 2717 pc/h
V_3 or V_{av34} 1921 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5383	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3462	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 30.3 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.424 (Exibit 25-19)
S_R= 58.1 mph (Exhibit 25-19)
S_0= 64.9 mph (Exhibit 25-19)
S = 60.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Parkway
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3039	0.92	Level	6	0	0.971	1.00	3402
Ramp	524	0.92	Level	6	0	0.971	1.00	587
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 1993 pc/h
V_3 or V_{av34} 1409 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3989	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2580	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 23.4 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.351 (Exibit 25-19)
S_R= 60.2 mph (Exhibit 25-19)
S_0= 66.7 mph (Exhibit 25-19)
S = 62.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from McKinley
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4808	0.92	Level	6	0	0.971	1.00	5383
Ramp	474	0.92	Level	6	0	0.971	1.00	531
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.580 using Equation (Exhibit 25-5)
V_{12} = 3124 pc/h
V_3 or V_{av34} 2259 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5914	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3655	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 33.1 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.465 (Exibit 25-19)
S_R= 57.0 mph (Exhibit 25-19)
S_0= 63.7 mph (Exhibit 25-19)
S = 59.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from McKinley
Date Performed	01/04/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3563	0.92	Level	6	0	0.971	1.00	3989
Ramp	331	0.92	Level	6	0	0.971	1.00	371
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.580 using Equation (Exhibit 25-5)
V_{12} = 2315 pc/h
V_3 or V_{av34} 1674 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4360	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2686	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 25.6 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.371 (Exibit 25-19)
S_R= 59.6 mph (Exhibit 25-19)
S_0= 65.8 mph (Exhibit 25-19)
S = 61.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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Existing Build

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Off to McKinley Ave
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3798	0.92	Level	6	0	0.971	1.00	4252
Ramp	284	0.92	Level	6	0	0.971	1.00	318
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.639 using Equation (Exhibit 25-12)
V_{12} = 2832 pc/h
V_3 or V_{av34} 1420 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4252	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3934	Exhibit 25-14	7200	No
V_R	318	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2832	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 27.0 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.457 (Exhibit 25-19)
S_R= 57.2 mph (Exhibit 25-19)
S_0= 75.2 mph (Exhibit 25-19)
S = 62.2 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Off to McKinley Ave
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_Build

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5256	0.92	Level	6	0	0.971	1.00	5884
Ramp	356	0.92	Level	6	0	0.971	1.00	399
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.595 using Equation (Exhibit 25-12)
V_{12} = 3660 pc/h
V_3 or V_{av34} 2224 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5884	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5485	Exhibit 25-14	7200	No
V_R	399	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3660	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 34.1 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.464 (Exhibit 25-19)
S_R= 57.0 mph (Exhibit 25-19)
S_0= 72.0 mph (Exhibit 25-19)
S = 61.9 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Off to Clinton
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build 1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3514	0.92	Level	6	0	0.971	1.00	3934
Ramp	729	0.92	Level	6	0	0.971	1.00	816
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.624 using Equation (Exhibit 25-12)
V_{12} = 2762 pc/h
V_3 or V_{av34} 1172 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3934	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3118	Exhibit 25-14	7200	No
V_R	816	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2762	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 26.7 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.501 (Exhibit 25-19)
S_R= 56.0 mph (Exhibit 25-19)
S_0= 76.1 mph (Exhibit 25-19)
S = 60.8 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Off to Clinton
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_Build 1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4900	0.92	Level	6	0	0.971	1.00	5486
Ramp	1309	0.92	Level	6	0	0.971	1.00	1466
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.555 using Equation (Exhibit 25-12)
V_{12} = 3699 pc/h
V_3 or V_{av34} 1787 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5486	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4020	Exhibit 25-14	7200	No
V_R	1466	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3699	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 34.8 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.560 (Exhibit 25-19)
S_R= 54.3 mph (Exhibit 25-19)
S_0= 73.7 mph (Exhibit 25-19)
S = 59.4 mph (Exhibit 25-15)

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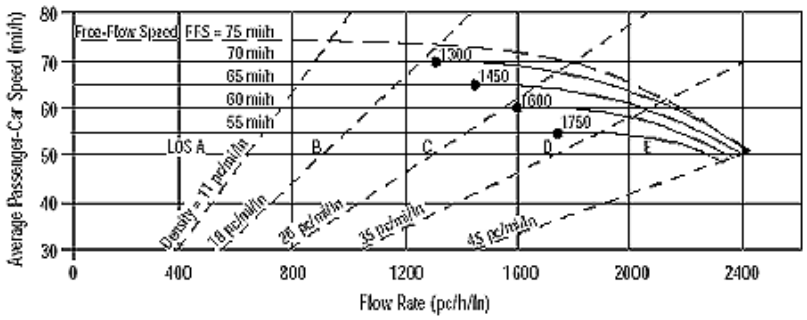
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Clinton Off to Clinton On*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing_Build 1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2785*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1039*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*16.1*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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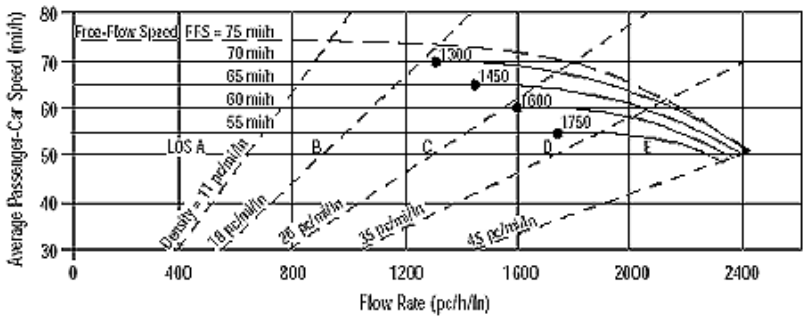
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Clinton Off to Clinton On*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing_Build 1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*3591*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1340*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*20.8*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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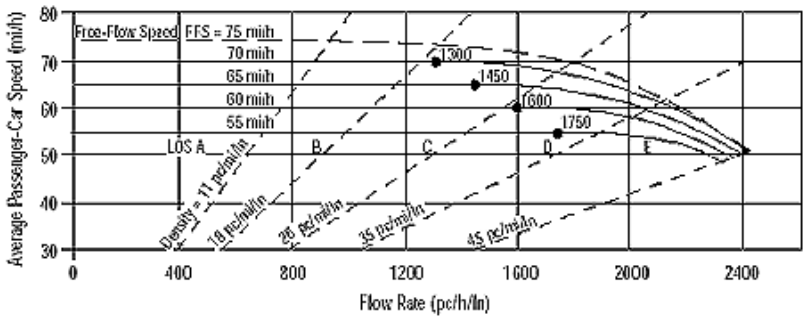

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Clinton to Golden State*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing_Build1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3075*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*5*		f_N	*0.0*	mi/h
FFS (measured)		mi/h	FFS	*67.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*689*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*67.5*	mi/h	S	mi/h
D = v_p / S	*10.2*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*A*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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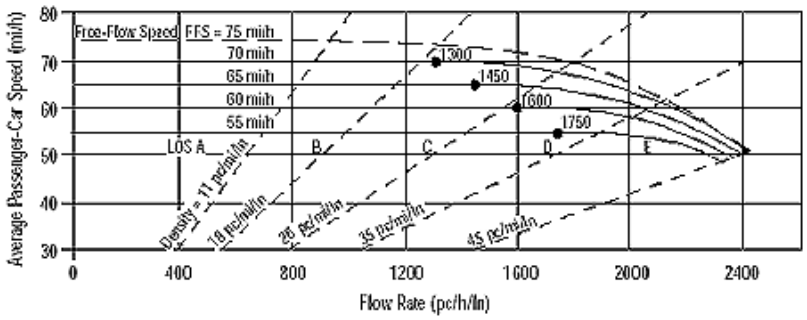

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing_build1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4044*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*5*		f_N	*0.0*	mi/h
FFS (measured)		mi/h	FFS	*67.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*906*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*67.5*	mi/h	S	mi/h
D = v_p / S	*13.4*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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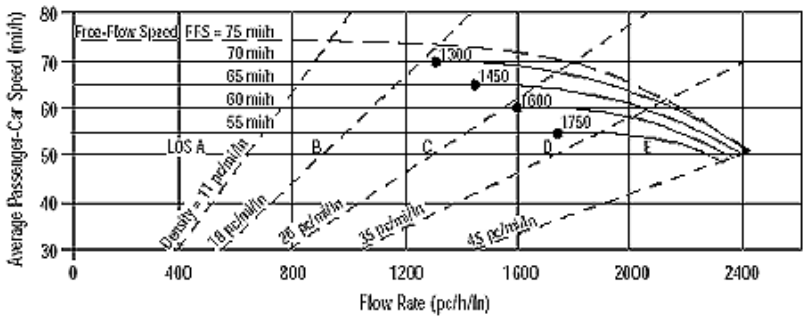

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Clinton to Golden State*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing_Build 1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3075*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*4*		f_N	*1.5*	mi/h
FFS (measured)		mi/h	FFS	*66.0*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*861*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*66.0*	mi/h	S	mi/h
D = v_p / S	*13.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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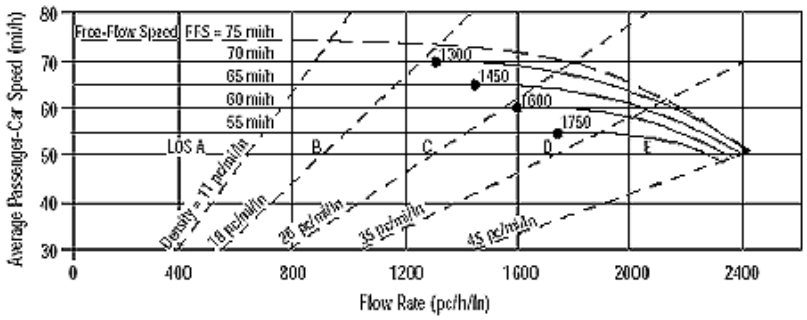
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Clinton to Golden State*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing_Build 1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4044*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*4*		f_N	*1.5*	mi/h
FFS (measured)		mi/h	FFS	*66.0*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1132*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*66.0*	mi/h	S	mi/h
D = v_p / S	*17.2*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Off to Ashlan
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build 1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2384	0.92	Level	6	0	0.971	1.00	2669
Ramp	515	0.92	Level	6	0	0.971	1.00	577
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.667 using Equation (Exhibit 25-12)
V_{12} = 1972 pc/h
V_3 or V_{av34} 697 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2669	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	2092	Exhibit 25-14	7200	No
V_R	577	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1972	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 20.2 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.480 (Exhibit 25-19)
S_R= 56.6 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 60.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Off to Ashlan
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_Build 1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3156	0.92	Level	6	0	0.971	1.00	3533
Ramp	867	0.92	Level	6	0	0.971	1.00	971
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.627 using Equation (Exhibit 25-12)
V_{12} = 2577 pc/h
V_3 or V_{av34} 956 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3533	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	2562	Exhibit 25-14	7200	No
V_R	971	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2577	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 25.4 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.515 (Exhibit 25-19)
S_R= 55.6 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 60.1 mph (Exhibit 25-15)

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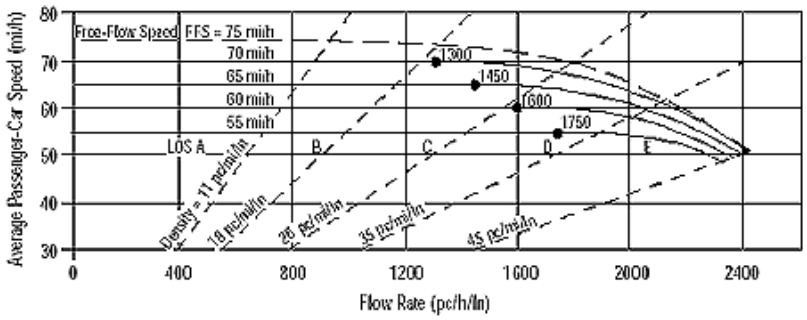
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Ashlan Off to Ashlan On*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing_Build 1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1869*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*697*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*10.8*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*A*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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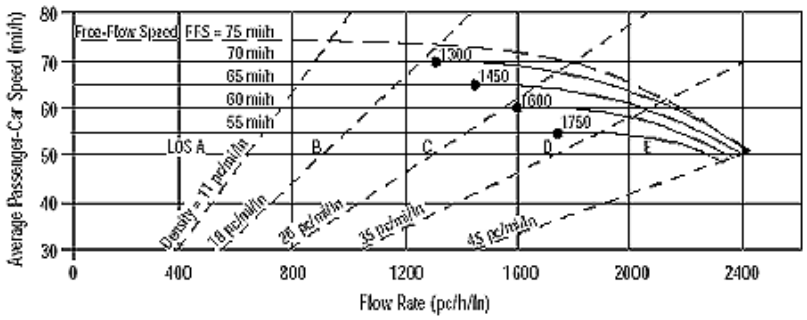
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Ashlan Off to Ashlan On*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing_Build 1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2289*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Speed Inputs			Calc Speed Adj and FFS		
Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*854*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*13.2*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB On from Ashlan
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build 1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1869	0.92	Level	6	0	0.971	1.00	2092
Ramp	161	0.92	Level	6	0	0.971	1.00	180
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.582 using Equation (Exhibit 25-5)
V_{12} = 1218 pc/h
V_3 or V_{av34} 874 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2272	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1398	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.3 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.326 (Exibit 25-19)
S_R= 60.9 mph (Exhibit 25-19)
S_0= 68.7 mph (Exhibit 25-19)
S = 63.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Shaw
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_Build 1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2289	0.92	Level	6	0	0.971	1.00	2563
Ramp	73	0.92	Level	6	0	0.971	1.00	82
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.582 using Equation (Exhibit 25-5)
V_{12} = 1492 pc/h
V_3 or V_{av34} 1071 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2645	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1574	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 16.7 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.329 (Exibit 25-19)
S_R= 60.8 mph (Exhibit 25-19)
S_0= 67.9 mph (Exhibit 25-19)
S = 63.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Onramp from Ashlan
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build 1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2030	0.92	Level	6	0	0.971	1.00	2273
Ramp	164	0.92	Level	6	0	0.971	1.00	184
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.589 using Equation (Exhibit 25-5)
V_{12} = 1339 pc/h
V_3 or V_{av34} 934 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2457	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1523	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 14.7 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.310 (Exibit 25-19)
S_R= 61.3 mph (Exhibit 25-19)
S_0= 68.4 mph (Exhibit 25-19)
S = 63.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Onramp from Ashlan
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_Build 1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2362	0.92	Level	6	0	0.971	1.00	2644
Ramp	151	0.92	Level	6	0	0.971	1.00	169
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.589 using Equation (Exhibit 25-5)
V_{12} = 1557 pc/h
V_3 or V_{av34} 1087 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2813	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1726	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 16.3 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.314 (Exibit 25-19)
S_R= 61.2 mph (Exhibit 25-19)
S_0= 67.9 mph (Exhibit 25-19)
S = 63.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Offramp to Shaw
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build 1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2194	0.92	Level	6	0	0.971	1.00	2456
Ramp	295	0.92	Level	6	0	0.971	1.00	330
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.683 using Equation (Exhibit 25-12)
V_{12} = 1783 pc/h
V_3 or V_{av34} 673 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2456	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	2126	Exhibit 25-14	7200	No
V_R	330	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1783	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 18.6 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

D_s = 0.458 (Exhibit 25-19)
S_R= 57.2 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 61.5 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Offramp to Shaw
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_Build 1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2513	0.92	Level	6	0	0.971	1.00	2813
Ramp	396	0.92	Level	6	0	0.971	1.00	443
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.669 using Equation (Exhibit 25-12)
V_{12} = 2029 pc/h
V_3 or V_{av34} 784 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2813	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	2370	Exhibit 25-14	7200	No
V_R	443	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2029	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 20.7 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.468 (Exhibit 25-19)
S_R= 56.9 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 61.3 mph (Exhibit 25-15)

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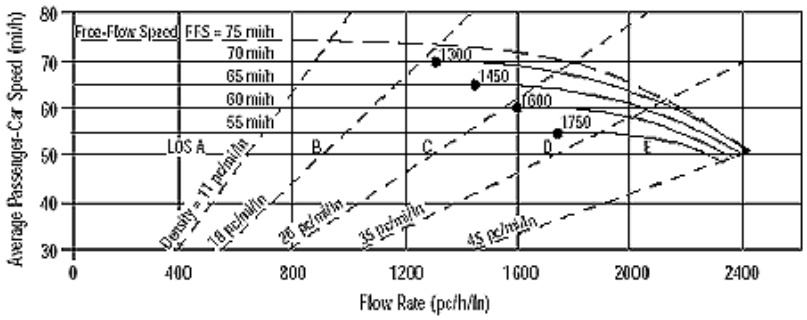
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Shaw Off to Shaw On*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing_Build 1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1899*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*709*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*11.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*A*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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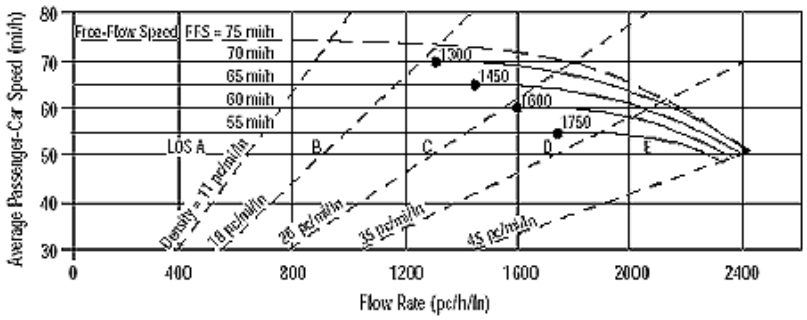
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*NB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Shaw Off to Shaw On*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing_Build1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2117*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Speed Inputs			Calc Speed Adj and FFS		
Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*790*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*12.2*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Onramp from Shaw
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1899	0.92	Level	6	0	0.971	1.00	2126
Ramp	161	0.92	Level	6	0	0.971	1.00	180
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.582 using Equation (Exhibit 25-5)
V_{12} = 1237 pc/h
V_3 or V_{av34} 889 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2306	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1417	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.5 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.327 (Exibit 25-19)
S_R= 60.9 mph (Exhibit 25-19)
S_0= 68.6 mph (Exhibit 25-19)
S = 63.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	NB SR 99
Agency or Company	CH2M HILL	Junction	NB Onramp from Shaw
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_Build 1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2117	0.92	Level	6	0	0.971	1.00	2370
Ramp	79	0.92	Level	6	0	0.971	1.00	88
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.582 using Equation (Exhibit 25-5)
V_{12} = 1379 pc/h
V_3 or V_{av34} 991 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2458	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1467	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.9 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.327 (Exibit 25-19)
S_R= 60.8 mph (Exhibit 25-19)
S_0= 68.2 mph (Exhibit 25-19)
S = 63.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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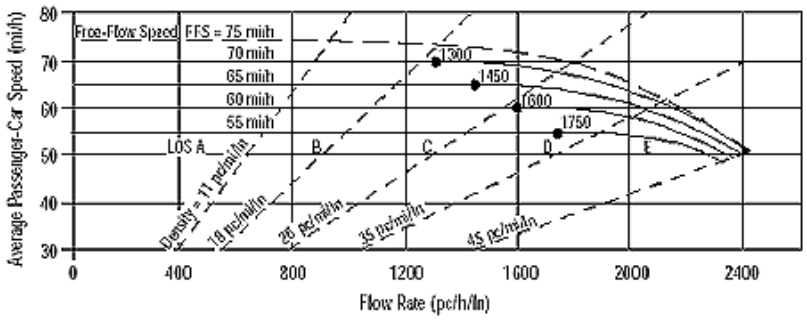
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*North of Shawn Onramp*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing_Build 1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2027*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*756*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*11.7*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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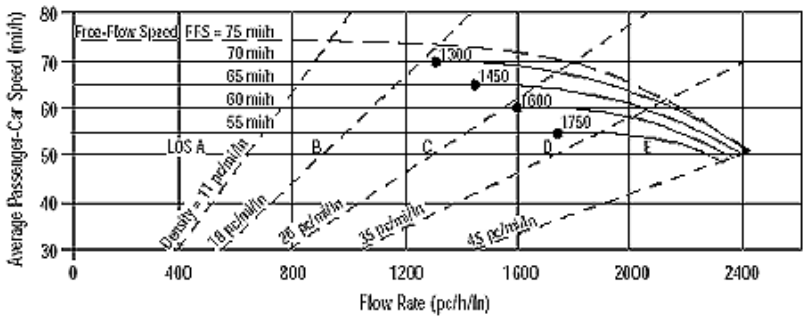
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*North of Shawn Onramp*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing_Build1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1885*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*703*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*10.9*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*A*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Shaw
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2027	0.92	Level	6	0	0.971	1.00	2269
Ramp	0	0.92	Level	6	0	0.971	1.00	0
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 1326 pc/h
V_3 or V_{av34} 943 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2269	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1326	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 14.3 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.318 (Exibit 25-19)
S_R= 61.1 mph (Exhibit 25-19)
S_0= 68.4 mph (Exhibit 25-19)
S = 63.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Shaw
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_Build 2

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1885	0.92	Level	6	0	0.971	1.00	2110
Ramp	1	0.92	Level	6	0	0.971	1.00	1
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 1233 pc/h
V_3 or V_{av34} 877 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2111	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1234	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 13.5 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.317 (Exibit 25-19)
S_R= 61.1 mph (Exhibit 25-19)
S_0= 68.6 mph (Exhibit 25-19)
S = 64.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Shaw
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build 2

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2027	0.92	Level	6	0	0.971	1.00	2269
Ramp	745	0.92	Level	6	0	0.971	1.00	834
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.592 using Equation (Exhibit 25-5)
V_{12} = 1344 pc/h
V_3 or V_{av34} 925 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3103	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2178	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 18.8 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.318 (Exibit 25-19)
S_R= 61.1 mph (Exhibit 25-19)
S_0= 68.5 mph (Exhibit 25-19)
S = 63.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Shaw
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_Build 2

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1886	0.92	Level	6	0	0.971	1.00	2111
Ramp	619	0.92	Level	6	0	0.971	1.00	693
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.592 using Equation (Exhibit 25-5)
V_{12} = 1250 pc/h
V_3 or V_{av34} 861 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2804	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1943	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 17.0 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.311 (Exibit 25-19)
S_R= 61.3 mph (Exhibit 25-19)
S_0= 68.7 mph (Exhibit 25-19)
S = 63.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Off to Ashlan
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build 2

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2772	0.92	Level	6	0	0.971	1.00	3103
Ramp	380	0.92	Level	6	0	0.971	1.00	425
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.663 using Equation (Exhibit 25-12)
V_{12} = 2200 pc/h
V_3 or V_{av34} 903 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3103	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	2678	Exhibit 25-14	7200	No
V_R	425	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2200	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 21.7 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.466 (Exhibit 25-19)
S_R= 56.9 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 61.6 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Off to Ashlan
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_Build 2

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2505	0.92	Level	6	0	0.971	1.00	2805
Ramp	742	0.92	Level	6	0	0.971	1.00	831
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.652 using Equation (Exhibit 25-12)
V_{12} = 2117 pc/h
V_3 or V_{av34} 688 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2805	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	1974	Exhibit 25-14	7200	No
V_R	831	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2117	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 21.0 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.503 (Exhibit 25-19)
S_R= 55.9 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 59.9 mph (Exhibit 25-15)

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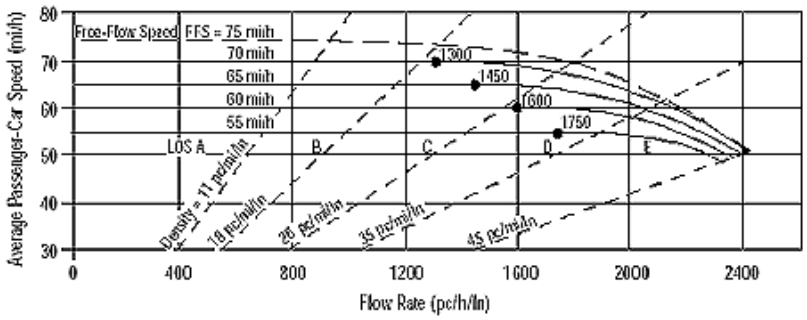
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Ashlan Off to Ashlan On*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing_Build1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2392*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*893*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*13.8*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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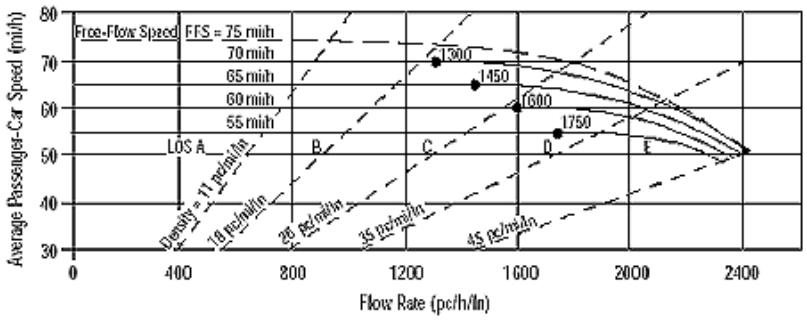
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Ashlan Off to Ashlan On*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing_Build1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1763*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*658*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*10.2*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*A*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Ashlan
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2392	0.92	Level	6	0	0.971	1.00	2678
Ramp	489	0.92	Level	6	0	0.971	1.00	547
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 1565 pc/h
V_3 or V_{av34} 1113 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3225	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2112	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 20.1 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.336 (Exibit 25-19)
S_R= 60.6 mph (Exhibit 25-19)
S_0= 67.8 mph (Exhibit 25-19)
S = 62.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Ashlan
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_Build 1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1763	0.92	Level	6	0	0.971	1.00	1974
Ramp	235	0.92	Level	6	0	0.971	1.00	263
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 1154 pc/h
V_3 or V_{av34} 820 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2237	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1417	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 14.8 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.320 (Exibit 25-19)
S_R= 61.1 mph (Exhibit 25-19)
S_0= 68.8 mph (Exhibit 25-19)
S = 63.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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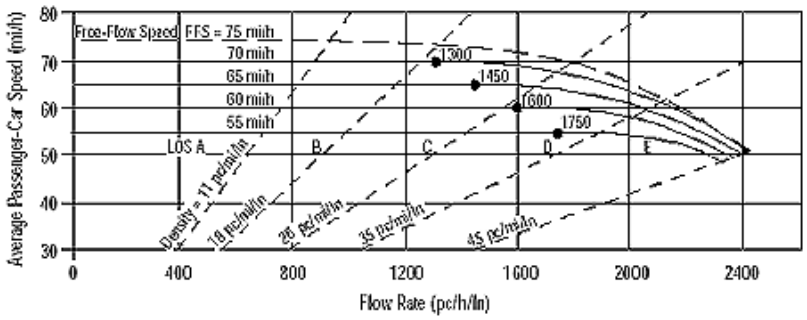
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Golden State to Clinton*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing_Build1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*3961*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*4*		f_N	*1.5*	mi/h
FFS (measured)		mi/h	FFS	*66.0*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1109*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*66.0*	mi/h	S	mi/h
D = v_p / S	*16.8*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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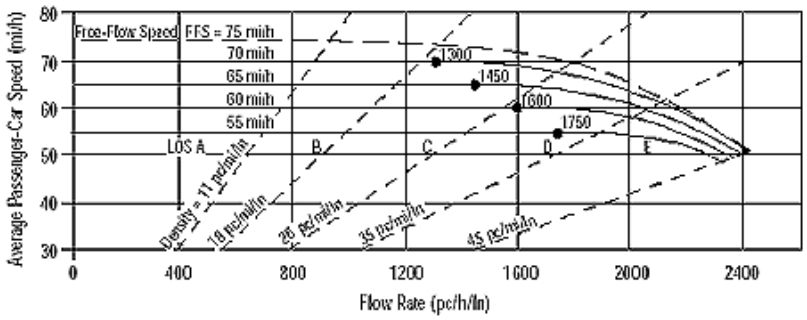
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Golden State to Clinton*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing_Build1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2994*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*4*		f_N	*1.5*	mi/h
FFS (measured)		mi/h	FFS	*66.0*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*838*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*66.0*	mi/h	S	mi/h
D = v_p / S	*12.7*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Off to Clinton
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build 1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3961	0.92	Level	6	0	0.971	1.00	4435
Ramp	151	0.92	Level	6	0	0.971	1.00	169
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.260 using Equation (Exhibit 25-12)
V_{12} = 1278 pc/h
V_3 or V_{av34} 1578 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 1774 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4435	Exhibit 25-14	9600	No
$V_{FO} = V_F - V_R$	4266	Exhibit 25-14	9600	No
V_R	169	Exhibit 25-3	3800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1278	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 9.4 (pc/mi/ln)
LOS = A (Exhibit 25-4)

Speed Determination

D_s = 0.443 (Exhibit 25-19)
S_R= 57.6 mph (Exhibit 25-19)
S_0= 75.5 mph (Exhibit 25-19)
S = 67.1 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Off to Clinton
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_build1

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☑ No ☐ Off		☑ No ☐ Off
L_{up} = ft		L_{down} = ft
V_u = veh/h	S_{FF} = 70.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2994	0.92	Level	6	0	0.971	1.00	3352
Ramp	178	0.92	Level	6	0	0.971	1.00	199
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.260 using Equation (Exhibit 25-12)

V_{12} = 1019 pc/h

V_3 or V_{av34} 1166 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1340 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3352	Exhibit 25-14	9600	No
$V_{FO} = V_F - V_R$	3153	Exhibit 25-14	9600	No
V_R	199	Exhibit 25-3	3800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1019	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 5.7 (pc/mi/ln)

LOS = A (Exhibit 25-4)

Speed Determination

D_s = 0.446 (Exhibit 25-19)

S_R= 57.5 mph (Exhibit 25-19)

S_0= 76.8 mph (Exhibit 25-19)

S = 67.7 mph (Exhibit 25-15)

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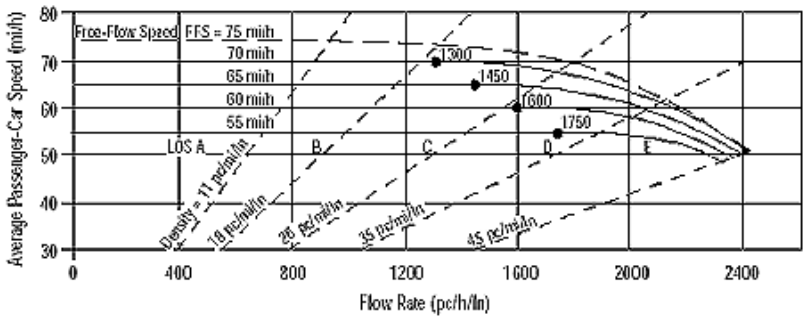
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Vassar to Parjway*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing_build1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3810*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*4*		f_N	*1.5*	mi/h
FFS (measured)		mi/h	FFS	*66.0*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1066*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*66.0*	mi/h	S	mi/h
D = v_p / S	*16.2*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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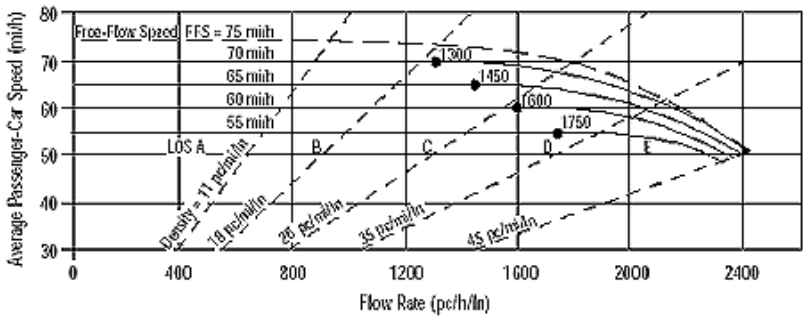
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Vassar to Parjway*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing_build1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2816*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Speed Inputs			Calc Speed Adj and FFS		
Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*4*		f_N	*1.5*	mi/h
FFS (measured)		mi/h	FFS	*66.0*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*788*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*66.0*	mi/h	S	mi/h
D = v_p / S	*11.9*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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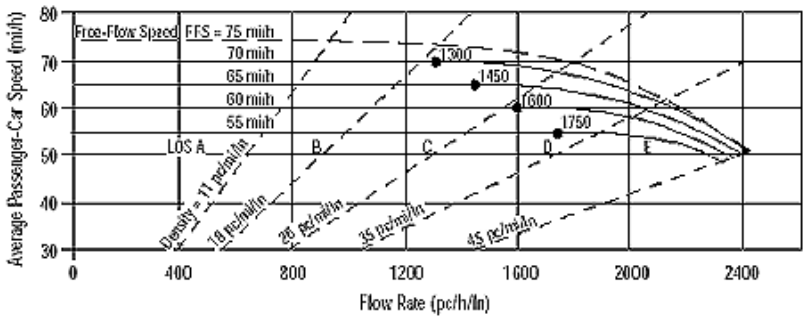
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Vassar to Parjway*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*AM*	Analysis Year	*2003*

Project Description Existing_Build1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3630*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1355*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*21.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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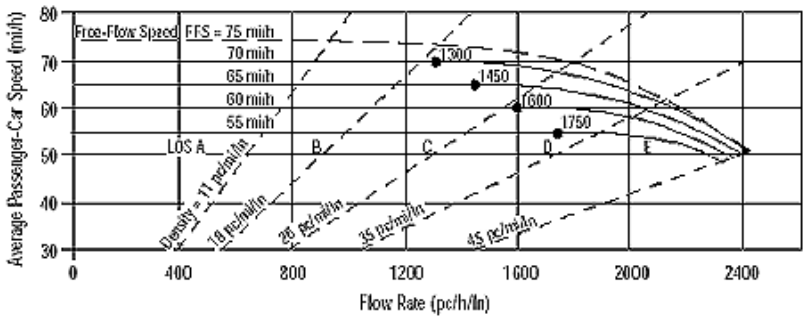
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*Sajeev Kumar*	Highway/Direction of Travel	*SB SR 99*
Agency or Company	*CH2M HILL*	From/To	*Vassar to Parjway*
Date Performed	*01/07/2011*	Jurisdiction	
Analysis Time Period	*PM*	Analysis Year	*2003*

Project Description Existing_Build1

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2704*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs / Calc Speed Adj and FFS

Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*1.00*	I/mi	f_{ID}	*2.5*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*64.5*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1009*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*15.6*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Parkway
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3630	0.92	Level	6	0	0.971	1.00	4064
Ramp	1178	0.92	Level	6	0	0.971	1.00	1319
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 2381 pc/h
V_3 or V_{av34} 1683 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5383	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3700	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 31.8 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.458 (Exibit 25-19)
S_R= 57.2 mph (Exhibit 25-19)
S_0= 65.7 mph (Exhibit 25-19)
S = 59.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from Parkway
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_Build1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2704	0.92	Level	6	0	0.971	1.00	3027
Ramp	859	0.92	Level	6	0	0.971	1.00	962
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 1774 pc/h
V_3 or V_{av34} 1253 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3989	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2736	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 24.5 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.360 (Exibit 25-19)
S_R= 59.9 mph (Exhibit 25-19)
S_0= 67.3 mph (Exhibit 25-19)
S = 62.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from McKinley
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	AM	Analysis Year	2003

Project Description Existing_Build1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4808	0.92	Level	6	0	0.971	1.00	5383
Ramp	474	0.92	Level	6	0	0.971	1.00	531
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.580 using Equation (Exhibit 25-5)
V_{12} = 3124 pc/h
V_3 or V_{av34} 2259 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5914	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3655	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 33.1 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.465 (Exibit 25-19)
S_R= 57.0 mph (Exhibit 25-19)
S_0= 63.7 mph (Exhibit 25-19)
S = 59.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Sajeev Kumar	Freeway/Dir of Travel	SB SR 99
Agency or Company	CH2M HILL	Junction	SB Onramp from McKinley
Date Performed	01/07/2011	Jurisdiction	
Analysis Time Period	PM	Analysis Year	2003

Project Description Existing_Build1

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3563	0.92	Level	6	0	0.971	1.00	3989
Ramp	331	0.92	Level	6	0	0.971	1.00	371
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.580 using Equation (Exhibit 25-5)
V_{12} = 2315 pc/h
V_3 or V_{av34} 1674 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4360	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2686	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 25.6 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.371 (Exibit 25-19)
S_R= 59.6 mph (Exhibit 25-19)
S_0= 65.8 mph (Exhibit 25-19)
S = 61.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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2035 No-Build

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/13/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Off to McKinley Ave
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	6138	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	298	vph
Length of first accel/decel lane	180	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	6138		298			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1668		81			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6872	334	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.573 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 4079 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	6872	7200	No
$v_{FO} = v_F - v_R$	6538	7200	No
v_R	334	2000	No
v_3 or v_{av34}	2793 pc/h	(Equation 25-15 or 25-16)	
Is v_3 or v_{av34} > 2700 pc/h?		Yes	
Is v_3 or v_{av34} > 1.5 v_{12}/2		No	
If yes, v_{12A} = 4172		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12A}	4172	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 38.5 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, D_S = 0.458

Space mean speed in ramp influence area, S_R = 57.2 mph

Space mean speed in outer lanes, S_0 = 70.2 mph

Space mean speed for all vehicles, S = 61.7 mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/13/2010
Analysis time period:	PM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Off to McKinley Ave
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	6988	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	455	vph
Length of first accel/decel lane	180	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	6988		455			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1899		124			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	7824	509	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.541 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 4466 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	7824	7200	Yes
$v_{FO} = v_F - v_R$	7315	7200	Yes
v_R	509	2000	No
v_3 or v_{av34}	3358 pc/h	(Equation 25-15 or 25-16)	

Is v_3 or v_{av34} > 2700 pc/h? Yes

Is v_3 or v_{av34} > 1.5 v_{12}/2 Yes

If yes, v_{12A} = 5124 (Equation 25-18)

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12A}	5124	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 46.7 pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable,	D_S = 0.474	
Space mean speed in ramp influence area,	S_R = 56.7	mph
Space mean speed in outer lanes,	S_0 = 70.2	mph
Space mean speed for all vehicles,	S = 60.7	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Onramp from Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4170	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	463	vph
Length of first accel/decel lane	410	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4170	463		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1133	126		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4669	518	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.589 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2750 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	5187	7200	No
$v_{3\ or\ av34}$	1919 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2750	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 28.2 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.395	
Space mean speed in ramp influence area,	S_R = 58.9	mph
Space mean speed in outer lanes,	S_0 = 64.9	mph
Space mean speed for all vehicles,	S = 61.0	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Onramp from Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4551	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	401	vph
Length of first accel/decel lane	410	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4551	401		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1237	109		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5095	449	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.589 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3001 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	5544	7200	No
$v_{3\ or\ av34}$	2094 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3001	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 29.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.415	
Space mean speed in ramp influence area,	S_R = 58.4	mph
Space mean speed in outer lanes,	S_0 = 64.3	mph
Space mean speed for all vehicles,	S = 60.5	mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Offramp to Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4633	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	845	vph
Length of first accel/decel lane	110	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	4633		845			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1259		230			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5187	946	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.587 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3435 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5187	7200	No
$v_{FO} = v_F - v_R$	4241	7200	No
v_R	946	2000	No
$v_{3 \text{ or } av34}$	1752 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3435	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 32.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D_S = 0.513

Space mean speed in ramp influence area, S_R = 55.6 mph

Space mean speed in outer lanes, S_0 = 73.9 mph

Space mean speed for all vehicles, S = 60.7 mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Offramp to Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4952	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	1210	vph
Length of first accel/decel lane	110	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	4952		1210			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1346		329			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, f_{HV}	0.971	0.971	
Driver population factor, f_P	1.00	1.00	
Flow rate, v_p	5544	1355	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.559 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3697 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5544	7200	No
$v_{FO} = v_F - v_R$	4189	7200	No
v_R	1355	2000	No
v_3 or v_{av34}	1847 pc/h	(Equation 25-15 or 25-16)	

Is v_3 or v_{av34} > 2700 pc/h? No

Is v_3 or v_{av34} > 1.5 v_{12}/2 No

If yes, v_{12A} = (Equation 25-18)

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3697	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 35.1 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, D_S = 0.550

Space mean speed in ramp influence area, S_R = 54.6 mph

Space mean speed in outer lanes, S_0 = 73.5 mph

Space mean speed for all vehicles, S = 59.7 mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	Shaw Off to Shaw On
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Flow Inputs and Adjustments

Volume, V	3788	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1029	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1414	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1414	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	21.9	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	NB SR 99
From/To:	Shaw Off to Shaw On
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Flow Inputs and Adjustments

Volume, V	3742	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1017	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1396	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1396	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	21.6	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Loop On from Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3788	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	430	vph
Length of first accel/decel lane	150	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3788	430		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1029	117		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4241	481	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.582 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2467 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	4722	7200	No
$v_{3 \text{ or } av34}$	1774 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2467	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 27.3 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.385	
Space mean speed in ramp influence area,	S_R = 59.2	mph
Space mean speed in outer lanes,	S_0 = 65.4	mph
Space mean speed for all vehicles,	S = 61.4	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Loop On from Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3742	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	131	vph
Length of first accel/decel lane	150	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3742	131		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1017	36		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4189	147	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.582 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2437 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	4336	7200	No
$v_{3\ or\ av34}$	1752 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2437	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 24.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.362	
Space mean speed in ramp influence area,	S_R = 59.9	mph
Space mean speed in outer lanes,	S_0 = 65.5	mph
Space mean speed for all vehicles,	S = 62.0	mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Flow Inputs and Adjustments

Volume, V	5740	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1560	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	2142	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2142	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	58.2	mi/h
Number of lanes, N	3	
Density, D	36.8	pc/mi/ln

Level of service, LOS	E

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer
Agency or Company:	CH2M HILL
Date Performed:	7/13/2010
Analysis Time Period:	PM
Freeway/Direction:	NB SR 99
From/To:	
Jurisdiction:	
Analysis Year:	2035
Description: No Build	

Flow Inputs and Adjustments

Volume, V	6533	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1775	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	2438	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2438	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln

Level of service, LOS	F

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	McKinley to Clinton
Jurisdiction:	
Analysis Year:	2035
Description: No Build	

Flow Inputs and Adjustments

Volume, V	5740	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1560	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1607	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	66.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1607	pc/h/ln
Free-flow speed, FFS	66.0	mi/h
Average passenger-car speed, S	65.8	mi/h
Number of lanes, N	4	
Density, D	24.4	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/13/2010
Analysis Time Period:	PM
Freeway/Direction:	NB SR 99
From/To:	
Jurisdiction:	
Analysis Year:	2035
Description: No Build	

Flow Inputs and Adjustments

Volume, V	6533	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1775	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1829	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	66.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1829	pc/h/ln
Free-flow speed, FFS	66.0	mi/h
Average passenger-car speed, S	64.4	mi/h
Number of lanes, N	4	
Density, D	28.4	pc/mi/ln

Level of service, LOS	D

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/13/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	Clinton Off to Clinton On
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Flow Inputs and Adjustments

Volume, V	4527	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1230	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1689	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1689	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.1	mi/h
Number of lanes, N	3	
Density, D	26.3	pc/mi/ln

Level of service, LOS	D

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/13/2010
Analysis Time Period:	PM
Freeway/Direction:	NB SR 99
From/To:	Clinton Off to Clinton On
Jurisdiction:	
Analysis Year:	2035
Description: No Build	

Flow Inputs and Adjustments

Volume, V	5050	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1372	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1885	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1885	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	62.7	mi/h
Number of lanes, N	3	
Density, D	30.1	pc/mi/ln

Level of service, LOS	D

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Onramp from Clinton
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4527	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	973	vph
Length of first accel/decel lane	300	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4527	973		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	1258	270		v
Trucks and buses	0	0		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	1.000	1.000	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5030	1081	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.586 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2947 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	6111	7200	No
$v_{3 \text{ or } av34}$	2083 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2947	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 34.5 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.519	
Space mean speed in ramp influence area,	S_R = 55.5	mph
Space mean speed in outer lanes,	S_0 = 64.3	mph
Space mean speed for all vehicles,	S = 58.2	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Onramp from Clinton
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5050	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	1200	vph
Length of first accel/decel lane	300	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5050	1200		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	1403	333		v
Trucks and buses	0	0		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	1.000	1.000	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5611	1333	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.586 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3287 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	6944	7200	No
$v_{3\ or\ av34}$	2324 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3287	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 39.0 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable,	M_S = 0.696	
Space mean speed in ramp influence area,	S_R = 50.5	mph
Space mean speed in outer lanes,	S_0 = 63.3	mph
Space mean speed for all vehicles,	S = 54.2	mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Off to Golden State
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5500	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	836	vph
Length of first accel/decel lane	280	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	5500		836			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1495		227			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6158	936	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.563 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3876 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	6158	7200	No
$v_{FO} = v_F - v_R$	5222	7200	No
v_R	936	2000	No
$v_{3 \text{ or } av34}$	2282 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 $v_{12}/2$		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3876	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 35.1 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, D_S = 0.512

Space mean speed in ramp influence area, S_R = 55.7 mph

Space mean speed in outer lanes, S_0 = 71.8 mph

Space mean speed for all vehicles, S = 60.7 mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Off to Golden State
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	6250	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	949	vph
Length of first accel/decel lane	280	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	6250		949			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1698		258			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6997	1062	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.536 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 4244 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	6997	7200	No
$v_{FO} = v_F - v_R$	5935	7200	No
v_R	1062	2000	No
$v_{3 \text{ or } av34}$	2753 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		Yes	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	

If yes, v_{12A} = 4297 (Equation 25-18)

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12A}	4297	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 38.7 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable,	D_S = 0.524	
Space mean speed in ramp influence area,	S_R = 55.3	mph
Space mean speed in outer lanes,	S_0 = 70.2	mph
Space mean speed for all vehicles,	S = 60.3	mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Off to Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4664	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	887	vph
Length of first accel/decel lane	115	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	4664		887			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1267		241			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5222	993	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.584 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3462 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5222	7200	No
$v_{FO} = v_F - v_R$	4229	7200	No
v_R	993	2000	No
$v_{3 \text{ or } av34}$	1760 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3462	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 33.0 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D_S = 0.517

Space mean speed in ramp influence area, S_R = 55.5 mph

Space mean speed in outer lanes, S_0 = 73.8 mph

Space mean speed for all vehicles, S = 60.6 mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Off to Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5301	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	1009	vph
Length of first accel/decel lane	115	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	5301		1009			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1440		274			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, f_{HV}	0.971	0.971	
Driver population factor, f_P	1.00	1.00	
Flow rate, v_p	5935	1130	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.560 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3819 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5935	7200	No
$v_{FO} = v_F - v_R$	4805	7200	No
v_R	1130	2000	No
$v_{3 \text{ or } av34}$	2116 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3819	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 36.1 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, D_S = 0.530

Space mean speed in ramp influence area, S_R = 55.2 mph

Space mean speed in outer lanes, S_0 = 72.4 mph

Space mean speed for all vehicles, S = 60.3 mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	Ashlan Off to Ashlan On
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Flow Inputs and Adjustments

Volume, V	3777	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1026	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1410	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1410	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	21.9	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	NB SR 99
From/To:	Ashlan Off to Ashlan On
Jurisdiction:	
Analysis Year:	2035
Description: No Build	

Flow Inputs and Adjustments

Volume, V	4292	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1166	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1602	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1602	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.4	mi/h
Number of lanes, N	3	
Density, D	24.9	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Loop On from Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3777	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	393	vph
Length of first accel/decel lane	160	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3777	393		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1026	107		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4229	440	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.582 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2461 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	4669	7200	No
$v_{3 \text{ or } av34}$	1768 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2461	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 26.9 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.381	
Space mean speed in ramp influence area,	S_R = 59.3	mph
Space mean speed in outer lanes,	S_0 = 65.4	mph
Space mean speed for all vehicles,	S = 61.5	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Loop On from Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4292	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	259	vph
Length of first accel/decel lane	160	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4292	259		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1166	70		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4805	290	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.582 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2796 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	5095	7200	No
$v_{3\ or\ av34}$	2009 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2796	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 28.4 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.395	
Space mean speed in ramp influence area,	S_R = 58.9	mph
Space mean speed in outer lanes,	S_0 = 64.6	mph
Space mean speed for all vehicles,	S = 61.0	mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	SB SR 99
From/To:	North of Shaw Onramp
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Flow Inputs and Adjustments

Volume, V	3185	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	865	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1189	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1189	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	18.4	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	SB SR 99
From/To:	North of Shaw Onramp
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Flow Inputs and Adjustments

Volume, V	3326	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	904	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1241	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1241	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	19.2	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Shields
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5422	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	728	vph
Length of first accel/decel lane	235	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5422	728		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1473	198		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6070	815	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.584 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3545 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	6885	7200	No
$v_{3 \text{ or } av34}$	2525 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3545	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 37.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable,	M_S = 0.610	
Space mean speed in ramp influence area,	S_R = 52.9	mph
Space mean speed in outer lanes,	S_0 = 62.1	mph
Space mean speed for all vehicles,	S = 56.0	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Shields
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5019	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	656	vph
Length of first accel/decel lane	235	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5019	656		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1364	178		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5619	734	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.584 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3282 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	6353	7200	No
$v_{3\ or\ av34}$	2337 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3282	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 35.0- pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.521	
Space mean speed in ramp influence area,	S_R = 55.4	mph
Space mean speed in outer lanes,	S_0 = 63.2	mph
Space mean speed for all vehicles,	S = 58.1	mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Off to Princeton
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	6150	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	61	vph
Length of first accel/decel lane	135	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	6150		61			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1671		17			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6885	68	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.585 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 4054 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	6885	7200	No
$v_{FO} = v_F - v_R$	6817	7200	No
v_R	68	2000	No
$v_{3 \text{ or } av34}$	2831 pc/h	(Equation 25-15 or 25-16)	

Is $v_{3 \text{ or } av34}$ > 2700 pc/h? Yes

Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2 No

If yes, v_{12A} = 4185 (Equation 25-18)

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12A}	4185	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 39.0 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, D_S = 0.434

Space mean speed in ramp influence area, S_R = 57.8 mph

Space mean speed in outer lanes, S_0 = 70.2 mph

Space mean speed for all vehicles, S = 62.1 mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Off to Princeton
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5675	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	28	vph
Length of first accel/decel lane	135	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	5675		28			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1542		8			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6354	31	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.600 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3823 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	6354	7200	No
$v_{FO} = v_F - v_R$	6323	7200	No
v_R	31	2000	No
$v_{3 \text{ or } av34}$	2531 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3823	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 35.9 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, D_S = 0.431

Space mean speed in ramp influence area, S_R = 57.9 mph

Space mean speed in outer lanes, S_0 = 70.8 mph

Space mean speed for all vehicles, S = 62.5 mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	SB SR 99
From/To:	Princeton Off to Princeton On
Jurisdiction:	
Analysis Year:	2035
Description: No Build	

Flow Inputs and Adjustments

Volume, V	6089	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1655	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	2272	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2272	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	54.6	mi/h
Number of lanes, N	3	
Density, D	41.6	pc/mi/ln

Level of service, LOS	E

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	SB SR 99
From/To:	Princeton Off to Princeton On
Jurisdiction:	
Analysis Year:	2035
Description: No Build	

Flow Inputs and Adjustments

Volume, V	5647	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1535	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	2107	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2107	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	59.0	mi/h
Number of lanes, N	3	
Density, D	35.7	pc/mi/ln

Level of service, LOS	E

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Princeton
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	6089	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	118	vph
Length of first accel/decel lane	235	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	6089	118		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1655	32		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6817	132	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.584 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3982 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	6949	7200	No
$v_{3 \text{ or } av34}$	2835 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		Yes	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} = 4117		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12A}	4117	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 37.1 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable,	M_S = 0.578	
Space mean speed in ramp influence area,	S_R = 53.8	mph
Space mean speed in outer lanes,	S_0 = 61.1	mph
Space mean speed for all vehicles,	S = 56.4	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Princeton
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5647	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	98	vph
Length of first accel/decel lane	235	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5647	98		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1535	27		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6322	110	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.584 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3693 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	6432	7200	No
$v_{3\ or\ av34}$	2629 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3693	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 33.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.479	
Space mean speed in ramp influence area,	S_R = 56.6	mph
Space mean speed in outer lanes,	S_0 = 61.5	mph
Space mean speed for all vehicles,	S = 58.5	mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Off to Clinton
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	6207	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	1240	vph
Length of first accel/decel lane	130	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	6207		1240			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1687		337			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6949	1388	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.522 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 4293 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	6949	7200	No
$v_{FO} = v_F - v_R$	5561	7200	No
v_R	1388	2000	No
v_3 or v_{av34}	2656 pc/h	(Equation 25-15 or 25-16)	

Is v_3 or v_{av34} > 2700 pc/h? No

Is v_3 or v_{av34} > 1.5 v_{12}/2 No

If yes, v_{12A} = (Equation 25-18)

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	4293	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 40.0 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, D_S = 0.553

Space mean speed in ramp influence area, S_R = 54.5 mph

Space mean speed in outer lanes, S_O = 70.3 mph

Space mean speed for all vehicles, S = 59.6 mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Off to Clinton
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5746	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	1172	vph
Length of first accel/decel lane	130	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	5746		1172			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1561		318			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6433	1312	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.539 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 4071 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	6433	7200	No
$v_{FO} = v_F - v_R$	5121	7200	No
v_R	1312	2000	No
$v_{3 \text{ or } av34}$	2362 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	4071	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 38.1 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, D_S = 0.546

Space mean speed in ramp influence area, S_R = 54.7 mph

Space mean speed in outer lanes, S_0 = 71.5 mph

Space mean speed for all vehicles, S = 59.9 mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	SB SR 99
From/To:	Clinton Off to Parkway On
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Flow Inputs and Adjustments

Volume, V	4966	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1349	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1853	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1853	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	63.0	mi/h
Number of lanes, N	3	
Density, D	29.4	pc/mi/ln

Level of service, LOS	D

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	SB SR 99
From/To:	Clinton Off to Parkway On
Jurisdiction:	
Analysis Year:	2035
Description: No Build	

Flow Inputs and Adjustments

Volume, V	4573	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1243	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1707	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1707	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.1	mi/h
Number of lanes, N	3	
Density, D	26.6	pc/mi/ln

Level of service, LOS	D

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Parkway
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4966	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	1117	vph
Length of first accel/decel lane	300	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4966	1117		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1349	304		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, f_{HV}	0.971	0.971	
Driver population factor, f_P	1.00	1.00	
Flow rate, v_p	5560	1251	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.586 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3258 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	6811	7200	No
$v_{3\ or\ av34}$	2302 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3258	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 38.2 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable,	M_S = 0.654	
Space mean speed in ramp influence area,	S_R = 51.7	mph
Space mean speed in outer lanes,	S_0 = 63.5	mph
Space mean speed for all vehicles,	S = 55.1	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Parkway
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4573	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	947	vph
Length of first accel/decel lane	300	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4573	947		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1243	257		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5120	1060	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.586 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3000 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	6180	7200	No
$v_{3\ or\ av34}$	2120 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3000	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 34.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.526	
Space mean speed in ramp influence area,	S_R = 55.3	mph
Space mean speed in outer lanes,	S_0 = 64.2	mph
Space mean speed for all vehicles,	S = 58.0	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from McKinley
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	6084	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	627	vph
Length of first accel/decel lane	100	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	6084	627		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1653	170		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6811	702	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.580 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3952 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	7513	7200	Yes
$v_{3 \text{ or } av34}$	2859 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		Yes	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} = 4111		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12A}	4111	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 42.1 pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable,	M_S = 0.794	
Space mean speed in ramp influence area,	S_R = 47.8	mph
Space mean speed in outer lanes,	S_0 = 61.1	mph
Space mean speed for all vehicles,	S = 51.8	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from McKinley
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5520	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	433	vph
Length of first accel/decel lane	100	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5520	433		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1500	118		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6180	485	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.580 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3586 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	6665	7200	No
$v_{3\ or\ av34}$	2594 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3586	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 36.4 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable,	M_S = 0.543	
Space mean speed in ramp influence area,	S_R = 54.8	mph
Space mean speed in outer lanes,	S_0 = 61.7	mph
Space mean speed for all vehicles,	S = 57.3	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Loop On from Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3185	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	0	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3185	0		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	865	0		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3566	0	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.585 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2084 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	3566	7200	No
$v_{3\ or\ av34}$	1482 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2084	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 20.2 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.335	
Space mean speed in ramp influence area,	S_R = 60.6	mph
Space mean speed in outer lanes,	S_0 = 66.5	mph
Space mean speed for all vehicles,	S = 62.9	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Loop On from Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3326	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	2	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3326	2		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	904	1		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3724	2	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.585 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2177 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	3726	7200	No
$v_{3\ or\ av34}$	1547 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2177	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 20.9 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.338	
Space mean speed in ramp influence area,	S_R = 60.5	mph
Space mean speed in outer lanes,	S_0 = 66.2	mph
Space mean speed for all vehicles,	S = 62.8	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3185	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	1219	vph
Length of first accel/decel lane	530	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3185	1219		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	865	331		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3566	1365	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.592 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2112 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	4931	7200	No
$v_{3\ or\ av34}$	1454 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2112	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 28.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.410	
Space mean speed in ramp influence area,	S_R = 58.5	mph
Space mean speed in outer lanes,	S_0 = 66.6	mph
Space mean speed for all vehicles,	S = 60.7	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3327	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	1258	vph
Length of first accel/decel lane	530	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3327	1258		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	904	342		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3725	1408	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.592 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2206 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	5133	7200	No
$v_{3 \text{ or } av34}$	1519 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2206	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 29.7 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.429	
Space mean speed in ramp influence area,	S_R = 58.0	mph
Space mean speed in outer lanes,	S_0 = 66.3	mph
Space mean speed for all vehicles,	S = 60.2	mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Off to Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4405	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	478	vph
Length of first accel/decel lane	165	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	4405		478			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1197		130			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4932	535	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.612 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3226 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4932	7200	No
$v_{FO} = v_F - v_R$	4397	7200	No
v_R	535	2000	No
$v_{3 \text{ or } av34}$	1706 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3226	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 30.5 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D_S = 0.476

Space mean speed in ramp influence area, S_R = 56.7 mph

Space mean speed in outer lanes, S_0 = 74.0 mph

Space mean speed for all vehicles, S = 61.7 mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Off to Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4585	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	648	vph
Length of first accel/decel lane	165	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	4585		648			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1246		176			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5133	725	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.598 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3362 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5133	7200	No
$v_{FO} = v_F - v_R$	4408	7200	No
v_R	725	2000	No
$v_{3 \text{ or } av34}$	1771 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3362	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 31.7 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D_S = 0.493

Space mean speed in ramp influence area, S_R = 56.2 mph

Space mean speed in outer lanes, S_0 = 73.8 mph

Space mean speed for all vehicles, S = 61.2 mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	SB SR 99
From/To:	Ashlan Off to Ashlan On
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Flow Inputs and Adjustments

Volume, V	3927	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1067	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1466	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1466	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	22.7	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	SB SR 99
From/To:	Ashlan Off to Ashlan On
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Flow Inputs and Adjustments

Volume, V	3937	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1070	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1469	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1469	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	22.8	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3795	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	797	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3795	797		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1031	217		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4249	892	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.585 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2484 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	5141	7200	No
$v_{3 \text{ or } av34}$	1765 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2484	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 29.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.418	
Space mean speed in ramp influence area,	S_R = 58.3	mph
Space mean speed in outer lanes,	S_0 = 65.4	mph
Space mean speed for all vehicles,	S = 60.6	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3604	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	623	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3604	623		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	979	169		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4035	697	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.585 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2358 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	4732	7200	No
$v_{3 \text{ or } av34}$	1677 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2358	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 27.4 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.386	
Space mean speed in ramp influence area,	S_R = 59.2	mph
Space mean speed in outer lanes,	S_0 = 65.8	mph
Space mean speed for all vehicles,	S = 61.4	mph

HCS+: Freeway Weaving Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date Performed:	7/15/2010
Analysis Time Period:	AM
Freeway/Dir of Travel:	SB SR 99
Weaving Location:	Golden State On to Dakota Off
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Inputs

Freeway free-flow speed, SFF	70	mph
Weaving number of lanes, N	4	
Weaving segment length, L	1890	ft
Terrain type	Level	
Grade		%
Length		mi
Weaving type	A	Multilane or C-D
Volume ratio, VR	0.22	
Weaving ratio, R	0.10	

Conversion to pc/h Under Base Conditions

	Non-Weaving		Weaving		
	V A-C	V B-D	V A-D	V B-C	
Volume, V	4592	0	132	1171	veh/h
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	
Peak 15-min volume, v15	1248	0	36	318	v
Trucks and buses	6	6	6	6	%
Recreational vehicles	0	0	0	0	%
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.971	0.971	0.971	0.971	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	5141	0	147	1311	pc/h

Weaving and Non-Weaving Speeds

	Weaving	Non-Weaving
a (Exhibit 24-6)	0.15	0.0035
b (Exhibit 24-6)	2.20	4.00
c (Exhibit 24-6)	0.97	1.30
d (Exhibit 24-6)	0.80	0.75
Weaving intensity factor, Wi	0.74	0.41
Weaving and non-weaving speeds, Si	49.57	57.46
Number of lanes required for		

unconstrained operation, Nw (Exhibit 24-7)	1.32
Maximum number of lanes, Nw (max) (Exhibit 24-7)	1.40
Type of operation is	Unconstrained

Weaving Segment Speed, Density, Level of Service and Capacity

Weaving segment speed, S	55.51	mph
Weaving segment density, D	29.72	pc/mi/ln
Level of service, LOS	C	
Capacity of base condition, cb	8698	pc/h
Capacity as a 15-minute flow rate, c	8445	pc/h
Capacity as a full-hour volume, ch	7769	pc/h

Limitations on Weaving Segments

	Analyzed	If Max Exceeded Maximum	See Note Note
Weaving flow rate, Vw	1458	2800	a
Average flow rate (pcphpl)	1649	2400	b
Volume ratio, VR	0.22	0.35	c
Weaving ratio, R	0.10	N/A	d
Weaving length (ft)	1890	2500	e

Notes:

a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
b. Capacity constrained by basic freeway capacity.
c. Capacity occurs under constrained operating conditions.
d. Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
e. Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
g. Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such cases.
h. Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
i. Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

HCS+: Freeway Weaving Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date Performed:	7/15/2010
Analysis Time Period:	PM
Freeway/Dir of Travel:	SB SR 99
Weaving Location:	Golden State On to Dakota Off
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Inputs

Freeway free-flow speed, SFF	70	mph
Weaving number of lanes, N	4	
Weaving segment length, L	1890	ft
Terrain type	Level	
Grade		%
Length		mi
Weaving type	A	Multilane or C-D
Volume ratio, VR	0.25	
Weaving ratio, R	0.23	

Conversion to pc/h Under Base Conditions

	Non-Weaving		Weaving		
	V A-C	V B-D	V A-D	V B-C	
Volume, V	4227	0	333	1106	veh/h
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	
Peak 15-min volume, v15	1149	0	90	301	v
Trucks and buses	6	6	6	6	%
Recreational vehicles	0	0	0	0	%
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.971	0.971	0.971	0.971	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	4732	0	372	1238	pc/h

Weaving and Non-Weaving Speeds

	Weaving	Non-Weaving
a (Exhibit 24-6)	0.35	0.0020
b (Exhibit 24-6)	2.20	4.00
c (Exhibit 24-6)	0.97	1.30
d (Exhibit 24-6)	0.80	0.75
Weaving intensity factor, Wi	1.75	0.25
Weaving and non-weaving speeds, Si	36.81	63.02
Number of lanes required for		

unconstrained operation, Nw (Exhibit 24-7)	1.43
Maximum number of lanes, Nw (max) (Exhibit 24-7)	1.40
Type of operation is	Constrained

Weaving Segment Speed, Density, Level of Service and Capacity

Weaving segment speed, S	53.38	mph
Weaving segment density, D	29.70	pc/mi/ln
Level of service, LOS	C	
Capacity of base condition, cb	8444	pc/h
Capacity as a 15-minute flow rate, c	8198	pc/h
Capacity as a full-hour volume, ch	7542	pc/h

Limitations on Weaving Segments

	Analyzed	If Max Exceeded Maximum	See Note Note
Weaving flow rate, Vw	1610	2800	a
Average flow rate (pcphpl)	1585	2400	b
Volume ratio, VR	0.25	0.35	c
Weaving ratio, R	0.23	N/A	d
Weaving length (ft)	1890	2500	e

Notes:

a. Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
b. Capacity constrained by basic freeway capacity.
c. Capacity occurs under constrained operating conditions.
d. Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
e. Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
f. Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
g. Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such cases.
h. Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
i. Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Off to Shields
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5763	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	341	vph
Length of first accel/decel lane	140	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	5763		341			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1566		93			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6452	382	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.581 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3909 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	6452	7200	No
$v_{FO} = v_F - v_R$	6070	7200	No
v_R	382	2000	No
$v_{3 \text{ or } av34}$	2543 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3909	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 36.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, D_S = 0.462

Space mean speed in ramp influence area, S_R = 57.1 mph

Space mean speed in outer lanes, S_O = 70.8 mph

Space mean speed for all vehicles, S = 61.8 mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Off to Shields
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5333	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	314	vph
Length of first accel/decel lane	140	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	5333		314			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1449		85			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5971	352	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.595 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3693 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5971	7200	No
$v_{FO} = v_F - v_R$	5619	7200	No
v_R	352	2000	No
$v_{3 \text{ or } av34}$	2278 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3693	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 34.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D_S = 0.460

Space mean speed in ramp influence area, S_R = 57.1 mph

Space mean speed in outer lanes, S_0 = 71.8 mph

Space mean speed for all vehicles, S = 62.0 mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	SB SR 99
From/To:	Shields On to Shields Off
Jurisdiction:	
Analysis Year:	2035
Description:	No Build

Flow Inputs and Adjustments

Volume, V	5422	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1473	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	2023	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2023	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	60.7	mi/h
Number of lanes, N	3	
Density, D	33.3	pc/mi/ln

Level of service, LOS	D

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	SB SR 99
From/To:	Shields On to Shields Off
Jurisdiction:	
Analysis Year:	2035
Description: No Build	

Flow Inputs and Adjustments

Volume, V	5019	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1364	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1873	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1873	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	62.8	mi/h
Number of lanes, N	3	
Density, D	29.8	pc/mi/ln

Level of service, LOS	D

Overall results are not computed when free-flow speed is less than 55 mph.

2035 Build

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/13/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Off to McKinley Ave
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	6138	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	398	vph
Length of first accel/decel lane	180	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	6138		398			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1668		108			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6872	446	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.568 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 4094 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	6872	7200	No
$v_{FO} = v_F - v_R$	6426	7200	No
v_R	446	2000	No
$v_{3 \text{ or } av34}$	2778 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		Yes	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	

If yes, v_{12A} = 4172 (Equation 25-18)

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12A}	4172	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 38.5 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable,	D_S = 0.468	
Space mean speed in ramp influence area,	S_R = 56.9	mph
Space mean speed in outer lanes,	S_0 = 70.2	mph
Space mean speed for all vehicles,	S = 61.5	mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/13/2010
Analysis time period:	PM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Off to McKinley Ave
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	6988	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	455	vph
Length of first accel/decel lane	180	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	6988		455			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1899		124			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	7824	509	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.541 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 4466 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	7824	7200	Yes
$v_{FO} = v_F - v_R$	7315	7200	Yes
v_R	509	2000	No
v_3 or v_{av34}	3358 pc/h	(Equation 25-15 or 25-16)	

Is v_3 or v_{av34} > 2700 pc/h? Yes

Is v_3 or v_{av34} > 1.5 v_{12}/2 Yes

If yes, v_{12A} = 5124 (Equation 25-18)

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12A}	5124	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 46.7 pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable,	D_S = 0.474	
Space mean speed in ramp influence area,	S_R = 56.7	mph
Space mean speed in outer lanes,	S_0 = 70.2	mph
Space mean speed for all vehicles,	S = 60.7	mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Offramp to Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4633	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	845	vph
Length of first accel/decel lane	110	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	4633		845			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1259		230			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5187	946	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.587 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3435 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5187	7200	No
$v_{FO} = v_F - v_R$	4241	7200	No
v_R	946	2000	No
$v_{3 \text{ or } av34}$	1752 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3435	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 32.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D_S = 0.513

Space mean speed in ramp influence area, S_R = 55.6 mph

Space mean speed in outer lanes, S_0 = 73.9 mph

Space mean speed for all vehicles, S = 60.7 mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Offramp to Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3742	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	1210	vph
Length of first accel/decel lane	110	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	3742		1210			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1017		329			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4189	1355	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.593 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3035 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4189	7200	No
$v_{FO} = v_F - v_R$	2834	7200	No
v_R	1355	2000	No
$v_{3 \text{ or } av34}$	1154 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3035	4600	No

!

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v_R - 0.009 L_D$ = 29.4 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	D_S = 0.550	
Space mean speed in ramp influence area,	S_R = 54.6	mph
Space mean speed in outer lanes,	S_0 = 76.2	mph
Space mean speed for all vehicles,	S = 59.2	mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	Shaw Off to Shaw On
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	3788	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1029	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1414	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1414	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	21.9	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	NB SR 99
From/To:	Shaw Off to Shaw On
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	3742	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1017	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1396	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1396	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	21.6	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Onramp from Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3788	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	430	vph
Length of first accel/decel lane	150	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3788	430		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1029	117		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4241	481	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.582 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2467 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	4722	7200	No
$v_{3 \text{ or } av34}$	1774 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2467	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 27.3 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.385	
Space mean speed in ramp influence area,	S_R = 59.2	mph
Space mean speed in outer lanes,	S_0 = 65.4	mph
Space mean speed for all vehicles,	S = 61.4	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Onramp from Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3742	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	131	vph
Length of first accel/decel lane	150	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3742	131		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1017	36		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4189	147	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.582 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2437 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	4336	7200	No
$v_{3\ or\ av34}$	1752 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2437	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 24.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.362	
Space mean speed in ramp influence area,	S_R = 59.9	mph
Space mean speed in outer lanes,	S_0 = 65.5	mph
Space mean speed for all vehicles,	S = 62.0	mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	McKinley to Clinton
Jurisdiction:	
Analysis Year:	2035
Description:	

Flow Inputs and Adjustments

Volume, V	5740	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1560	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1607	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	66.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1607	pc/h/ln
Free-flow speed, FFS	66.0	mi/h
Average passenger-car speed, S	65.8	mi/h
Number of lanes, N	4	
Density, D	24.4	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/13/2010
Analysis Time Period:	PM
Freeway/Direction:	NB SR 99
From/To:	McKinley to Clinton
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	6533	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1775	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1829	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	66.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1829	pc/h/ln
Free-flow speed, FFS	66.0	mi/h
Average passenger-car speed, S	64.4	mi/h
Number of lanes, N	4	
Density, D	28.4	pc/mi/ln

Level of service, LOS	D

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/13/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	Clinton Off to Clinton On
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	4527	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1230	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1689	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1689	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.1	mi/h
Number of lanes, N	3	
Density, D	26.3	pc/mi/ln

Level of service, LOS	D

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/13/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	Clinton Off to Clinton On
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	5050	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1372	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1885	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1885	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	62.7	mi/h
Number of lanes, N	3	
Density, D	30.1	pc/mi/ln

Level of service, LOS	D

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer
Agency or Company:	CH2M HILL
Date Performed:	7/13/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	Clinton to Golden State
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	5500	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1495	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1232	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	67.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1232	pc/h/ln
Free-flow speed, FFS	67.5	mi/h
Average passenger-car speed, S	67.5	mi/h
Number of lanes, N	5	
Density, D	18.3	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/13/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	Clinton to Golden State
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	6250	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1698	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1399	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	67.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1399	pc/h/ln
Free-flow speed, FFS	67.5	mi/h
Average passenger-car speed, S	67.5	mi/h
Number of lanes, N	5	
Density, D	20.7	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/13/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	Clinton to Golden State
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	5500	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1495	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1539	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	66.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1539	pc/h/ln
Free-flow speed, FFS	66.0	mi/h
Average passenger-car speed, S	65.9	mi/h
Number of lanes, N	4	
Density, D	23.3	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/13/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	Clinton to Golden State
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	6250	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1698	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1749	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	66.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1749	pc/h/ln
Free-flow speed, FFS	66.0	mi/h
Average passenger-car speed, S	65.1	mi/h
Number of lanes, N	4	
Density, D	26.9	pc/mi/ln

Level of service, LOS	D

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Off to Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4664	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	887	vph
Length of first accel/decel lane	115	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	4664		887			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1267		241			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5222	993	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.584 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3462 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5222	7200	No
$v_{FO} = v_F - v_R$	4229	7200	No
v_R	993	2000	No
$v_{3 \text{ or } av34}$	1760 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3462	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 33.0 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D_S = 0.517

Space mean speed in ramp influence area, S_R = 55.5 mph

Space mean speed in outer lanes, S_0 = 73.8 mph

Space mean speed for all vehicles, S = 60.6 mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Off to Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5301	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	1009	vph
Length of first accel/decel lane	115	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	5301		1009			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1440		274			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, f_{HV}	0.971	0.971	
Driver population factor, f_P	1.00	1.00	
Flow rate, v_p	5935	1130	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.560 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3819 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5935	7200	No
$v_{FO} = v_F - v_R$	4805	7200	No
v_R	1130	2000	No
$v_{3 \text{ or } av34}$	2116 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3819	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 36.1 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, D_S = 0.530

Space mean speed in ramp influence area, S_R = 55.2 mph

Space mean speed in outer lanes, S_0 = 72.4 mph

Space mean speed for all vehicles, S = 60.3 mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	NB SR 99
From/To:	Ashlan Off to Ashlan On
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	3777	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1026	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1410	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1410	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	21.9	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	NB SR 99
From/To:	Ashlan Off to Ashlan On
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	4292	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1166	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1602	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1602	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.4	mi/h
Number of lanes, N	3	
Density, D	24.9	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Loop On from Ashlan
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3777	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	393	vph
Length of first accel/decel lane	160	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3777	393		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1026	107		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4229	440	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.582 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2461 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	4669	7200	No
$v_{3 \text{ or } av34}$	1768 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2461	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 26.9 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.381	
Space mean speed in ramp influence area,	S_R = 59.3	mph
Space mean speed in outer lanes,	S_0 = 65.4	mph
Space mean speed for all vehicles,	S = 61.5	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	NB Loop On from Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4292	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	259	vph
Length of first accel/decel lane	160	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4292	259		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1166	70		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4805	290	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.582 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2796 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	5095	7200	No
$v_{3\ or\ av34}$	2009 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2796	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 28.4 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.395	
Space mean speed in ramp influence area,	S_R = 58.9	mph
Space mean speed in outer lanes,	S_0 = 64.6	mph
Space mean speed for all vehicles,	S = 61.0	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Onramp from Ashlan
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4170	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	463	vph
Length of first accel/decel lane	410	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4170	463		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1133	126		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4669	518	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.589 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2750 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	5187	7200	No
$v_{3\ or\ av34}$	1919 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2750	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 28.2 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.395	
Space mean speed in ramp influence area,	S_R = 58.9	mph
Space mean speed in outer lanes,	S_0 = 64.9	mph
Space mean speed for all vehicles,	S = 61.0	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	NB SR 99
Junction:	NB Onramp from Ashlan
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4551	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	401	vph
Length of first accel/decel lane	410	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4551	401		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1237	109		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5095	449	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.589 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3001 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	5544	7200	No
$v_{3\ or\ av34}$	2094 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3001	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 29.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.415	
Space mean speed in ramp influence area,	S_R = 58.4	mph
Space mean speed in outer lanes,	S_0 = 64.3	mph
Space mean speed for all vehicles,	S = 60.5	mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	SB SR 99
From/To:	North of Shaw Onramp
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	3185	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	865	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1189	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1189	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	18.4	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	SB SR 99
From/To:	North of Shaw Onramp
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	3326	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	904	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1241	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1241	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	19.2	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	SB SR 99
From/To:	Vassar to Parkway
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	4121	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1120	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1538	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1538	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	23.9	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	SB SR 99
From/To:	Vassar to Parkway
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	3819	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1038	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1425	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1425	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	22.1	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Parkway
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4121	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	1963	vph
Length of first accel/decel lane	300	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4121	1963		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1120	533		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4614	2198	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.586 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2703 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	6812	7200	No
$v_{3 \text{ or } av34}$	1911 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2703	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 40.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable,	M_S = 0.824	
Space mean speed in ramp influence area,	S_R = 46.9	mph
Space mean speed in outer lanes,	S_0 = 64.9	mph
Space mean speed for all vehicles,	S = 50.9	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Parkway
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3819	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	1701	vph
Length of first accel/decel lane	300	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3819	1701		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1038	462		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4276	1904	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.586 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2505 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	6180	7200	No
$v_{3 \text{ or } av34}$	1771 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2505	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 37.1 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable,	M_S = 0.621	
Space mean speed in ramp influence area,	S_R = 52.6	mph
Space mean speed in outer lanes,	S_0 = 65.4	mph
Space mean speed for all vehicles,	S = 55.8	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from McKinley
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	6084	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	627	vph
Length of first accel/decel lane	100	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	6084	627		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1653	170		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6811	702	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.580 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3952 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	7513	7200	Yes
$v_{3 \text{ or } av34}$	2859 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		Yes	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} = 4111		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12A}	4111	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 42.1 pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable,	M_S = 0.794	
Space mean speed in ramp influence area,	S_R = 47.8	mph
Space mean speed in outer lanes,	S_0 = 61.1	mph
Space mean speed for all vehicles,	S = 51.8	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from McKinley
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5520	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	433	vph
Length of first accel/decel lane	100	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5520	433		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1500	118		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6180	485	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.580 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3586 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	6665	7200	No
$v_{3\ or\ av34}$	2594 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3586	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 36.4 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable,	M_S = 0.543	
Space mean speed in ramp influence area,	S_R = 54.8	mph
Space mean speed in outer lanes,	S_0 = 61.7	mph
Space mean speed for all vehicles,	S = 57.3	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Loop On from Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3185	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	0	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3185	0		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	865	0		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3566	0	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.585 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2084 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	3566	7200	No
$v_{3\ or\ av34}$	1482 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2084	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 20.2 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.335	
Space mean speed in ramp influence area,	S_R = 60.6	mph
Space mean speed in outer lanes,	S_0 = 66.5	mph
Space mean speed for all vehicles,	S = 62.9	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Loop On from Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3326	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	2	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3326	2		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	904	1		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3724	2	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.585 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2177 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	3726	7200	No
$v_{3\ or\ av34}$	1547 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2177	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 20.9 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.338	
Space mean speed in ramp influence area,	S_R = 60.5	mph
Space mean speed in outer lanes,	S_0 = 66.2	mph
Space mean speed for all vehicles,	S = 62.8	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3185	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	1219	vph
Length of first accel/decel lane	530	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3185	1219		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	865	331		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3566	1365	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.592 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2112 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	4931	7200	No
$v_{3\ or\ av34}$	1454 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3\ or\ av34}$ > 2700 pc/h?		No	
Is $v_{3\ or\ av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2112	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 28.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.410	
Space mean speed in ramp influence area,	S_R = 58.5	mph
Space mean speed in outer lanes,	S_0 = 66.6	mph
Space mean speed for all vehicles,	S = 60.7	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Shaw
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3327	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	1258	vph
Length of first accel/decel lane	530	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3327	1258		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	904	342		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3725	1408	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.592 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2206 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	5133	7200	No
$v_{3 \text{ or } av34}$	1519 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2206	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 29.7 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.429	
Space mean speed in ramp influence area,	S_R = 58.0	mph
Space mean speed in outer lanes,	S_0 = 66.3	mph
Space mean speed for all vehicles,	S = 60.2	mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Off to Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4405	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	610	vph
Length of first accel/decel lane	165	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	4405		610			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1197		166			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4932	683	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.605 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3255 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4932	7200	No
$v_{FO} = v_F - v_R$	4249	7200	No
v_R	683	2000	No
v_3 or v_{av34}	1677 pc/h	(Equation 25-15 or 25-16)	
Is v_3 or v_{av34} > 2700 pc/h?		No	
Is v_3 or v_{av34} > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3255	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 30.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D_S = 0.489

Space mean speed in ramp influence area, S_R = 56.3 mph

Space mean speed in outer lanes, S_0 = 74.1 mph

Space mean speed for all vehicles, S = 61.3 mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Off to Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4585	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	981	vph
Length of first accel/decel lane	165	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	4585		981			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1246		267			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, f_{HV}	0.971	0.971	
Driver population factor, f_P	1.00	1.00	
Flow rate, v_p	5133	1098	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.581 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3443 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5133	7200	No
$v_{FO} = v_F - v_R$	4035	7200	No
v_R	1098	2000	No
v_3 or v_{av34}	1690 pc/h	(Equation 25-15 or 25-16)	
Is v_3 or v_{av34}	> 2700 pc/h?	No	
Is v_3 or v_{av34}	> 1.5 v_{12}/2	No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3443	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 32.4 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D_S = 0.527

Space mean speed in ramp influence area, S_R = 55.2 mph

Space mean speed in outer lanes, S_0 = 74.1 mph

Space mean speed for all vehicles, S = 60.3 mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	SB SR 99
From/To:	Ashlan Off to Ashlan On
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	3795	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1031	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1416	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1416	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	22.0	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	SB SR 99
From/To:	Ashlan Off to Ashlan On
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	3604	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	979	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1345	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	64.5	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1345	pc/h/ln
Free-flow speed, FFS	64.5	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	3	
Density, D	20.9	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3795	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	797	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3795	797		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1031	217		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4249	892	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.585 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2484 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	5141	7200	No
$v_{3 \text{ or } av34}$	1765 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2484	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 29.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.418	
Space mean speed in ramp influence area,	S_R = 58.3	mph
Space mean speed in outer lanes,	S_0 = 65.4	mph
Space mean speed for all vehicles,	S = 60.6	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Onramp from Ashlan
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	3604	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	623	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3604	623		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	979	169		v
Trucks and buses	6	6		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4035	697	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.585 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 2358 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	4732	7200	No
$v_{3 \text{ or } av34}$	1677 pc/h	(Equation 25-4 or 25-5)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	2358	4400	No

!

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 27.4 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.386	
Space mean speed in ramp influence area,	S_R = 59.2	mph
Space mean speed in outer lanes,	S_0 = 65.8	mph
Space mean speed for all vehicles,	S = 61.4	mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	SB SR 99
From/To:	Golden State to Clinton
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	5763	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1566	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1613	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	66.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1613	pc/h/ln
Free-flow speed, FFS	66.0	mi/h
Average passenger-car speed, S	65.8	mi/h
Number of lanes, N	4	
Density, D	24.5	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	SB SR 99
From/To:	Golden State to Clinton
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	5333	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1449	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1493	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	66.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1493	pc/h/ln
Free-flow speed, FFS	66.0	mi/h
Average passenger-car speed, S	66.0	mi/h
Number of lanes, N	4	
Density, D	22.6	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	AM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Off to Clinton
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	4	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5763	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	1116	vph
Length of first accel/decel lane	420	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	5763		1116			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1566		303			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6452	1249	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 Using Equation 8

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3518 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	6452	9600	No
$v_{FO} = v_F - v_R$	5203	9600	No
v_R	1249	2000	No
$v_{3 \text{ or } av34}$	1467 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3518	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 30.7 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D_S = 0.540

Space mean speed in ramp influence area, S_R = 54.9 mph

Space mean speed in outer lanes, S_0 = 75.0 mph

Space mean speed for all vehicles, S = 62.5 mph

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	Jennifer Emerson
Agency/Co.:	CH2M HILL
Date performed:	7/14/2010
Analysis time period:	PM
Freeway/Dir of Travel:	SB SR 99
Junction:	SB Off to Clinton
Jurisdiction:	
Analysis Year:	2035
Description:	Build 1

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	4	
Free-flow speed on freeway	70.0	mph
Volume on freeway	5333	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	1154	vph
Length of first accel/decel lane	420	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	5333		1154			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1449		314			v
Trucks and buses	6		6			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			

Heavy vehicle adjustment, fHV	0.971	0.971	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5971	1292	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 Using Equation 8

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3332 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5971	9600	No
$v_{FO} = v_F - v_R$	4679	9600	No
v_R	1292	2000	No
$v_{3 \text{ or } av34}$	1319 pc/h	(Equation 25-15 or 25-16)	
Is $v_{3 \text{ or } av34}$ > 2700 pc/h?		No	
Is $v_{3 \text{ or } av34}$ > 1.5 v_{12}/2		No	
If yes, v_{12A} =		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3332	4600	No

!

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 29.1 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D_S = 0.544

Space mean speed in ramp influence area, S_R = 54.8 mph

Space mean speed in outer lanes, S_0 = 75.5 mph

Space mean speed for all vehicles, S = 62.3 mph

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	AM
Freeway/Direction:	SB SR 99
From/To:	Clinton to Vassar
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	4647	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1263	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1301	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	66.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1301	pc/h/ln
Free-flow speed, FFS	66.0	mi/h
Average passenger-car speed, S	66.0	mi/h
Number of lanes, N	4	
Density, D	19.7	pc/mi/ln

Level of service, LOS	C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Jennifer Emerson
Agency or Company:	CH2M HILL
Date Performed:	7/14/2010
Analysis Time Period:	PM
Freeway/Direction:	SB SR 99
From/To:	Clinton to Vassar
Jurisdiction:	
Analysis Year:	2035
Description: Build 1	

Flow Inputs and Adjustments

Volume, V	4179	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1136	v
Trucks and buses	6	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.971	
Driver population factor, fp	1.00	
Flow rate, vp	1170	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	66.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1170	pc/h/ln
Free-flow speed, FFS	66.0	mi/h
Average passenger-car speed, S	66.0	mi/h
Number of lanes, N	4	
Density, D	17.7	pc/mi/ln

Level of service, LOS	B

Overall results are not computed when free-flow speed is less than 55 mph.

Appendix C
Intersection Analysis Worksheets

Existing No-Build

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	7	310	187	13	15	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	337	203	14	16	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	217				562	210
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	217				562	210
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	99
cM capacity (veh/h)	1346				483	827

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	345	217	23
Volume Left	8	0	16
Volume Right	0	14	7
cSH	1346	1700	549
Volume to Capacity	0.01	0.13	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.2	0.0	11.8
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	11.8
Approach LOS			B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	223	175	299	334	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	242	190	325	363	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			433		1255	242
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			433		1255	242
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			71		100	100
cM capacity (veh/h)			1122		134	794

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	242	190	325	363
Volume Left	0	0	325	0
Volume Right	0	190	0	0
cSH	1700	1700	1122	1700
Volume to Capacity	0.14	0.11	0.29	0.21
Queue Length 95th (ft)	0	0	30	0
Control Delay (s)	0.0	0.0	9.5	0.0
Lane LOS			A	
Approach Delay (s)	0.0		4.5	
Approach LOS				

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	227	0	0	501	141	137
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	247	0	0	545	153	149
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1094		
pX, platoon unblocked					0.86	
vC, conflicting volume			247		791	247
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			247		671	247
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		57	81
cM capacity (veh/h)			1313		359	790

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	247	545	302
Volume Left	0	0	153
Volume Right	0	0	149
cSH	1700	1700	708
Volume to Capacity	0.15	0.32	0.43
Queue Length 95th (ft)	0	0	54
Control Delay (s)	0.0	0.0	16.5
Lane LOS			C
Approach Delay (s)	0.0	0.0	16.5
Approach LOS			C

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	22	227	8	120	331	50	204	147	35	10	45	22
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3303		1660	3255		1660	3320	1485	1660	3320	1485
Flt Permitted	0.42	1.00		0.59	1.00		0.72	1.00	1.00	0.65	1.00	1.00
Satd. Flow (perm)	731	3303		1037	3255		1264	3320	1485	1137	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	247	9	130	360	54	222	160	38	11	49	24
RTOR Reduction (vph)	0	4	0	0	19	0	0	0	14	0	0	9
Lane Group Flow (vph)	24	252	0	130	395	0	222	160	24	11	49	15
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6		6	2		2
Actuated Green, G (s)	14.0	14.0		14.0	14.0		39.2	39.2	39.2	39.2	39.2	39.2
Effective Green, g (s)	14.0	14.0		14.0	14.0		39.2	39.2	39.2	39.2	39.2	39.2
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.64	0.64	0.64	0.64	0.64	0.64
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	167	756		237	745		810	2127	951	728	2127	951
v/s Ratio Prot		0.08			0.12			0.05			0.01	
v/s Ratio Perm	0.03			c0.13			c0.18		0.02	0.01		0.01
v/c Ratio	0.14	0.33		0.55	0.53		0.27	0.08	0.03	0.02	0.02	0.02
Uniform Delay, d1	18.8	19.7		20.8	20.7		4.8	4.2	4.0	4.0	4.0	4.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.3		2.6	0.7		0.8	0.1	0.0	0.0	0.0	0.0
Delay (s)	19.2	20.0		23.4	21.4		5.6	4.2	4.1	4.0	4.0	4.0
Level of Service	B	B		C	C		A	A	A	A	A	A
Approach Delay (s)		19.9			21.9			5.0			4.0	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	61.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	427	59	39	220	57	31	80	42	64	125	76
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	464	64	42	239	62	34	87	46	70	136	83
RTOR Reduction (vph)	0	0	44	0	0	48	0	0	37	0	0	64
Lane Group Flow (vph)	75	464	20	42	239	14	34	87	9	70	136	19
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	5.0	13.4	13.4	1.5	9.9	9.9	2.1	8.5	8.5	3.6	10.0	10.0
Effective Green, g (s)	5.0	13.4	13.4	1.5	9.9	9.9	2.1	8.5	8.5	3.6	10.0	10.0
Actuated g/C Ratio	0.12	0.31	0.31	0.03	0.23	0.23	0.05	0.20	0.20	0.08	0.23	0.23
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	193	1035	463	58	764	342	81	656	294	139	772	345
v/s Ratio Prot	0.05	c0.14		c0.03	0.07		0.02	0.03		c0.04	c0.04	
v/s Ratio Perm			0.01			0.01			0.01			0.01
v/c Ratio	0.39	0.45	0.04	0.72	0.31	0.04	0.42	0.13	0.03	0.50	0.18	0.06
Uniform Delay, d1	17.6	11.8	10.3	20.5	13.7	12.9	19.9	14.2	13.9	18.8	13.2	12.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.3	0.0	35.9	0.2	0.1	3.5	0.1	0.0	2.9	0.1	0.1
Delay (s)	18.9	12.2	10.4	56.4	14.0	12.9	23.3	14.3	14.0	21.7	13.3	12.9
Level of Service	B	B	B	E	B	B	C	B	B	C	B	B
Approach Delay (s)		12.8			19.0			16.1			15.2	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	43.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	570	35	94	359	163	46	63	145	243	117	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.95		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1660	3292		1660	3165		1660	1564		1660	1748	1485
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1660	3292		1660	3165		1660	1564		1660	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	620	38	102	390	177	50	68	158	264	127	25
RTOR Reduction (vph)	0	4	0	0	55	0	0	78	0	0	0	15
Lane Group Flow (vph)	33	654	0	102	512	0	50	148	0	264	127	10
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	2.7	23.3		7.6	28.2		6.7	25.6		18.3	37.2	37.2
Effective Green, g (s)	2.7	23.3		7.6	28.2		6.7	25.6		18.3	37.2	37.2
Actuated g/C Ratio	0.03	0.26		0.08	0.31		0.07	0.28		0.20	0.41	0.41
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	49	845		139	983		122	441		335	716	608
v/s Ratio Prot	0.02	c0.20		c0.06	0.16		0.03	c0.09		c0.16	0.07	
v/s Ratio Perm												0.01
v/c Ratio	0.67	0.77		0.73	0.52		0.41	0.33		0.79	0.18	0.02
Uniform Delay, d1	43.6	31.3		40.6	25.7		40.2	25.9		34.4	17.1	15.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	30.8	4.4		18.1	0.5		2.2	2.0		11.6	0.5	0.1
Delay (s)	74.4	35.7		58.7	26.2		42.4	27.9		46.0	17.6	16.0
Level of Service	E	D		E	C		D	C		D	B	B
Approach Delay (s)		37.6			31.2			30.5			35.5	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	34.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	577	362	485	555	5	103
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	627	393	527	603	5	112
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	728			1161		
pX, platoon unblocked			0.84		0.84	0.84
vC, conflicting volume			1021		2180	510
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			641		2022	32
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			33		60	87
cM capacity (veh/h)			783		14	865

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	418	603	527	302	302	5	112
Volume Left	0	0	527	0	0	5	0
Volume Right	0	393	0	0	0	0	112
cSH	1700	1700	783	1700	1700	14	865
Volume to Capacity	0.25	0.35	0.67	0.18	0.18	0.40	0.13
Queue Length 95th (ft)	0	0	133	0	0	25	11
Control Delay (s)	0.0	0.0	18.5	0.0	0.0	390.8	9.8
Lane LOS			C			F	A
Approach Delay (s)	0.0		8.7			27.4	
Approach LOS						D	

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					386							
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1614			1614			1020	893	1081	1020	893	1081

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	0	0	0	0	0	0	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS									A	A	A	A
Approach Delay (s)	0.0				0.0				0.0			
Approach LOS									A			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	82	637	0	0	704	92	229	0	500	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	0.97	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.98		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	3221	3320			5907		3221		2614			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	3221	3320			5907		3221		2614			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	692	0	0	765	100	249	0	543	0	0	0
RTOR Reduction (vph)	0	0	0	0	35	0	0	0	274	0	0	0
Lane Group Flow (vph)	89	692	0	0	830	0	249	0	269	0	0	0
Turn Type	Prot						custom		custom			
Protected Phases	7	4			8							
Permitted Phases							2		2			
Actuated Green, G (s)	3.6	20.4			12.8		10.0		10.0			
Effective Green, g (s)	3.6	20.4			12.8		10.0		10.0			
Actuated g/C Ratio	0.09	0.53			0.33		0.26		0.26			
Clearance Time (s)	4.0	4.0			4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	302	1764			1969		839		681			
v/s Ratio Prot	0.03	c0.21			0.14							
v/s Ratio Perm							0.08		c0.10			
v/c Ratio	0.29	0.39			0.42		0.30		0.39			
Uniform Delay, d1	16.2	5.3			9.9		11.4		11.7			
Progression Factor	1.00	1.00			1.00		1.00		1.00			
Incremental Delay, d2	0.5	0.1			0.1		0.2		0.4			
Delay (s)	16.8	5.5			10.1		11.6		12.1			
Level of Service	B	A			B		B		B			
Approach Delay (s)		6.8			10.1			11.9			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	9.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	38.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	407	450	16	8	238	107	215	146	375	27	116	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.89		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	3320	1485	1660	3166		1660	2962		1660	3274	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1660	3320	1485	1660	3166		1660	2962		1660	3274	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	442	489	17	9	259	116	234	159	408	29	126	13
RTOR Reduction (vph)	0	0	10	0	54	0	0	256	0	0	8	0
Lane Group Flow (vph)	442	489	7	9	321	0	234	311	0	29	131	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	28.4	41.9	41.9	0.7	14.2		17.5	36.6		2.8	21.9	
Effective Green, g (s)	28.4	41.9	41.9	0.7	14.2		17.5	36.6		2.8	21.9	
Actuated g/C Ratio	0.29	0.43	0.43	0.01	0.14		0.18	0.37		0.03	0.22	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	481	1419	635	12	459		296	1106		47	732	
v/s Ratio Prot	c0.27	0.15		0.01	c0.10		c0.14	c0.11		c0.02	0.04	
v/s Ratio Perm			0.00									
v/c Ratio	0.92	0.34	0.01	0.75	0.70		0.79	0.28		0.62	0.18	
Uniform Delay, d1	33.7	18.8	16.1	48.6	39.9		38.5	21.5		47.1	30.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	22.5	0.1	0.0	128.3	4.6		13.4	0.6		21.7	0.5	
Delay (s)	56.2	19.0	16.1	176.8	44.5		51.9	22.1		68.8	31.3	
Level of Service	E	B	B	F	D		D	C		E	C	
Approach Delay (s)		36.3			47.6			30.8			37.8	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	36.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	48	15	0	0	0	2	0	0	0	13	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	52	16	0	0	0	2	0	0	0	14	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	18	18	14	45	40	0	36			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	18	18	14	45	40	0	36			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	94	98	100	100	100	100			100		
cM capacity (veh/h)	992	872	1063	896	849	1082	1569			1617		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	52	16	2	0	14	22
Volume Left	0	0	2	0	0	0
Volume Right	0	16	0	0	0	22
cSH	872	1063	1569	1700	1700	1700
Volume to Capacity	0.06	0.02	0.00	0.00	0.01	0.01
Queue Length 95th (ft)	5	1	0	0	0	0
Control Delay (s)	9.4	8.4	7.3	0.0	0.0	0.0
Lane LOS	A	A	A			
Approach Delay (s)	9.2		7.3		0.0	
Approach LOS	A					

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	16.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	9	314	134	37	7	4	95	51	8	235	111	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	341	146	40	8	4	103	55	9	255	121	9

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	351	146	48	4	103	55	9	255	121	9
Volume Left (vph)	10	0	40	0	103	0	0	255	0	0
Volume Right (vph)	0	146	0	4	0	0	9	0	0	9
Hadj (s)	0.06	-0.55	0.47	-0.65	0.55	0.05	-0.65	0.55	0.05	-0.65
Departure Headway (s)	6.1	3.2	7.2	6.1	7.0	6.5	3.2	6.6	6.1	3.2
Degree Utilization, x	0.60	0.13	0.10	0.01	0.20	0.10	0.01	0.47	0.21	0.01
Capacity (veh/h)	561	1121	447	531	484	517	1121	514	562	1121
Control Delay (s)	17.9	6.7	9.7	7.9	10.5	9.0	5.0	14.2	9.5	5.0
Approach Delay (s)	14.6		9.6		9.7			12.5		
Approach LOS	B		A		A			B		

Intersection Summary			
Delay	12.9		
HCM Level of Service	B		
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	414	23	6	144	15	20	8	8	20	8	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	450	25	7	157	16	22	9	9	22	9	21

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	490	163	16	39	51
Volume Left (vph)	15	7	0	22	22
Volume Right (vph)	25	0	16	9	21
Hadj (s)	0.03	0.07	-0.65	0.03	-0.11
Departure Headway (s)	4.5	5.2	4.5	5.6	5.4
Degree Utilization, x	0.61	0.24	0.02	0.06	0.08
Capacity (veh/h)	777	664	766	560	584
Control Delay (s)	14.4	8.6	6.4	8.9	8.8
Approach Delay (s)	14.4	8.4		8.9	8.8
Approach LOS	B	A		A	A

Intersection Summary			
Delay	12.3		
HCM Level of Service	B		
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	33	167	15	39	53	22	17	108	18	64	79	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	182	16	42	58	24	18	117	20	70	86	16

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	36	198	42	82	18	137	70	102
Volume Left (vph)	36	0	42	0	18	0	70	0
Volume Right (vph)	0	16	0	24	0	20	0	16
Hadj (s)	0.55	-0.01	0.55	-0.15	0.55	-0.05	0.55	-0.06
Departure Headway (s)	6.1	5.5	6.2	5.5	6.2	5.6	6.2	5.6
Degree Utilization, x	0.06	0.30	0.07	0.12	0.03	0.21	0.12	0.16
Capacity (veh/h)	559	622	546	615	547	606	549	609
Control Delay (s)	8.3	9.7	8.5	8.1	8.2	8.9	8.8	8.4
Approach Delay (s)	9.5		8.2		8.8		8.6	
Approach LOS	A		A		A		A	

Intersection Summary			
Delay	8.9		
HCM Level of Service	A		
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	57	180	47	17	75	18	75	187	18	19	115	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	62	196	51	18	82	20	82	203	20	21	125	43

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	309	100	20	285	20	189
Volume Left (vph)	62	18	0	82	0	21
Volume Right (vph)	51	0	20	0	20	43
Hadj (s)	-0.01	0.14	-0.65	0.19	-0.65	-0.07
Departure Headway (s)	6.3	6.8	6.0	6.4	5.6	6.4
Degree Utilization, x	0.54	0.19	0.03	0.51	0.03	0.34
Capacity (veh/h)	543	474	529	528	605	517
Control Delay (s)	16.4	10.2	8.0	14.6	7.5	12.7
Approach Delay (s)	16.4	9.8		14.2		12.7
Approach LOS	C	A		B		B

Intersection Summary			
Delay	14.0		
HCM Level of Service	B		
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1052	31	133	397	0	25	0	327	108	11	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.90	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		1485	1660	2980	
Flt Permitted		1.00	1.00	0.95	1.00		0.20		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		350		1485	1660	2980	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1143	34	145	432	0	27	0	355	117	12	26
RTOR Reduction (vph)	0	0	19	0	0	0	0	0	323	0	22	0
Lane Group Flow (vph)	0	1143	15	145	432	0	27	0	32	117	16	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		37.4	37.4	9.0	50.4		20.0		9.0	16.0	16.0	
Effective Green, g (s)		37.4	37.4	9.0	50.4		20.0		9.0	16.0	16.0	
Actuated g/C Ratio		0.38	0.38	0.09	0.51		0.20		0.09	0.16	0.16	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1262	564	152	1700		71		136	270	485	
v/s Ratio Prot		c0.34		c0.09	0.13				0.02	c0.07	0.01	
v/s Ratio Perm			0.01				c0.08					
v/c Ratio		0.91	0.03	0.95	0.25		0.38		0.24	0.43	0.03	
Uniform Delay, d1		28.8	19.1	44.5	13.5		33.8		41.5	37.1	34.7	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		9.4	0.0	58.8	0.1		14.8		0.9	5.0	0.1	
Delay (s)		38.3	19.1	103.3	13.5		48.6		42.4	42.1	34.8	
Level of Service		D	B	F	B		D		D	D	C	
Approach Delay (s)		37.7			36.1			42.9			40.3	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	38.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	98.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	152	704	0	0	410	692	159	113	399	124	0	104
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97		1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.92	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1660	3320			3320	1485	1577	1460	1411	3221		1485
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.56		1.00
Satd. Flow (perm)	1660	3320			3320	1485	1577	1460	1411	1912		1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	765	0	0	446	752	173	123	434	135	0	113
RTOR Reduction (vph)	0	0	0	0	0	460	0	38	152	0	0	93
Lane Group Flow (vph)	165	765	0	0	446	292	156	258	126	135	0	20
Turn Type	Prot					Perm	Split		Perm	custom		custom
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2	6		6
Actuated Green, G (s)	11.1	39.2			24.1	24.1	22.2	22.2	22.2	16.2		16.2
Effective Green, g (s)	11.1	39.2			24.1	24.1	22.2	22.2	22.2	16.2		16.2
Actuated g/C Ratio	0.12	0.44			0.27	0.27	0.25	0.25	0.25	0.18		0.18
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	206	1453			893	399	391	362	350	346		268
v/s Ratio Prot	c0.10	0.23			0.13		0.10	c0.18				
v/s Ratio Perm						c0.20			0.09	c0.07		0.01
v/c Ratio	0.80	0.53			0.50	0.73	0.40	0.71	0.36	0.39		0.08
Uniform Delay, d1	38.2	18.4			27.7	29.8	28.1	30.8	27.8	32.3		30.5
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	19.6	0.3			0.4	6.8	3.0	11.3	2.9	3.3		0.6
Delay (s)	57.8	18.8			28.1	36.6	31.2	42.1	30.7	35.6		31.0
Level of Service	E	B			C	D	C	D	C	D		C
Approach Delay (s)		25.7			33.4			35.4			33.5	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	31.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	89.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	0	0	3	1	13	17	256	565	359	143	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	0	0	3	1	14	18	278	614	390	155	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								290				
pX, platoon unblocked												
vC, conflicting volume	1127	1865	78	1480	1558	446	155			892		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1127	1865	78	1480	1558	446	155			892		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	94	98	97	99			48		
cM capacity (veh/h)	89	34	964	50	52	557	1415			749		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	1	3	15	18	186	707	390	78	78
Volume Left	1	3	0	18	0	0	390	0	0
Volume Right	0	0	14	0	0	614	0	0	0
cSH	89	50	329	1415	1700	1700	749	1700	1700
Volume to Capacity	0.01	0.06	0.05	0.01	0.11	0.42	0.52	0.05	0.05
Queue Length 95th (ft)	1	5	4	1	0	0	76	0	0
Control Delay (s)	46.1	81.3	16.5	7.6	0.0	0.0	14.9	0.0	0.0
Lane LOS	E	F	C	A			B		
Approach Delay (s)	46.1	27.9		0.2			10.7		
Approach LOS	E	D							

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	6	586	32	272	741	73	67	305	23	28	217	369
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	637	35	296	805	79	73	332	25	30	236	401
RTOR Reduction (vph)	0	0	26	0	0	37	0	0	19	0	0	327
Lane Group Flow (vph)	7	637	9	296	805	42	73	332	6	30	236	74
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8			6			2
Actuated Green, G (s)	0.6	19.6	19.6	21.3	40.3	40.3	4.4	17.0	17.0	1.3	13.9	13.9
Effective Green, g (s)	0.6	19.6	19.6	21.3	40.3	40.3	4.4	17.0	17.0	1.3	13.9	13.9
Actuated g/C Ratio	0.01	0.26	0.26	0.28	0.54	0.54	0.06	0.23	0.23	0.02	0.18	0.18
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	13	865	387	470	1779	796	97	751	336	29	614	274
v/s Ratio Prot	0.00	c0.19		c0.18	0.24		c0.04	c0.10		0.02	0.07	
v/s Ratio Perm			0.01			0.03			0.00			0.05
v/c Ratio	0.54	0.74	0.02	0.63	0.45	0.05	0.75	0.44	0.02	1.03	0.38	0.27
Uniform Delay, d1	37.2	25.4	20.7	23.5	10.7	8.3	34.9	25.0	22.6	37.0	26.9	26.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	36.8	3.3	0.0	2.6	0.2	0.0	27.6	0.4	0.0	177.9	0.4	0.5
Delay (s)	73.9	28.7	20.7	26.2	10.9	8.4	62.5	25.4	22.6	214.9	27.3	26.8
Level of Service	E	C	C	C	B	A	E	C	C	F	C	C
Approach Delay (s)		28.8			14.5			31.6			35.5	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM Average Control Delay	25.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	75.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	7	294	347	15	23	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	320	377	16	25	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	393				720	385
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	393				720	385
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				94	98
cM capacity (veh/h)	1160				391	660

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	327	393	39
Volume Left	8	0	25
Volume Right	0	16	14
cSH	1160	1700	458
Volume to Capacity	0.01	0.23	0.09
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.3	0.0	13.6
Lane LOS	A		B
Approach Delay (s)	0.3	0.0	13.6
Approach LOS			B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	219	144	187	405	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	238	157	203	440	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			395		1085	238
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			395		1085	238
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			82		100	100
cM capacity (veh/h)			1159		197	798

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	238	157	203	440
Volume Left	0	0	203	0
Volume Right	0	157	0	0
cSH	1700	1700	1159	1700
Volume to Capacity	0.14	0.09	0.18	0.26
Queue Length 95th (ft)	0	0	16	0
Control Delay (s)	0.0	0.0	8.8	0.0
Lane LOS			A	
Approach Delay (s)	0.0		2.8	
Approach LOS				

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	230	0	0	462	154	202
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	250	0	0	502	167	220
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1094		
pX, platoon unblocked					0.81	
vC, conflicting volume			250		752	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			250		578	250
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		57	72
cM capacity (veh/h)			1310		386	786

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	250	502	387
Volume Left	0	0	167
Volume Right	0	0	220
cSH	1700	1700	893
Volume to Capacity	0.15	0.30	0.43
Queue Length 95th (ft)	0	0	55
Control Delay (s)	0.0	0.0	15.6
Lane LOS			C
Approach Delay (s)	0.0	0.0	15.6
Approach LOS			C

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	57	374	17	75	405	74	102	55	39	27	178	54
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3299		1660	3244		1660	3320	1485	1660	3320	1485
Flt Permitted	0.35	1.00		0.44	1.00		0.63	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	614	3299		768	3244		1102	3320	1485	1251	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	407	18	82	440	80	111	60	42	29	193	59
RTOR Reduction (vph)	0	6	0	0	27	0	0	0	17	0	0	24
Lane Group Flow (vph)	62	419	0	82	493	0	111	60	25	29	193	35
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6		6	2		2
Actuated Green, G (s)	14.3	14.3		14.3	14.3		33.1	33.1	33.1	33.1	33.1	33.1
Effective Green, g (s)	14.3	14.3		14.3	14.3		33.1	33.1	33.1	33.1	33.1	33.1
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.60	0.60	0.60	0.60	0.60	0.60
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	158	852		198	837		658	1984	887	747	1984	887
v/s Ratio Prot		0.13			c0.15			0.02			0.06	
v/s Ratio Perm	0.10			0.11			c0.10		0.02	0.02		0.02
v/c Ratio	0.39	0.49		0.41	0.59		0.17	0.03	0.03	0.04	0.10	0.04
Uniform Delay, d1	17.0	17.5		17.1	18.0		5.0	4.6	4.6	4.6	4.8	4.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.4		1.4	1.1		0.6	0.0	0.1	0.1	0.1	0.1
Delay (s)	18.6	17.9		18.5	19.0		5.5	4.6	4.6	4.7	4.9	4.7
Level of Service	B	B		B	B		A	A	A	A	A	A
Approach Delay (s)		18.0			19.0			5.1			4.8	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	55.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	131	308	43	97	353	131	50	214	73	91	183	91
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	142	335	47	105	384	142	54	233	79	99	199	99
RTOR Reduction (vph)	0	0	35	0	0	108	0	0	63	0	0	74
Lane Group Flow (vph)	142	335	12	105	384	34	54	233	16	99	199	25
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	8.4	14.9	14.9	7.3	13.8	13.8	4.3	11.8	11.8	7.0	14.5	14.5
Effective Green, g (s)	8.4	14.9	14.9	7.3	13.8	13.8	4.3	11.8	11.8	7.0	14.5	14.5
Actuated g/C Ratio	0.15	0.26	0.26	0.13	0.24	0.24	0.08	0.21	0.21	0.12	0.25	0.25
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	245	868	388	213	804	360	125	687	307	204	845	378
v/s Ratio Prot	c0.09	0.10		0.06	c0.12		0.03	c0.07		c0.06	c0.06	
v/s Ratio Perm			0.01			0.02			0.01			0.02
v/c Ratio	0.58	0.39	0.03	0.49	0.48	0.10	0.43	0.34	0.05	0.49	0.24	0.07
Uniform Delay, d1	22.7	17.3	15.7	23.1	18.5	16.8	25.2	19.3	18.1	23.3	16.9	16.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	0.3	0.0	1.8	0.4	0.1	2.4	0.3	0.1	1.8	0.1	0.1
Delay (s)	26.0	17.6	15.7	24.9	19.0	16.9	27.6	19.6	18.2	25.1	17.0	16.2
Level of Service	C	B	B	C	B	B	C	B	B	C	B	B
Approach Delay (s)		19.7			19.5			20.5			18.8	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	57.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	504	37	135	783	471	47	99	162	189	62	47
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.94		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1660	3287		1660	3133		1660	1585		1660	1748	1485
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1660	3287		1660	3133		1660	1585		1660	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	548	40	147	851	512	51	108	176	205	67	51
RTOR Reduction (vph)	0	6	0	0	90	0	0	57	0	0	0	34
Lane Group Flow (vph)	35	582	0	147	1273	0	51	227	0	205	67	17
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	2.3	22.8		20.9	41.4		6.9	24.9		14.3	32.3	32.3
Effective Green, g (s)	2.3	22.8		20.9	41.4		6.9	24.9		14.3	32.3	32.3
Actuated g/C Ratio	0.02	0.23		0.21	0.42		0.07	0.25		0.14	0.33	0.33
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	39	758		351	1311		116	399		240	571	485
v/s Ratio Prot	0.02	c0.18		0.09	c0.41		0.03	c0.14		c0.12	0.04	
v/s Ratio Perm												0.01
v/c Ratio	0.90	0.77		0.42	0.97		0.44	0.57		0.85	0.12	0.03
Uniform Delay, d1	48.2	35.6		33.7	28.2		44.1	32.3		41.3	23.3	22.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	103.0	4.7		0.8	18.2		2.7	5.8		24.4	0.4	0.1
Delay (s)	151.2	40.3		34.6	46.4		46.8	38.1		65.6	23.7	22.8
Level of Service	F	D		C	D		D	D		E	C	C
Approach Delay (s)		46.5			45.2			39.4			50.2	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	45.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	98.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	572	213	396	1264	15	125
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	622	232	430	1374	16	136
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	738			1151		
pX, platoon unblocked			0.87		0.87	0.87
vC, conflicting volume			853		2285	427
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			526		2176	34
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			52		7	85
cM capacity (veh/h)			894		18	892

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	414	439	430	687	687	16	136
Volume Left	0	0	430	0	0	16	0
Volume Right	0	232	0	0	0	0	136
cSH	1700	1700	894	1700	1700	18	892
Volume to Capacity	0.24	0.26	0.48	0.40	0.40	0.93	0.15
Queue Length 95th (ft)	0	0	67	0	0	60	13
Control Delay (s)	0.0	0.0	12.7	0.0	0.0	487.1	9.8
Lane LOS			B			F	A
Approach Delay (s)	0.0		3.0			60.9	
Approach LOS						F	

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					386							
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1614			1614			1020	893	1081	1020	893	1081

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	0	0	0	0	0	0	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS									A	A	A	A
Approach Delay (s)	0.0				0.0				0.0			
Approach LOS									A			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	677	0	0	960	118	586	0	723	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	0.97	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.98		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	3221	3320			5913		3221		2614			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	3221	3320			5913		3221		2614			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	736	0	0	1043	128	637	0	786	0	0	0
RTOR Reduction (vph)	0	0	0	0	33	0	0	0	220	0	0	0
Lane Group Flow (vph)	84	736	0	0	1138	0	637	0	566	0	0	0
Turn Type	Prot						custom		custom			
Protected Phases	7	4			8							
Permitted Phases							2		2			
Actuated Green, G (s)	3.7	22.8			15.1		15.9		15.9			
Effective Green, g (s)	3.7	22.8			15.1		15.9		15.9			
Actuated g/C Ratio	0.08	0.49			0.32		0.34		0.34			
Clearance Time (s)	4.0	4.0			4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	255	1621			1912		1097		890			
v/s Ratio Prot	0.03	c0.22			c0.19							
v/s Ratio Perm							0.20		c0.22			
v/c Ratio	0.33	0.45			0.60		0.58		0.64			
Uniform Delay, d1	20.3	7.9			13.2		12.7		13.0			
Progression Factor	1.00	1.00			1.00		1.00		1.00			
Incremental Delay, d2	0.8	0.2			0.5		0.8		1.5			
Delay (s)	21.1	8.1			13.7		13.4		14.5			
Level of Service	C	A			B		B		B			
Approach Delay (s)		9.4			13.7			14.0			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	46.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	568	568	16	6	492	181	201	114	418	27	225	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.88		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	3320	1485	1660	3186		1660	2929		1660	3281	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1660	3320	1485	1660	3186		1660	2929		1660	3281	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	617	617	17	7	535	197	218	124	454	29	245	21
RTOR Reduction (vph)	0	0	8	0	38	0	0	326	0	0	7	0
Lane Group Flow (vph)	617	617	9	7	694	0	218	252	0	29	259	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	33.2	55.4	55.4	0.8	23.0		14.0	29.6		3.0	18.6	
Effective Green, g (s)	33.2	55.4	55.4	0.8	23.0		14.0	29.6		3.0	18.6	
Actuated g/C Ratio	0.32	0.53	0.53	0.01	0.22		0.13	0.28		0.03	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	526	1755	785	13	699		222	827		48	582	
v/s Ratio Prot	c0.37	0.19		0.00	c0.22		c0.13	0.09		0.02	c0.08	
v/s Ratio Perm			0.01									
v/c Ratio	1.17	0.35	0.01	0.54	0.99		0.98	0.30		0.60	0.45	
Uniform Delay, d1	35.8	14.3	11.7	51.8	40.8		45.3	29.5		50.3	38.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	96.6	0.1	0.0	36.8	32.0		55.0	1.0		19.6	2.5	
Delay (s)	132.4	14.4	11.7	88.6	72.8		100.3	30.5		69.9	41.0	
Level of Service	F	B	B	F	E		F	C		E	D	
Approach Delay (s)		72.6			73.0			49.6			43.8	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	64.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	104.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	26	8	0	0	0	20	0	2	0	6	17
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	28	9	0	0	0	22	0	2	0	7	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	50	52	7	64	68	0	25			2		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	50	52	7	64	68	0	25			2		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	97	99	100	100	100	99			100		
cM capacity (veh/h)	937	826	1073	887	809	1082	1583			1614		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	28	9	22	2	7	18
Volume Left	0	0	22	0	0	0
Volume Right	0	9	0	2	0	18
cSH	826	1073	1583	1700	1700	1700
Volume to Capacity	0.03	0.01	0.01	0.00	0.00	0.01
Queue Length 95th (ft)	3	1	1	0	0	0
Control Delay (s)	9.5	8.4	7.3	0.0	0.0	0.0
Lane LOS	A	A	A			
Approach Delay (s)	9.2		6.6		0.0	
Approach LOS	A					

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	21.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	112	180	17	39	20	3	334	183	10	95	81	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	122	196	18	42	22	3	363	199	11	103	88	15

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	317	18	64	3	363	199	11	103	88	15
Volume Left (vph)	122	0	42	0	363	0	0	103	0	0
Volume Right (vph)	0	18	0	3	0	0	11	0	0	15
Hadj (s)	0.13	-0.55	0.38	-0.65	0.55	0.05	-0.65	0.55	0.05	-0.65
Departure Headway (s)	6.7	3.2	7.7	6.6	6.8	6.3	3.2	7.3	6.8	3.2
Degree Utilization, x	0.59	0.02	0.14	0.01	0.68	0.35	0.01	0.21	0.17	0.01
Capacity (veh/h)	513	1121	416	483	516	560	1121	462	493	1121
Control Delay (s)	18.9	6.3	10.7	8.5	21.8	11.3	5.0	11.1	10.0	5.0
Approach Delay (s)	18.2		10.6		17.9			10.2		
Approach LOS	C		B		C			B		

Intersection Summary			
Delay	16.2		
HCM Level of Service	C		
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	258	29	3	308	31	42	25	9	26	26	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	280	32	3	335	34	46	27	10	28	28	45

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	328	338	34	83	101
Volume Left (vph)	16	3	0	46	28
Volume Right (vph)	32	0	34	10	45
Hadj (s)	0.00	0.06	-0.65	0.09	-0.16
Departure Headway (s)	5.1	5.5	4.8	6.0	5.7
Degree Utilization, x	0.46	0.51	0.04	0.14	0.16
Capacity (veh/h)	678	638	727	523	555
Control Delay (s)	12.4	12.9	6.8	9.9	9.7
Approach Delay (s)	12.4	12.3		9.9	9.7
Approach LOS	B	B		A	A

Intersection Summary			
Delay	11.8		
HCM Level of Service	B		
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	44	100	20	89	116	52	38	255	60	61	174	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	109	22	97	126	57	41	277	65	66	189	21

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	48	130	97	183	41	342	66	210
Volume Left (vph)	48	0	97	0	41	0	66	0
Volume Right (vph)	0	22	0	57	0	65	0	21
Hadj (s)	0.55	-0.07	0.55	-0.17	0.55	-0.08	0.55	-0.02
Departure Headway (s)	7.4	6.8	7.2	6.5	6.9	6.2	7.0	6.5
Degree Utilization, x	0.10	0.25	0.19	0.33	0.08	0.59	0.13	0.38
Capacity (veh/h)	449	491	466	518	499	548	483	529
Control Delay (s)	10.0	10.8	10.8	11.5	9.3	16.7	9.9	12.1
Approach Delay (s)	10.6		11.3		15.9		11.6	
Approach LOS	B		B		C		B	

Intersection Summary			
Delay	12.8		
HCM Level of Service	B		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	32	51	43	43	119	21	68	232	24	15	273	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	55	47	47	129	23	74	252	26	16	297	32

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	137	176	23	326	26	345
Volume Left (vph)	35	47	0	74	0	16
Volume Right (vph)	47	0	23	0	26	32
Hadj (s)	-0.10	0.18	-0.65	0.16	-0.65	0.01
Departure Headway (s)	7.1	7.2	6.3	6.5	5.6	6.4
Degree Utilization, x	0.27	0.35	0.04	0.58	0.04	0.61
Capacity (veh/h)	443	457	510	531	604	544
Control Delay (s)	12.7	12.8	8.4	17.0	7.7	18.8
Approach Delay (s)	12.7	12.3		16.3		18.8
Approach LOS	B	B		C		C

Intersection Summary			
Delay	15.9		
HCM Level of Service	C		
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	650	28	339	1153	0	42	0	359	144	42	70
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.91	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		1485	1660	3010	
Flt Permitted		1.00	1.00	0.95	1.00		0.17		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		304		1485	1660	3010	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	707	30	368	1253	0	46	0	390	157	46	76
RTOR Reduction (vph)	0	0	23	0	0	0	0	0	319	0	63	0
Lane Group Flow (vph)	0	707	7	368	1253	0	46	0	71	157	59	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		24.4	24.4	18.0	46.4		23.0		18.0	17.0	17.0	
Effective Green, g (s)		24.4	24.4	18.0	46.4		23.0		18.0	17.0	17.0	
Actuated g/C Ratio		0.25	0.25	0.18	0.47		0.23		0.18	0.17	0.17	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		823	368	304	1566		71		272	287	520	
v/s Ratio Prot		c0.21		c0.22	0.38				0.05	c0.09	0.02	
v/s Ratio Perm			0.01				c0.15					
v/c Ratio		0.86	0.02	1.21	0.80		0.65		0.26	0.55	0.11	
Uniform Delay, d1		35.4	28.0	40.2	22.1		34.0		34.5	37.2	34.3	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		8.9	0.0	121.3	3.0		37.7		0.5	7.3	0.4	
Delay (s)		44.2	28.0	161.5	25.1		71.7		35.0	44.5	34.8	
Level of Service		D	C	F	C		E		D	D	C	
Approach Delay (s)		43.6			56.1			38.9			40.2	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	49.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	98.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	164	737	0	0	1093	476	304	114	571	236	0	241
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97		1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.91	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1660	3320			3320	1485	1577	1440	1411	3221		1485
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.51		1.00
Satd. Flow (perm)	1660	3320			3320	1485	1577	1440	1411	1723		1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	178	801	0	0	1188	517	330	124	621	257	0	262
RTOR Reduction (vph)	0	0	0	0	0	268	0	55	99	0	0	186
Lane Group Flow (vph)	178	801	0	0	1188	249	297	344	280	257	0	76
Turn Type	Prot					Perm	Split		Perm	custom		custom
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2	6		6
Actuated Green, G (s)	10.0	49.0			35.0	35.0	23.0	23.0	23.0	16.0		16.0
Effective Green, g (s)	10.0	49.0			35.0	35.0	23.0	23.0	23.0	16.0		16.0
Actuated g/C Ratio	0.10	0.49			0.35	0.35	0.23	0.23	0.23	0.16		0.16
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	166	1627			1162	520	363	331	325	276		238
v/s Ratio Prot	c0.11	0.24			c0.36		0.19	c0.24				
v/s Ratio Perm						0.17			0.20	c0.15		0.05
v/c Ratio	1.07	0.49			1.02	0.48	0.82	1.04	0.86	0.93		0.32
Uniform Delay, d1	45.0	17.1			32.5	25.4	36.5	38.5	37.0	41.5		37.2
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	90.4	0.2			32.2	0.7	18.2	59.7	24.8	39.0		3.5
Delay (s)	135.4	17.4			64.7	26.1	54.8	98.2	61.8	80.5		40.6
Level of Service	F	B			E	C	D	F	E	F		D
Approach Delay (s)		38.8			53.0			73.4			60.4	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM Average Control Delay	55.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	1	20	2	1	29	218	541	348	293	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	1	22	2	1	32	237	588	378	318	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								290				
pX, platoon unblocked												
vC, conflicting volume	1260	1965	161	1511	1672	412	322			825		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1260	1965	161	1511	1672	412	322			825		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	57	95	100	97			52		
cM capacity (veh/h)	75	31	853	50	48	586	1228			795		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	1	22	3	32	158	667	378	212	109
Volume Left	0	22	0	32	0	0	378	0	0
Volume Right	1	0	1	0	0	588	0	0	3
cSH	853	50	69	1228	1700	1700	795	1700	1700
Volume to Capacity	0.00	0.43	0.05	0.03	0.09	0.39	0.48	0.12	0.06
Queue Length 95th (ft)	0	40	4	2	0	0	65	0	0
Control Delay (s)	9.2	122.7	59.7	8.0	0.0	0.0	13.6	0.0	0.0
Lane LOS	A	F	F	A			B		
Approach Delay (s)	9.2	114.4		0.3			7.3		
Approach LOS	A	F							

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	10	839	21	339	1344	89	94	170	12	44	382	617
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	912	23	368	1461	97	102	185	13	48	415	671
RTOR Reduction (vph)	0	0	16	0	0	45	0	0	9	0	0	318
Lane Group Flow (vph)	11	912	7	368	1461	52	102	185	4	48	415	353
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8			6			2
Actuated Green, G (s)	0.8	28.1	28.1	22.5	49.8	49.8	6.1	27.6	27.6	5.5	27.0	27.0
Effective Green, g (s)	0.8	28.1	28.1	22.5	49.8	49.8	6.1	27.6	27.6	5.5	27.0	27.0
Actuated g/C Ratio	0.01	0.28	0.28	0.23	0.50	0.50	0.06	0.28	0.28	0.06	0.27	0.27
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	13	936	419	375	1658	742	102	919	411	92	899	402
v/s Ratio Prot	0.01	c0.27		c0.22	0.44		c0.06	0.06		0.03	0.12	
v/s Ratio Perm			0.00			0.04			0.00			c0.24
v/c Ratio	0.85	0.97	0.02	0.98	0.88	0.07	1.00	0.20	0.01	0.52	0.46	0.88
Uniform Delay, d1	49.4	35.4	25.8	38.4	22.3	12.9	46.8	27.6	26.1	45.8	30.3	34.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	166.4	23.1	0.0	41.3	5.9	0.0	89.1	0.1	0.0	5.3	0.4	19.0
Delay (s)	215.8	58.6	25.9	79.7	28.2	13.0	135.9	27.7	26.1	51.1	30.7	53.8
Level of Service	F	E	C	E	C	B	F	C	C	D	C	D
Approach Delay (s)		59.6			37.2			64.4			45.2	
Approach LOS		E			D			E			D	

Intersection Summary			
HCM Average Control Delay	46.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	99.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Existing Build

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	27	320	187	13	5	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	29	348	203	14	5	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	217				617	210
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	217				617	210
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	98
cM capacity (veh/h)	1346				442	827

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	377	217	23
Volume Left	29	0	5
Volume Right	0	14	17
cSH	1346	1700	685
Volume to Capacity	0.02	0.13	0.03
Queue Length 95th (ft)	2	0	3
Control Delay (s)	0.8	0.0	10.4
Lane LOS	A		B
Approach Delay (s)	0.8	0.0	10.4
Approach LOS			B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	223	175	279	334	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	242	190	303	363	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			433		1212	242
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			433		1212	242
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			73		100	100
cM capacity (veh/h)			1122		146	794

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	242	190	303	363
Volume Left	0	0	303	0
Volume Right	0	190	0	0
cSH	1700	1700	1122	1700
Volume to Capacity	0.14	0.11	0.27	0.21
Queue Length 95th (ft)	0	0	27	0
Control Delay (s)	0.0	0.0	9.4	0.0
Lane LOS			A	
Approach Delay (s)	0.0		4.3	
Approach LOS				

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	227	0	0	481	141	137
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	247	0	0	523	153	149
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1094		
pX, platoon unblocked					0.85	
vC, conflicting volume			247		770	247
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			247		644	247
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		59	81
cM capacity (veh/h)			1313		372	790

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	247	523	302
Volume Left	0	0	153
Volume Right	0	0	149
cSH	1700	1700	733
Volume to Capacity	0.15	0.31	0.41
Queue Length 95th (ft)	0	0	51
Control Delay (s)	0.0	0.0	16.0
Lane LOS			C
Approach Delay (s)	0.0	0.0	16.0
Approach LOS			C

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	22	227	8	120	331	50	204	147	15	10	45	22
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3303		1660	3255		1660	3320	1485	1660	3320	1485
Flt Permitted	0.41	1.00		0.59	1.00		0.72	1.00	1.00	0.65	1.00	1.00
Satd. Flow (perm)	724	3303		1037	3255		1264	3320	1485	1137	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	247	9	130	360	54	222	160	16	11	49	24
RTOR Reduction (vph)	0	4	0	0	19	0	0	0	6	0	0	9
Lane Group Flow (vph)	24	252	0	130	395	0	222	160	10	11	49	15
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6		6	2		2
Actuated Green, G (s)	14.1	14.1		14.1	14.1		40.2	40.2	40.2	40.2	40.2	40.2
Effective Green, g (s)	14.1	14.1		14.1	14.1		40.2	40.2	40.2	40.2	40.2	40.2
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.65	0.65	0.65	0.65	0.65	0.65
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	164	748		235	737		816	2142	958	734	2142	958
v/s Ratio Prot		0.08			0.12			0.05			0.01	
v/s Ratio Perm	0.03			c0.13			c0.18		0.01	0.01		0.01
v/c Ratio	0.15	0.34		0.55	0.54		0.27	0.07	0.01	0.01	0.02	0.02
Uniform Delay, d1	19.3	20.2		21.3	21.2		4.8	4.1	3.9	4.0	4.0	4.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.3		2.8	0.8		0.8	0.1	0.0	0.0	0.0	0.0
Delay (s)	19.7	20.5		24.1	22.0		5.6	4.2	4.0	4.0	4.0	4.0
Level of Service	B	C		C	C		A	A	A	A	A	A
Approach Delay (s)		20.4			22.5			5.0			4.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	427	59	39	220	77	31	80	42	198	125	76
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	464	64	42	239	84	34	87	46	215	136	83
RTOR Reduction (vph)	0	0	47	0	0	68	0	0	38	0	0	52
Lane Group Flow (vph)	75	464	17	42	239	16	34	87	8	215	136	31
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	6.7	15.4	15.4	2.4	11.1	11.1	2.4	10.6	10.6	13.2	21.4	21.4
Effective Green, g (s)	6.7	15.4	15.4	2.4	11.1	11.1	2.4	10.6	10.6	13.2	21.4	21.4
Actuated g/C Ratio	0.12	0.27	0.27	0.04	0.19	0.19	0.04	0.18	0.18	0.23	0.37	0.37
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	193	888	397	69	640	286	69	611	273	380	1233	552
v/s Ratio Prot	0.05	c0.14		c0.03	0.07		0.02	c0.03		c0.13	0.04	
v/s Ratio Perm			0.01			0.01			0.01			0.02
v/c Ratio	0.39	0.52	0.04	0.61	0.37	0.06	0.49	0.14	0.03	0.57	0.11	0.06
Uniform Delay, d1	23.6	18.0	15.6	27.1	20.2	19.0	27.0	19.7	19.3	19.7	11.9	11.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.6	0.0	14.3	0.4	0.1	5.4	0.1	0.0	1.9	0.0	0.0
Delay (s)	24.9	18.5	15.7	41.4	20.6	19.1	32.4	19.8	19.3	21.6	11.9	11.7
Level of Service	C	B	B	D	C	B	C	B	B	C	B	B
Approach Delay (s)		19.0			22.6			22.2			16.7	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	57.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	878	35	94	399	193	46	83	145	243	147	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.95		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1660	3301		1660	3158		1660	1581		1660	1748	1485
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1660	3301		1660	3158		1660	1581		1660	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	954	38	102	434	210	50	90	158	264	160	25
RTOR Reduction (vph)	0	3	0	0	56	0	0	62	0	0	0	16
Lane Group Flow (vph)	33	989	0	102	588	0	50	186	0	264	160	9
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	3.5	31.6		10.3	38.4		5.4	23.3		18.3	36.2	36.2
Effective Green, g (s)	3.5	31.6		10.3	38.4		5.4	23.3		18.3	36.2	36.2
Actuated g/C Ratio	0.04	0.32		0.10	0.39		0.05	0.23		0.18	0.36	0.36
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	58	1048		172	1219		90	370		305	636	540
v/s Ratio Prot	0.02	c0.30		0.06	c0.19		0.03	c0.12		c0.16	0.09	
v/s Ratio Perm												0.01
v/c Ratio	0.57	0.94		0.59	0.48		0.56	0.50		0.87	0.25	0.02
Uniform Delay, d1	47.3	33.1		42.6	23.0		45.9	33.1		39.4	22.2	20.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.2	16.0		5.4	0.3		7.2	4.8		21.7	0.9	0.1
Delay (s)	59.4	49.1		48.0	23.3		53.1	37.9		61.1	23.1	20.3
Level of Service	E	D		D	C		D	D		E	C	C
Approach Delay (s)		49.4			26.7			40.4			45.3	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	40.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	99.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1270	20	20	650	5	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1380	22	22	707	5	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	728			775		
pX, platoon unblocked			0.72		0.72	0.72
vC, conflicting volume			1402		1788	701
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			781		1317	0
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		95	99
cM capacity (veh/h)			595		102	778

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	920	482	22	353	353	5	11
Volume Left	0	0	22	0	0	5	0
Volume Right	0	22	0	0	0	0	11
cSH	1700	1700	595	1700	1700	102	778
Volume to Capacity	0.54	0.28	0.04	0.21	0.21	0.05	0.01
Queue Length 95th (ft)	0	0	3	0	0	4	1
Control Delay (s)	0.0	0.0	11.3	0.0	0.0	42.1	9.7
Lane LOS			B			E	A
Approach Delay (s)	0.0		0.3			20.5	
Approach LOS						C	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	682	640	352	601	0	0	0	0	49	0	70
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86		0.97	0.95					0.91	0.86	0.91
Frt		0.93		1.00	1.00					1.00	0.90	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.98	1.00
Satd. Flow (prot)		5575		3221	3320					1511	2668	1352
Flt Permitted		1.00		0.95	1.00					0.95	0.98	1.00
Satd. Flow (perm)		5575		3221	3320					1511	2668	1352
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	741	696	383	653	0	0	0	0	53	0	76
RTOR Reduction (vph)	0	151	0	0	0	0	0	0	0	0	35	35
Lane Group Flow (vph)	0	1286	0	383	653	0	0	0	0	32	24	3
Turn Type				Prot						Perm		Perm
Protected Phases		4		3	8						6	
Permitted Phases										6		6
Actuated Green, G (s)		47.5		23.0	74.5					7.5	7.5	7.5
Effective Green, g (s)		47.5		23.0	74.5					7.5	7.5	7.5
Actuated g/C Ratio		0.53		0.26	0.83					0.08	0.08	0.08
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2942		823	2748					126	222	113
v/s Ratio Prot		c0.23		c0.12	0.20							
v/s Ratio Perm										c0.02	0.01	0.00
v/c Ratio		0.44		0.47	0.24					0.25	0.11	0.03
Uniform Delay, d1		13.0		28.3	1.7					38.6	38.2	37.9
Progression Factor		1.00		1.16	1.88					1.00	1.00	1.00
Incremental Delay, d2		0.5		0.4	0.2					1.1	0.2	0.1
Delay (s)		13.5		33.3	3.3					39.7	38.4	38.0
Level of Service		B		C	A					D	D	D
Approach Delay (s)		13.5			14.4			0.0			38.6	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	82	693	0	0	724	92	229	0	500	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	0.97	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.98		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	3221	3320			5910		3221		2614			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	3221	3320			5910		3221		2614			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	753	0	0	787	100	249	0	543	0	0	0
RTOR Reduction (vph)	0	0	0	0	15	0	0	0	226	0	0	0
Lane Group Flow (vph)	89	753	0	0	872	0	249	0	317	0	0	0
Turn Type	Prot						custom		custom			
Protected Phases	7	4			8							
Permitted Phases							2		2			
Actuated Green, G (s)	6.7	65.5			54.8		16.5		16.5			
Effective Green, g (s)	6.7	65.5			54.8		16.5		16.5			
Actuated g/C Ratio	0.07	0.73			0.61		0.18		0.18			
Clearance Time (s)	4.0	4.0			4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	240	2416			3599		591		479			
v/s Ratio Prot	0.03	c0.23			0.15							
v/s Ratio Perm							0.08		c0.12			
v/c Ratio	0.37	0.31			0.24		0.42		0.66			
Uniform Delay, d1	39.6	4.3			8.1		32.5		34.2			
Progression Factor	1.26	0.31			1.00		1.00		1.00			
Incremental Delay, d2	0.9	0.3			0.2		0.5		3.4			
Delay (s)	50.7	1.7			8.2		33.0		37.6			
Level of Service	D	A			A		C		D			
Approach Delay (s)		6.8			8.2			36.1			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM Average Control Delay	16.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	407	450	72	8	238	107	215	126	395	27	116	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.89		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	3320	1485	1660	3166		1660	2943		1660	3274	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1660	3320	1485	1660	3166		1660	2943		1660	3274	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	442	489	78	9	259	116	234	137	429	29	126	13
RTOR Reduction (vph)	0	0	42	0	52	0	0	286	0	0	7	0
Lane Group Flow (vph)	442	489	36	9	323	0	234	280	0	29	132	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	31.3	44.2	44.2	0.7	13.6		16.1	32.0		3.3	19.2	
Effective Green, g (s)	31.3	44.2	44.2	0.7	13.6		16.1	32.0		3.3	19.2	
Actuated g/C Ratio	0.33	0.46	0.46	0.01	0.14		0.17	0.33		0.03	0.20	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	540	1525	682	12	448		278	979		57	653	
v/s Ratio Prot	c0.27	0.15		0.01	c0.10		c0.14	c0.10		c0.02	0.04	
v/s Ratio Perm			0.02									
v/c Ratio	0.82	0.32	0.05	0.75	0.72		0.84	0.29		0.51	0.20	
Uniform Delay, d1	29.8	16.5	14.4	47.7	39.5		38.8	23.7		45.7	32.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.4	0.1	0.0	128.3	5.6		20.0	0.7		7.0	0.7	
Delay (s)	39.2	16.6	14.4	175.9	45.1		58.8	24.4		52.6	32.8	
Level of Service	D	B	B	F	D		E	C		D	C	
Approach Delay (s)		26.3			48.2			34.5			36.2	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	96.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	146	157	6	144	66	20	8	8	10	8	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	159	171	7	157	72	22	9	9	11	9	21

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	345	163	72	39	40
Volume Left (vph)	15	7	0	22	11
Volume Right (vph)	171	0	72	9	21
Hadj (s)	-0.24	0.07	-0.65	0.03	-0.20
Departure Headway (s)	4.2	5.0	4.3	5.2	5.0
Degree Utilization, x	0.40	0.23	0.09	0.06	0.06
Capacity (veh/h)	833	692	806	615	637
Control Delay (s)	10.1	8.3	6.5	8.6	8.3
Approach Delay (s)	10.1	7.8		8.6	8.3
Approach LOS	B	A		A	A

Intersection Summary			
Delay	9.1		
HCM Level of Service	A		
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	33	100	82	39	53	22	17	108	18	4	139	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	109	89	42	58	24	18	117	20	4	151	27

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	36	198	42	82	18	137	4	178
Volume Left (vph)	36	0	42	0	18	0	4	0
Volume Right (vph)	0	89	0	24	0	20	0	27
Hadj (s)	0.55	-0.26	0.55	-0.15	0.55	-0.05	0.55	-0.06
Departure Headway (s)	6.1	5.3	6.2	5.5	6.2	5.6	6.2	5.6
Degree Utilization, x	0.06	0.29	0.07	0.13	0.03	0.21	0.01	0.28
Capacity (veh/h)	555	645	542	610	548	607	548	613
Control Delay (s)	8.3	9.2	8.5	8.1	8.2	8.9	8.0	9.5
Approach Delay (s)	9.1		8.3		8.8		9.4	
Approach LOS	A		A		A		A	

Intersection Summary			
Delay	9.0		
HCM Level of Service	A		
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	57	180	47	17	75	18	75	187	18	50	145	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	62	196	51	18	82	20	82	203	20	54	158	76

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	309	100	20	285	20	288
Volume Left (vph)	62	18	0	82	0	54
Volume Right (vph)	51	0	20	0	20	76
Hadj (s)	-0.01	0.14	-0.65	0.19	-0.65	-0.07
Departure Headway (s)	6.7	7.3	6.5	6.7	5.9	6.6
Degree Utilization, x	0.57	0.20	0.04	0.53	0.03	0.53
Capacity (veh/h)	499	426	477	503	572	518
Control Delay (s)	18.3	10.9	8.5	16.0	7.9	16.6
Approach Delay (s)	18.3	10.6		15.5		16.6
Approach LOS	C	B		C		C

Intersection Summary			
Delay	16.1		
HCM Level of Service	C		
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1052	31	133	397	0	25	0	327	108	104	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.97	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		1485	1660	3227	
Flt Permitted		1.00	1.00	0.95	1.00		0.24		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		411		1485	1660	3227	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1143	34	145	432	0	27	0	355	117	113	26
RTOR Reduction (vph)	0	0	19	0	0	0	0	0	312	0	20	0
Lane Group Flow (vph)	0	1143	15	145	432	0	27	0	43	117	119	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		36.5	36.5	11.9	52.4		17.0		11.9	16.0	16.0	
Effective Green, g (s)		36.5	36.5	11.9	52.4		17.0		11.9	16.0	16.0	
Actuated g/C Ratio		0.37	0.37	0.12	0.54		0.17		0.12	0.16	0.16	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1244	556	203	1786		72		181	273	530	
v/s Ratio Prot		c0.34		c0.09	0.13				0.03	c0.07	0.04	
v/s Ratio Perm			0.01				c0.07					
v/c Ratio		0.92	0.03	0.71	0.24		0.38		0.24	0.43	0.22	
Uniform Delay, d1		29.0	19.2	41.1	12.0		35.5		38.7	36.6	35.3	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		10.8	0.0	11.3	0.1		14.3		0.7	4.9	1.0	
Delay (s)		39.9	19.3	52.4	12.0		49.8		39.3	41.4	36.3	
Level of Service		D	B	D	B		D		D	D	D	
Approach Delay (s)		39.3			22.2			40.1			38.6	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	35.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	97.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	152	704	0	0	410	692	159	113	399	124	0	104
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97		1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.92	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1660	3320			3320	1485	1577	1460	1411	3221		1485
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.56		1.00
Satd. Flow (perm)	1660	3320			3320	1485	1577	1460	1411	1912		1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	765	0	0	446	752	173	123	434	135	0	113
RTOR Reduction (vph)	0	0	0	0	0	453	0	39	157	0	0	93
Lane Group Flow (vph)	165	765	0	0	446	299	156	257	121	135	0	20
Turn Type	Prot					Perm	Split		Perm	custom		custom
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2	6		6
Actuated Green, G (s)	12.1	40.2			24.1	24.1	21.3	21.3	21.3	16.2		16.2
Effective Green, g (s)	12.1	40.2			24.1	24.1	21.3	21.3	21.3	16.2		16.2
Actuated g/C Ratio	0.13	0.45			0.27	0.27	0.24	0.24	0.24	0.18		0.18
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	224	1488			892	399	374	347	335	345		268
v/s Ratio Prot	c0.10	0.23			0.13		0.10	c0.18				
v/s Ratio Perm						c0.20			0.09	c0.07		0.01
v/c Ratio	0.74	0.51			0.50	0.75	0.42	0.74	0.36	0.39		0.08
Uniform Delay, d1	37.3	17.7			27.7	30.0	28.9	31.6	28.5	32.4		30.5
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	11.9	0.3			0.4	7.7	3.4	13.3	3.0	3.3		0.6
Delay (s)	49.2	18.0			28.2	37.8	32.3	45.0	31.5	35.7		31.1
Level of Service	D	B			C	D	C	D	C	D		C
Approach Delay (s)		23.6			34.2			37.2			33.6	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	31.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	89.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	0	0	3	1	13	17	256	565	359	143	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	0	0	3	1	14	18	278	614	390	155	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								290				
pX, platoon unblocked												
vC, conflicting volume	1127	1865	78	1480	1558	446	155			892		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1127	1865	78	1480	1558	446	155			892		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	94	98	97	99			48		
cM capacity (veh/h)	89	34	964	50	52	557	1415			749		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	1	3	15	18	186	707	390	78	78
Volume Left	1	3	0	18	0	0	390	0	0
Volume Right	0	0	14	0	0	614	0	0	0
cSH	89	50	329	1415	1700	1700	749	1700	1700
Volume to Capacity	0.01	0.06	0.05	0.01	0.11	0.42	0.52	0.05	0.05
Queue Length 95th (ft)	1	5	4	1	0	0	76	0	0
Control Delay (s)	46.1	81.3	16.5	7.6	0.0	0.0	14.9	0.0	0.0
Lane LOS	E	F	C	A			B		
Approach Delay (s)	46.1	27.9		0.2			10.7		
Approach LOS	E	D							

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	6	586	32	272	741	73	67	305	23	28	217	369
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	637	35	296	805	79	73	332	25	30	236	401
RTOR Reduction (vph)	0	0	26	0	0	38	0	0	19	0	0	325
Lane Group Flow (vph)	7	637	9	296	805	41	73	332	6	30	236	76
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8			6			2
Actuated Green, G (s)	0.6	18.9	18.9	21.3	39.6	39.6	5.2	17.5	17.5	2.0	14.3	14.3
Effective Green, g (s)	0.6	18.9	18.9	21.3	39.6	39.6	5.2	17.5	17.5	2.0	14.3	14.3
Actuated g/C Ratio	0.01	0.25	0.25	0.28	0.52	0.52	0.07	0.23	0.23	0.03	0.19	0.19
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	13	829	371	467	1737	777	114	768	343	44	627	281
v/s Ratio Prot	0.00	c0.19		c0.18	0.24		c0.04	c0.10		0.02	0.07	
v/s Ratio Perm			0.01			0.03			0.00			0.05
v/c Ratio	0.54	0.77	0.02	0.63	0.46	0.05	0.64	0.43	0.02	0.68	0.38	0.27
Uniform Delay, d1	37.4	26.4	21.4	23.8	11.4	8.9	34.3	24.9	22.5	36.5	26.8	26.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	36.8	4.3	0.0	2.8	0.2	0.0	11.6	0.4	0.0	35.7	0.4	0.5
Delay (s)	74.2	30.7	21.5	26.6	11.6	8.9	46.0	25.2	22.5	72.2	27.2	26.8
Level of Service	E	C	C	C	B	A	D	C	C	E	C	C
Approach Delay (s)		30.7			15.2			28.6			29.0	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	75.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	407	450	72	8	238	107	215	126	395	27	116	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.89		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3221	3320	1485	1660	3166		3221	2943		1660	3274	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3221	3320	1485	1660	3166		3221	2943		1660	3274	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	442	489	78	9	259	116	234	137	429	29	126	13
RTOR Reduction (vph)	0	0	48	0	54	0	0	259	0	0	7	0
Lane Group Flow (vph)	442	489	30	9	321	0	234	307	0	29	132	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	20.0	32.8	32.8	0.7	13.5		11.4	34.3		2.8	25.7	
Effective Green, g (s)	20.0	32.8	32.8	0.7	13.5		11.4	34.3		2.8	25.7	
Actuated g/C Ratio	0.23	0.38	0.38	0.01	0.16		0.13	0.40		0.03	0.30	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	744	1257	562	13	494		424	1166		54	972	
v/s Ratio Prot	c0.14	0.15		0.01	c0.10		c0.07	c0.10		c0.02	0.04	
v/s Ratio Perm			0.02									
v/c Ratio	0.59	0.39	0.05	0.69	0.65		0.55	0.26		0.54	0.14	
Uniform Delay, d1	29.7	19.6	17.1	42.8	34.3		35.2	17.6		41.3	22.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.2	0.0	96.3	2.9		1.6	0.6		9.9	0.3	
Delay (s)	31.0	19.8	17.1	139.1	37.3		36.8	18.2		51.2	22.6	
Level of Service	C	B	B	F	D		D	B		D	C	
Approach Delay (s)		24.5			39.7			23.6			27.5	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	86.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	180	47	17	75	18	75	187	18	50	145	70
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt		0.98			1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected		0.99			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1692			1732	1485	1660	1724		1660	1748	1485
Flt Permitted		0.93			0.92	1.00	0.66	1.00		0.62	1.00	1.00
Satd. Flow (perm)		1582			1609	1485	1148	1724		1082	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	196	51	18	82	20	82	203	20	54	158	76
RTOR Reduction (vph)	0	9	0	0	0	12	0	4	0	0	0	50
Lane Group Flow (vph)	0	300	0	0	100	8	82	219	0	54	158	26
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		11.8			11.8	11.8	10.4	10.4		10.4	10.4	10.4
Effective Green, g (s)		11.8			11.8	11.8	10.4	10.4		10.4	10.4	10.4
Actuated g/C Ratio		0.39			0.39	0.39	0.34	0.34		0.34	0.34	0.34
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		618			629	580	395	594		373	602	511
v/s Ratio Prot								c0.13			0.09	
v/s Ratio Perm		c0.19			0.06	0.01	0.07			0.05		0.02
v/c Ratio		0.49			0.16	0.01	0.21	0.37		0.14	0.26	0.05
Uniform Delay, d1		6.9			6.0	5.6	7.0	7.4		6.8	7.1	6.6
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.6			0.1	0.0	0.3	0.4		0.2	0.2	0.0
Delay (s)		7.5			6.1	5.6	7.3	7.8		7.0	7.4	6.6
Level of Service		A			A	A	A	A		A	A	A
Approach Delay (s)		7.5			6.0			7.7			7.1	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	7.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	30.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	27	304	347	15	13	23
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	29	330	377	16	14	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	393				774	385
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	393				774	385
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				96	96
cM capacity (veh/h)	1160				356	660

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	360	393	39
Volume Left	29	0	14
Volume Right	0	16	25
cSH	1160	1700	505
Volume to Capacity	0.03	0.23	0.08
Queue Length 95th (ft)	2	0	6
Control Delay (s)	0.9	0.0	12.7
Lane LOS	A		B
Approach Delay (s)	0.9	0.0	12.7
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	219	144	172	405	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	238	157	187	440	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			395		1052	238
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			395		1052	238
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			84		100	100
cM capacity (veh/h)			1159		209	798

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	238	157	187	440
Volume Left	0	0	187	0
Volume Right	0	157	0	0
cSH	1700	1700	1159	1700
Volume to Capacity	0.14	0.09	0.16	0.26
Queue Length 95th (ft)	0	0	14	0
Control Delay (s)	0.0	0.0	8.7	0.0
Lane LOS			A	
Approach Delay (s)	0.0		2.6	
Approach LOS				

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	230	0	0	447	154	202
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	250	0	0	486	167	220
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1094		
pX, platoon unblocked					0.81	
vC, conflicting volume			250		736	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			250		556	250
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		58	72
cM capacity (veh/h)			1310		397	786

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	250	486	387
Volume Left	0	0	167
Volume Right	0	0	220
cSH	1700	1700	918
Volume to Capacity	0.15	0.29	0.42
Queue Length 95th (ft)	0	0	53
Control Delay (s)	0.0	0.0	15.3
Lane LOS			C
Approach Delay (s)	0.0	0.0	15.3
Approach LOS			C

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	57	374	17	75	405	74	102	55	24	27	178	54
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3299		1660	3244		1660	3320	1485	1660	3320	1485
Flt Permitted	0.35	1.00		0.44	1.00		0.63	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	607	3299		761	3244		1102	3320	1485	1251	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	407	18	82	440	80	111	60	26	29	193	59
RTOR Reduction (vph)	0	5	0	0	26	0	0	0	10	0	0	23
Lane Group Flow (vph)	62	420	0	82	494	0	111	60	16	29	193	36
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6		6	2		2
Actuated Green, G (s)	14.5	14.5		14.5	14.5		34.1	34.1	34.1	34.1	34.1	34.1
Effective Green, g (s)	14.5	14.5		14.5	14.5		34.1	34.1	34.1	34.1	34.1	34.1
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.60	0.60	0.60	0.60	0.60	0.60
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	156	845		195	831		664	2000	895	754	2000	895
v/s Ratio Prot		0.13			c0.15			0.02			0.06	
v/s Ratio Perm	0.10			0.11			c0.10		0.01	0.02		0.02
v/c Ratio	0.40	0.50		0.42	0.59		0.17	0.03	0.02	0.04	0.10	0.04
Uniform Delay, d1	17.4	17.9		17.5	18.5		5.0	4.6	4.5	4.6	4.7	4.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.5		1.5	1.1		0.5	0.0	0.0	0.1	0.1	0.1
Delay (s)	19.1	18.4		19.0	19.6		5.5	4.6	4.6	4.7	4.8	4.7
Level of Service	B	B		B	B		A	A	A	A	A	A
Approach Delay (s)		18.5			19.5			5.1			4.8	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	56.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	131	308	43	97	353	161	50	214	73	185	183	91
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	142	335	47	105	384	175	54	233	79	201	199	99
RTOR Reduction (vph)	0	0	36	0	0	137	0	0	63	0	0	65
Lane Group Flow (vph)	142	335	11	105	384	38	54	233	16	201	199	34
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	9.3	15.8	15.8	8.0	14.5	14.5	4.6	13.4	13.4	14.4	23.2	23.2
Effective Green, g (s)	9.3	15.8	15.8	8.0	14.5	14.5	4.6	13.4	13.4	14.4	23.2	23.2
Actuated g/C Ratio	0.14	0.23	0.23	0.12	0.21	0.21	0.07	0.20	0.20	0.21	0.34	0.34
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	228	776	347	196	712	319	113	658	294	354	1139	510
v/s Ratio Prot	c0.09	0.10		0.06	c0.12		0.03	c0.07		c0.12	0.06	
v/s Ratio Perm			0.01			0.03			0.01			0.02
v/c Ratio	0.62	0.43	0.03	0.54	0.54	0.12	0.48	0.35	0.05	0.57	0.17	0.07
Uniform Delay, d1	27.5	22.1	20.0	28.1	23.6	21.4	30.3	23.4	22.0	23.8	15.5	14.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.2	0.4	0.0	2.8	0.8	0.2	3.2	0.3	0.1	2.1	0.1	0.1
Delay (s)	32.7	22.5	20.0	30.9	24.4	21.6	33.5	23.7	22.0	25.9	15.6	15.0
Level of Service	C	C	C	C	C	C	C	C	C	C	B	B
Approach Delay (s)		25.0			24.7			24.8			19.6	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	67.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	720	37	124	775	470	47	119	162	189	92	47
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.94		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1660	3296		1660	3132		1660	1596		1660	1748	1485
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1660	3296		1660	3132		1660	1596		1660	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	783	40	135	842	511	51	129	176	205	100	51
RTOR Reduction (vph)	0	4	0	0	93	0	0	48	0	0	0	33
Lane Group Flow (vph)	35	819	0	135	1260	0	51	257	0	205	100	18
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	2.3	29.3		14.3	41.3		4.0	24.0		14.3	34.3	34.3
Effective Green, g (s)	2.3	29.3		14.3	41.3		4.0	24.0		14.3	34.3	34.3
Actuated g/C Ratio	0.02	0.30		0.15	0.42		0.04	0.25		0.15	0.35	0.35
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	39	986		242	1321		68	391		242	612	520
v/s Ratio Prot	0.02	c0.25		0.08	c0.40		0.03	c0.16		c0.12	0.06	
v/s Ratio Perm												0.01
v/c Ratio	0.90	0.83		0.56	0.95		0.75	0.66		0.85	0.16	0.03
Uniform Delay, d1	47.7	32.0		38.9	27.4		46.5	33.3		40.7	21.9	20.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	103.0	6.0		2.8	15.0		36.6	8.4		23.0	0.6	0.1
Delay (s)	150.7	38.0		41.6	42.4		83.0	41.7		63.7	22.5	21.0
Level of Service	F	D		D	D		F	D		E	C	C
Approach Delay (s)		42.6			42.3			47.6			46.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	43.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	97.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1050	10	10	1380	10	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1141	11	11	1500	11	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	738			765		
pX, platoon unblocked			0.78		0.88	0.78
vC, conflicting volume			1152		1918	576
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			643		803	0
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		96	97
cM capacity (veh/h)			730		276	848

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	761	391	11	750	750	11	22
Volume Left	0	0	11	0	0	11	0
Volume Right	0	11	0	0	0	0	22
cSH	1700	1700	730	1700	1700	276	848
Volume to Capacity	0.45	0.23	0.01	0.44	0.44	0.04	0.03
Queue Length 95th (ft)	0	0	1	0	0	3	2
Control Delay (s)	0.0	0.0	10.0	0.0	0.0	18.6	9.4
Lane LOS			B			C	A
Approach Delay (s)	0.0		0.1			12.4	
Approach LOS						B	

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	617	476	275	1286	0	0	0	0	53	0	104
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86		0.97	0.95					0.91	0.86	0.91
Frt		0.93		1.00	1.00					1.00	0.88	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		5619		3221	3320					1511	2628	1352
Flt Permitted		1.00		0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		5619		3221	3320					1511	2628	1352
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	671	517	299	1398	0	0	0	0	58	0	113
RTOR Reduction (vph)	0	182	0	0	0	0	0	0	0	0	42	42
Lane Group Flow (vph)	0	1006	0	299	1398	0	0	0	0	41	32	14
Turn Type				Prot						Perm		Perm
Protected Phases		4		3	8						6	
Permitted Phases										6		6
Actuated Green, G (s)		30.1		10.7	44.8					7.2	7.2	7.2
Effective Green, g (s)		30.1		10.7	44.8					7.2	7.2	7.2
Actuated g/C Ratio		0.50		0.18	0.75					0.12	0.12	0.12
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2819		574	2479					181	315	162
v/s Ratio Prot		0.18		0.09	c0.42							
v/s Ratio Perm										c0.03	0.01	0.01
v/c Ratio		0.36		0.52	0.56					0.23	0.10	0.08
Uniform Delay, d1		9.1		22.3	3.3					23.9	23.5	23.5
Progression Factor		1.00		1.14	0.52					1.00	1.00	1.00
Incremental Delay, d2		0.4		0.8	0.8					0.6	0.1	0.2
Delay (s)		9.4		26.2	2.5					24.5	23.7	23.7
Level of Service		A		C	A					C	C	C
Approach Delay (s)		9.4			6.7			0.0			23.9	
Approach LOS		A			A			A			C	

Intersection Summary			
HCM Average Control Delay	8.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	699	0	0	975	118	586	0	723	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	0.97	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.98		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	3221	3320			5914		3221		2614			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	3221	3320			5914		3221		2614			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	760	0	0	1060	128	637	0	786	0	0	0
RTOR Reduction (vph)	0	0	0	0	32	0	0	0	148	0	0	0
Lane Group Flow (vph)	84	760	0	0	1156	0	637	0	638	0	0	0
Turn Type	Prot						custom		custom			
Protected Phases	7	4			8							
Permitted Phases							2		2			
Actuated Green, G (s)	4.0	31.7			23.7		20.3		20.3			
Effective Green, g (s)	4.0	31.7			23.7		20.3		20.3			
Actuated g/C Ratio	0.07	0.53			0.39		0.34		0.34			
Clearance Time (s)	4.0	4.0			4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	215	1754			2336		1090		884			
v/s Ratio Prot	0.03	c0.23			c0.20							
v/s Ratio Perm							0.20		c0.24			
v/c Ratio	0.39	0.43			0.49		0.58		0.72			
Uniform Delay, d1	26.8	8.7			13.6		16.4		17.4			
Progression Factor	0.87	1.66			1.00		1.00		1.00			
Incremental Delay, d2	1.1	0.8			0.8		0.8		2.9			
Delay (s)	24.6	15.1			14.4		17.2		20.3			
Level of Service	C	B			B		B		C			
Approach Delay (s)		16.1			14.4			18.9			0.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	568	568	38	6	492	181	201	99	433	27	225	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.88		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	3320	1485	1660	3186		1660	2915		1660	3281	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1660	3320	1485	1660	3186		1660	2915		1660	3281	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	617	617	41	7	535	197	218	108	471	29	245	21
RTOR Reduction (vph)	0	0	19	0	38	0	0	350	0	0	7	0
Lane Group Flow (vph)	617	617	22	7	694	0	218	229	0	29	259	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	38.2	57.4	57.4	0.8	20.0		12.0	27.0		3.6	18.6	
Effective Green, g (s)	38.2	57.4	57.4	0.8	20.0		12.0	27.0		3.6	18.6	
Actuated g/C Ratio	0.36	0.55	0.55	0.01	0.19		0.11	0.26		0.03	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	605	1818	813	13	608		190	751		57	582	
v/s Ratio Prot	c0.37	0.19		0.00	c0.22		c0.13	0.08		0.02	c0.08	
v/s Ratio Perm			0.02									
v/c Ratio	1.02	0.34	0.03	0.54	1.14		1.15	0.31		0.51	0.45	
Uniform Delay, d1	33.3	13.2	10.9	51.8	42.4		46.4	31.3		49.7	38.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	41.7	0.1	0.0	36.8	82.1		110.6	1.1		7.0	2.5	
Delay (s)	75.0	13.3	10.9	88.6	124.5		157.0	32.4		56.7	41.0	
Level of Service	E	B	B	F	F		F	C		E	D	
Approach Delay (s)		43.1			124.2			66.5			42.5	
Approach LOS		D			F			E			D	

Intersection Summary			
HCM Average Control Delay	68.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	104.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	70	123	3	308	190	42	25	9	6	26	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	76	134	3	335	207	46	27	10	7	28	45

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	226	338	207	83	79
Volume Left (vph)	16	3	0	46	7
Volume Right (vph)	134	0	207	10	45
Hadj (s)	-0.29	0.06	-0.65	0.09	-0.27
Departure Headway (s)	4.8	5.2	4.5	5.8	5.4
Degree Utilization, x	0.30	0.49	0.26	0.13	0.12
Capacity (veh/h)	715	668	770	551	588
Control Delay (s)	9.8	12.0	7.9	9.6	9.2
Approach Delay (s)	9.8	10.5		9.6	9.2
Approach LOS	A	B		A	A

Intersection Summary			
Delay	10.1		
HCM Level of Service	B		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	44	53	67	89	116	52	38	255	60	14	221	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	58	73	97	126	57	41	277	65	15	240	53

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	48	130	97	183	41	342	15	293
Volume Left (vph)	48	0	97	0	41	0	15	0
Volume Right (vph)	0	73	0	57	0	65	0	53
Hadj (s)	0.55	-0.34	0.55	-0.17	0.55	-0.08	0.55	-0.08
Departure Headway (s)	7.5	6.7	7.4	6.6	6.9	6.3	7.0	6.4
Degree Utilization, x	0.10	0.24	0.20	0.34	0.08	0.60	0.03	0.52
Capacity (veh/h)	439	495	456	507	494	542	482	538
Control Delay (s)	10.2	10.6	11.0	11.8	9.3	17.1	9.1	15.0
Approach Delay (s)	10.5		11.5		16.2		14.7	
Approach LOS	B		B		C		B	

Intersection Summary			
Delay	13.8		
HCM Level of Service	B		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	32	51	43	43	119	21	68	232	24	76	366	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	55	47	47	129	23	74	252	26	83	398	133

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	137	176	23	326	26	613
Volume Left (vph)	35	47	0	74	0	83
Volume Right (vph)	47	0	23	0	26	133
Hadj (s)	-0.10	0.18	-0.65	0.16	-0.65	-0.05
Departure Headway (s)	7.8	7.8	7.0	6.9	6.1	6.5
Degree Utilization, x	0.30	0.38	0.04	0.62	0.04	1.10
Capacity (veh/h)	436	439	487	503	570	549
Control Delay (s)	14.0	14.4	9.1	19.5	8.2	94.0
Approach Delay (s)	14.0	13.8		18.7		94.0
Approach LOS	B	B		C		F

Intersection Summary			
Delay	52.9		
HCM Level of Service	F		
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	650	28	339	1153	0	42	0	359	144	288	70
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.97	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		1485	1660	3223	
Flt Permitted		1.00	1.00	0.95	1.00		0.25		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		434		1485	1660	3223	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	707	30	368	1253	0	46	0	390	157	313	76
RTOR Reduction (vph)	0	0	23	0	0	0	0	0	291	0	21	0
Lane Group Flow (vph)	0	707	7	368	1253	0	46	0	99	157	368	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		23.5	23.5	24.3	51.8		16.1		24.3	16.1	16.1	
Effective Green, g (s)		23.5	23.5	24.3	51.8		16.1		24.3	16.1	16.1	
Actuated g/C Ratio		0.24	0.24	0.25	0.54		0.17		0.25	0.17	0.17	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		813	364	420	1791		73		376	278	541	
v/s Ratio Prot		c0.21		c0.22	0.38				0.07	0.09	c0.11	
v/s Ratio Perm			0.00				c0.11					
v/c Ratio		0.87	0.02	0.88	0.70		0.63		0.26	0.56	0.68	
Uniform Delay, d1		34.8	27.5	34.4	16.3		37.2		28.7	36.7	37.5	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		9.8	0.0	18.1	1.2		34.8		0.4	8.1	6.8	
Delay (s)		44.6	27.5	52.5	17.6		71.9		29.1	44.8	44.3	
Level of Service		D	C	D	B		E		C	D	D	
Approach Delay (s)		43.9			25.5			33.6			44.4	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	33.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	164	737	0	0	1093	476	304	114	571	236	0	241
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97		1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.91	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1660	3320			3320	1485	1577	1440	1411	3221		1485
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.51		1.00
Satd. Flow (perm)	1660	3320			3320	1485	1577	1440	1411	1723		1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	178	801	0	0	1188	517	330	124	621	257	0	262
RTOR Reduction (vph)	0	0	0	0	0	268	0	55	103	0	0	194
Lane Group Flow (vph)	178	801	0	0	1188	249	297	344	276	257	0	68
Turn Type	Prot					Perm	Split		Perm	custom		custom
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2	6		6
Actuated Green, G (s)	11.0	50.0			35.0	35.0	22.0	22.0	22.0	16.0		16.0
Effective Green, g (s)	11.0	50.0			35.0	35.0	22.0	22.0	22.0	16.0		16.0
Actuated g/C Ratio	0.11	0.50			0.35	0.35	0.22	0.22	0.22	0.16		0.16
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	183	1660			1162	520	347	317	310	276		238
v/s Ratio Prot	c0.11	0.24			c0.36		0.19	c0.24				
v/s Ratio Perm						0.17			0.20	c0.15		0.05
v/c Ratio	0.97	0.48			1.02	0.48	0.86	1.08	0.89	0.93		0.29
Uniform Delay, d1	44.4	16.5			32.5	25.4	37.5	39.0	37.8	41.5		37.0
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	58.2	0.2			32.2	0.7	22.8	74.8	29.5	39.0		3.0
Delay (s)	102.5	16.7			64.7	26.1	60.3	113.8	67.4	80.5		40.0
Level of Service	F	B			E	C	E	F	E	F		D
Approach Delay (s)		32.3			53.0			82.6			60.0	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM Average Control Delay	56.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	1	20	2	1	29	218	541	348	293	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	1	22	2	1	32	237	588	378	318	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								290				
pX, platoon unblocked												
vC, conflicting volume	1260	1965	161	1511	1672	412	322			825		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1260	1965	161	1511	1672	412	322			825		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	57	95	100	97			52		
cM capacity (veh/h)	75	31	853	50	48	586	1228			795		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	1	22	3	32	158	667	378	212	109
Volume Left	0	22	0	32	0	0	378	0	0
Volume Right	1	0	1	0	0	588	0	0	3
cSH	853	50	69	1228	1700	1700	795	1700	1700
Volume to Capacity	0.00	0.43	0.05	0.03	0.09	0.39	0.48	0.12	0.06
Queue Length 95th (ft)	0	40	4	2	0	0	65	0	0
Control Delay (s)	9.2	122.7	59.7	8.0	0.0	0.0	13.6	0.0	0.0
Lane LOS	A	F	F	A			B		
Approach Delay (s)	9.2	114.4		0.3			7.3		
Approach LOS	A	F							

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	10	839	21	339	1344	89	94	170	12	44	382	617
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	912	23	368	1461	97	102	185	13	48	415	671
RTOR Reduction (vph)	0	0	16	0	0	44	0	0	10	0	0	349
Lane Group Flow (vph)	11	912	7	368	1461	53	102	185	3	48	415	322
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8			6			2
Actuated Green, G (s)	0.8	28.0	28.0	24.4	51.6	51.6	6.0	26.7	26.7	5.0	25.7	25.7
Effective Green, g (s)	0.8	28.0	28.0	24.4	51.6	51.6	6.0	26.7	26.7	5.0	25.7	25.7
Actuated g/C Ratio	0.01	0.28	0.28	0.24	0.52	0.52	0.06	0.27	0.27	0.05	0.26	0.26
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	13	929	415	405	1711	765	100	886	396	83	852	381
v/s Ratio Prot	0.01	c0.27		0.22	c0.44		c0.06	0.06		0.03	0.12	
v/s Ratio Perm			0.00			0.04			0.00			c0.22
v/c Ratio	0.85	0.98	0.02	0.91	0.85	0.07	1.02	0.21	0.01	0.58	0.49	0.85
Uniform Delay, d1	49.6	35.8	26.1	36.8	21.0	12.2	47.0	28.5	27.0	46.5	31.6	35.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	166.4	25.0	0.0	23.6	4.4	0.0	95.5	0.1	0.0	9.4	0.4	15.8
Delay (s)	216.0	60.8	26.1	60.4	25.4	12.2	142.6	28.6	27.0	55.9	32.0	51.1
Level of Service	F	E	C	E	C	B	F	C	C	E	C	D
Approach Delay (s)		61.7			31.4			67.3			44.3	
Approach LOS		E			C			E			D	

Intersection Summary			
HCM Average Control Delay	44.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	100.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	568	568	38	6	492	181	201	99	433	27	225	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.88		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3221	3320	1485	1660	3186		3221	2915		1660	3281	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3221	3320	1485	1660	3186		3221	2915		1660	3281	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	617	617	41	7	535	197	218	108	471	29	245	21
RTOR Reduction (vph)	0	0	20	0	40	0	0	338	0	0	6	0
Lane Group Flow (vph)	617	617	21	7	692	0	218	241	0	29	260	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	25.1	48.7	48.7	0.7	24.3		10.2	26.9		3.3	20.0	
Effective Green, g (s)	25.1	48.7	48.7	0.7	24.3		10.2	26.9		3.3	20.0	
Actuated g/C Ratio	0.26	0.51	0.51	0.01	0.25		0.11	0.28		0.03	0.21	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	846	1691	756	12	810		344	820		57	686	
v/s Ratio Prot	c0.19	0.19		0.00	c0.22		c0.07	0.08		0.02	c0.08	
v/s Ratio Perm			0.01									
v/c Ratio	0.73	0.36	0.03	0.58	0.85		0.63	0.29		0.51	0.38	
Uniform Delay, d1	32.2	14.1	11.7	47.3	34.0		40.9	26.9		45.4	32.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.2	0.1	0.0	56.2	8.8		3.8	0.9		7.0	1.6	
Delay (s)	35.3	14.3	11.7	103.5	42.7		44.7	27.8		52.3	34.1	
Level of Service	D	B	B	F	D		D	C		D	C	
Approach Delay (s)		24.4			43.3			32.4			35.8	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	32.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	95.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	51	43	43	119	21	68	232	24	76	366	122
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt		0.95			1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected		0.99			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1646			1725	1485	1660	1723		1660	1748	1485
Flt Permitted		0.88			0.88	1.00	0.51	1.00		0.59	1.00	1.00
Satd. Flow (perm)		1463			1532	1485	894	1723		1029	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	55	47	47	129	23	74	252	26	83	398	133
RTOR Reduction (vph)	0	21	0	0	0	18	0	4	0	0	0	62
Lane Group Flow (vph)	0	116	0	0	176	5	74	274	0	83	398	71
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		8.0			8.0	8.0	18.1	18.1		18.1	18.1	18.1
Effective Green, g (s)		8.0			8.0	8.0	18.1	18.1		18.1	18.1	18.1
Actuated g/C Ratio		0.23			0.23	0.23	0.53	0.53		0.53	0.53	0.53
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		343			359	348	475	915		546	928	788
v/s Ratio Prot								0.16			c0.23	
v/s Ratio Perm		0.08			c0.11	0.00	0.08			0.08		0.05
v/c Ratio		0.34			0.49	0.02	0.16	0.30		0.15	0.43	0.09
Uniform Delay, d1		10.8			11.3	10.0	4.1	4.5		4.1	4.9	3.9
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.6			1.1	0.0	0.2	0.2		0.1	0.3	0.0
Delay (s)		11.4			12.3	10.0	4.2	4.6		4.2	5.2	4.0
Level of Service		B			B	B	A	A		A	A	A
Approach Delay (s)		11.4			12.1			4.6			4.8	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	6.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	34.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

2020 No-Build

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	360	220	20	20	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	391	239	22	22	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	261				663	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	261				663	250
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				95	99
cM capacity (veh/h)	1298				421	786

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	402	261	33
Volume Left	11	0	22
Volume Right	0	22	11
cSH	1298	1700	498
Volume to Capacity	0.01	0.15	0.07
Queue Length 95th (ft)	1	0	5
Control Delay (s)	0.3	0.0	12.7
Lane LOS	A		B
Approach Delay (s)	0.3	0.0	12.7
Approach LOS			B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	260	205	350	390	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	283	223	380	424	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			505		1467	283
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			505		1467	283
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			64		100	100
cM capacity (veh/h)			1054		89	754

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	283	223	380	424
Volume Left	0	0	380	0
Volume Right	0	223	0	0
cSH	1700	1700	1054	1700
Volume to Capacity	0.17	0.13	0.36	0.25
Queue Length 95th (ft)	0	0	42	0
Control Delay (s)	0.0	0.0	10.3	0.0
Lane LOS			B	
Approach Delay (s)	0.0		4.9	
Approach LOS				

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	265	0	0	585	165	160
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	288	0	0	636	179	174
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1094		
pX, platoon unblocked					0.82	
vC, conflicting volume			288		924	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			288		794	288
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		38	77
cM capacity (veh/h)			1268		290	749

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	288	636	353
Volume Left	0	0	179
Volume Right	0	0	174
cSH	1700	1700	572
Volume to Capacity	0.17	0.37	0.62
Queue Length 95th (ft)	0	0	105
Control Delay (s)	0.0	0.0	23.6
Lane LOS			C
Approach Delay (s)	0.0	0.0	23.6
Approach LOS			C

Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	30	265	10	140	385	60	240	175	45	15	55	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3302		1660	3253		1660	3320	1485	1660	3320	1485
Flt Permitted	0.37	1.00		0.55	1.00		0.72	1.00	1.00	0.63	1.00	1.00
Satd. Flow (perm)	642	3302		963	3253		1251	3320	1485	1105	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	288	11	152	418	65	261	190	49	16	60	33
RTOR Reduction (vph)	0	4	0	0	19	0	0	0	19	0	0	13
Lane Group Flow (vph)	33	295	0	152	464	0	261	190	30	16	60	20
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6		6	2		2
Actuated Green, G (s)	16.5	16.5		16.5	16.5		39.3	39.3	39.3	39.3	39.3	39.3
Effective Green, g (s)	16.5	16.5		16.5	16.5		39.3	39.3	39.3	39.3	39.3	39.3
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.62	0.62	0.62	0.62	0.62	0.62
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	166	854		249	841		771	2045	915	681	2045	915
v/s Ratio Prot		0.09			0.14			0.06			0.02	
v/s Ratio Perm	0.05			c0.16			c0.21		0.02	0.01		0.01
v/c Ratio	0.20	0.34		0.61	0.55		0.34	0.09	0.03	0.02	0.03	0.02
Uniform Delay, d1	18.5	19.3		20.8	20.4		5.9	5.0	4.8	4.8	4.8	4.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.2		4.4	0.8		1.2	0.1	0.1	0.1	0.0	0.0
Delay (s)	19.1	19.5		25.2	21.2		7.1	5.1	4.9	4.8	4.8	4.8
Level of Service	B	B		C	C		A	A	A	A	A	A
Approach Delay (s)		19.5			22.2			6.1			4.8	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	63.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	610	85	60	315	85	45	115	60	95	180	110
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	663	92	65	342	92	49	125	65	103	196	120
RTOR Reduction (vph)	0	0	61	0	0	71	0	0	52	0	0	89
Lane Group Flow (vph)	109	663	31	65	342	21	49	125	13	103	196	31
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	8.3	17.8	17.8	2.5	12.0	12.0	2.3	10.1	10.1	5.6	13.4	13.4
Effective Green, g (s)	8.3	17.8	17.8	2.5	12.0	12.0	2.3	10.1	10.1	5.6	13.4	13.4
Actuated g/C Ratio	0.16	0.34	0.34	0.05	0.23	0.23	0.04	0.19	0.19	0.11	0.26	0.26
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	265	1136	508	80	766	343	73	645	288	179	856	383
v/s Ratio Prot	0.07	c0.20		c0.04	0.10		0.03	0.04		c0.06	c0.06	
v/s Ratio Perm			0.02			0.01			0.01			0.02
v/c Ratio	0.41	0.58	0.06	0.81	0.45	0.06	0.67	0.19	0.04	0.58	0.23	0.08
Uniform Delay, d1	19.7	14.1	11.5	24.5	17.2	15.6	24.5	17.5	17.0	22.1	15.2	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.8	0.1	44.4	0.4	0.1	21.6	0.1	0.1	4.4	0.1	0.1
Delay (s)	20.7	14.8	11.5	69.0	17.6	15.7	46.1	17.7	17.1	26.5	15.4	14.7
Level of Service	C	B	B	E	B	B	D	B	B	C	B	B
Approach Delay (s)		15.2			23.9			23.3			17.9	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	52.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	815	50	110	390	180	70	90	210	350	170	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.95		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1660	3292		1660	3163		1660	1564		1660	1748	1485
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1660	3292		1660	3163		1660	1564		1660	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	886	54	120	424	196	76	98	228	380	185	38
RTOR Reduction (vph)	0	4	0	0	53	0	0	83	0	0	0	23
Lane Group Flow (vph)	49	936	0	120	567	0	76	243	0	380	185	15
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	5.5	29.0		8.8	32.3		7.9	21.8		24.8	38.7	38.7
Effective Green, g (s)	5.5	29.0		8.8	32.3		7.9	21.8		24.8	38.7	38.7
Actuated g/C Ratio	0.05	0.29		0.09	0.32		0.08	0.22		0.25	0.39	0.39
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	91	951		145	1018		131	340		410	674	572
v/s Ratio Prot	0.03	c0.28		c0.07	0.18		0.05	c0.16		c0.23	0.11	
v/s Ratio Perm												0.01
v/c Ratio	0.54	0.98		0.83	0.56		0.58	0.71		0.93	0.27	0.03
Uniform Delay, d1	46.2	35.5		45.1	28.1		44.6	36.4		36.9	21.2	19.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.0	25.1		30.5	0.7		6.4	12.1		26.8	1.0	0.1
Delay (s)	52.2	60.6		75.5	28.8		51.0	48.5		63.7	22.2	19.2
Level of Service	D	E		E	C		D	D		E	C	B
Approach Delay (s)		60.2			36.4			49.0			48.1	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM Average Control Delay	49.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	577	362	485	555	5	103
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	897	563	554	724	11	160
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	738			1151		
pX, platoon unblocked			0.74		0.74	0.74
vC, conflicting volume			1460		2647	730
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			924		2525	0
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			0		0	80
cM capacity (veh/h)			541		0	802

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	598	862	554	362	362	11	160
Volume Left	0	0	554	0	0	11	0
Volume Right	0	563	0	0	0	0	160
cSH	1700	1700	541	1700	1700	0	802
Volume to Capacity	0.35	0.51	1.02	0.21	0.21	Err	0.20
Queue Length 95th (ft)	0	0	381	0	0	Err	19
Control Delay (s)	0.0	0.0	72.6	0.0	0.0	Err	10.6
Lane LOS			F			F	B
Approach Delay (s)	0.0		31.5			Err	
Approach LOS						F	

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					386							
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1614			1614			1020	893	1081	1020	893	1081

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	0	0	0	0	0	0	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS									A	A	A	A
Approach Delay (s)	0.0				0.0				0.0			
Approach LOS									A			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	285	780	0	0	860	115	280	0	610	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	0.97	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.98		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	3221	3320			5905		3221		2614			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	3221	3320			5905		3221		2614			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	310	848	0	0	935	125	304	0	663	0	0	0
RTOR Reduction (vph)	0	0	0	0	39	0	0	0	182	0	0	0
Lane Group Flow (vph)	310	848	0	0	1021	0	304	0	481	0	0	0
Turn Type	Prot						custom		custom			
Protected Phases	7	4			8							
Permitted Phases							2		2			
Actuated Green, G (s)	10.2	29.1			14.9		14.3		14.3			
Effective Green, g (s)	10.2	29.1			14.9		14.3		14.3			
Actuated g/C Ratio	0.20	0.57			0.29		0.28		0.28			
Clearance Time (s)	4.0	4.0			4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	639	1880			1712		896		727			
v/s Ratio Prot	0.10	c0.26			c0.17							
v/s Ratio Perm							0.09		c0.18			
v/c Ratio	0.49	0.45			0.60		0.34		0.66			
Uniform Delay, d1	18.3	6.5			15.7		14.8		16.4			
Progression Factor	1.00	1.00			1.00		1.00		1.00			
Incremental Delay, d2	0.6	0.2			0.6		0.2		2.3			
Delay (s)	18.9	6.7			16.2		15.0		18.7			
Level of Service	B	A			B		B		B			
Approach Delay (s)		9.9			16.2			17.5			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	51.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	445	810	30	15	320	145	290	200	505	40	160	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.89		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	3320	1485	1660	3165		1660	2963		1660	3264	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1660	3320	1485	1660	3165		1660	2963		1660	3264	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	484	880	33	16	348	158	315	217	549	43	174	22
RTOR Reduction (vph)	0	0	19	0	53	0	0	341	0	0	10	0
Lane Group Flow (vph)	484	880	14	16	453	0	315	425	0	43	186	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	27.5	42.9	42.9	1.6	17.0		20.9	38.6		2.9	20.6	
Effective Green, g (s)	27.5	42.9	42.9	1.6	17.0		20.9	38.6		2.9	20.6	
Actuated g/C Ratio	0.27	0.42	0.42	0.02	0.17		0.20	0.38		0.03	0.20	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	448	1396	625	26	528		340	1121		47	659	
v/s Ratio Prot	c0.29	0.27		0.01	c0.14		c0.19	c0.14		c0.03	0.06	
v/s Ratio Perm			0.01									
v/c Ratio	1.08	0.63	0.02	0.62	0.86		0.93	0.38		0.91	0.28	
Uniform Delay, d1	37.2	23.3	17.3	49.9	41.3		39.8	23.0		49.4	34.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	65.8	0.9	0.0	36.3	13.0		30.3	1.0		98.6	1.1	
Delay (s)	103.1	24.2	17.3	86.2	54.3		70.1	24.0		148.0	35.5	
Level of Service	F	C	B	F	D		E	C		F	D	
Approach Delay (s)		51.4			55.3			37.4			55.8	
Approach LOS		D			E			D			E	

Intersection Summary			
HCM Average Control Delay	47.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	102.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	48	15	0	0	0	2	0	0	0	13	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	75	23	0	0	0	3	0	0	0	20	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	26	26	20	64	58	0	51			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	26	26	20	64	58	0	51			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	91	98	100	100	100	100			100		
cM capacity (veh/h)	980	863	1055	846	830	1082	1548			1617		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	75	23	3	0	20	31
Volume Left	0	0	3	0	0	0
Volume Right	0	23	0	0	0	31
cSH	863	1055	1548	1700	1700	1700
Volume to Capacity	0.09	0.02	0.00	0.00	0.01	0.02
Queue Length 95th (ft)	7	2	0	0	0	0
Control Delay (s)	9.6	8.5	7.3	0.0	0.0	0.0
Lane LOS	A	A	A			
Approach Delay (s)	9.3		7.3		0.0	
Approach LOS	A					

Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	16.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	9	314	134	37	7	4	95	51	8	235	111	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	488	208	58	11	6	148	79	12	365	173	12

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	502	208	68	6	148	79	12	365	173	12
Volume Left (vph)	14	0	58	0	148	0	0	365	0	0
Volume Right (vph)	0	208	0	6	0	0	12	0	0	12
Hadj (s)	0.06	-0.55	0.47	-0.65	0.55	0.05	-0.65	0.55	0.05	-0.65
Departure Headway (s)	7.0	3.2	8.7	7.6	8.4	7.8	3.2	7.8	7.2	3.2
Degree Utilization, x	0.97	0.19	0.17	0.01	0.34	0.17	0.01	0.79	0.35	0.01
Capacity (veh/h)	514	1121	400	454	427	452	1121	454	491	1121
Control Delay (s)	58.8	6.9	12.2	9.5	14.4	11.3	5.0	32.7	12.9	5.0
Approach Delay (s)	43.6		12.0		12.9			25.8		
Approach LOS	E		B		B			D		

Intersection Summary			
Delay	31.2		
HCM Level of Service	D		
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	595	35	10	210	25	30	15	15	30	15	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	647	38	11	228	27	33	16	16	33	16	33

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	707	239	27	65	82
Volume Left (vph)	22	11	0	33	33
Volume Right (vph)	38	0	27	16	33
Hadj (s)	0.02	0.07	-0.65	0.00	-0.11
Departure Headway (s)	4.9	5.8	5.0	6.5	6.3
Degree Utilization, x	0.96	0.38	0.04	0.12	0.14
Capacity (veh/h)	726	614	697	526	536
Control Delay (s)	46.1	11.1	7.0	10.4	10.4
Approach Delay (s)	46.1	10.7		10.4	10.4
Approach LOS	E	B		B	B

Intersection Summary			
Delay	33.0		
HCM Level of Service	D		
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	45	225	25	55	75	30	25	150	25	90	110	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	245	27	60	82	33	27	163	27	98	120	27

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	49	272	60	114	27	190	98	147
Volume Left (vph)	49	0	60	0	27	0	98	0
Volume Right (vph)	0	27	0	33	0	27	0	27
Hadj (s)	0.55	-0.02	0.55	-0.15	0.55	-0.05	0.55	-0.08
Departure Headway (s)	6.6	6.1	6.9	6.2	6.8	6.2	6.8	6.2
Degree Utilization, x	0.09	0.46	0.11	0.20	0.05	0.33	0.18	0.25
Capacity (veh/h)	513	568	491	546	495	545	499	550
Control Delay (s)	9.1	12.9	9.5	9.4	9.0	11.1	10.1	10.0
Approach Delay (s)	12.3		9.5		10.8		10.1	
Approach LOS	B		A		B		B	

Intersection Summary			
Delay	10.9		
HCM Level of Service	B		
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	85	260	70	25	110	30	110	270	30	30	165	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	92	283	76	27	120	33	120	293	33	33	179	65

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	451	147	33	413	33	277
Volume Left (vph)	92	27	0	120	0	33
Volume Right (vph)	76	0	33	0	33	65
Hadj (s)	-0.01	0.14	-0.65	0.20	-0.65	-0.07
Departure Headway (s)	8.0	9.2	8.4	8.3	7.4	8.6
Degree Utilization, x	1.00	0.37	0.08	0.95	0.07	0.66
Capacity (veh/h)	448	375	419	443	491	417
Control Delay (s)	72.3	16.4	10.8	58.6	9.7	26.9
Approach Delay (s)	72.3	15.4		55.0		26.9
Approach LOS	F	C		F		D

Intersection Summary			
Delay	49.8		
HCM Level of Service	E		
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1685	50	215	640	0	45	0	525	175	20	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.90	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		1485	1660	2991	
Flt Permitted		1.00	1.00	0.95	1.00		0.24		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		411		1485	1660	2991	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1832	54	234	696	0	49	0	571	190	22	43
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	272	0	36	0
Lane Group Flow (vph)	0	1832	36	234	696	0	49	0	299	190	29	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		41.0	41.0	10.0	55.0		17.0		10.0	16.0	16.0	
Effective Green, g (s)		41.0	41.0	10.0	55.0		17.0		10.0	16.0	16.0	
Actuated g/C Ratio		0.41	0.41	0.10	0.55		0.17		0.10	0.16	0.16	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1361	609	166	1826		70		149	266	479	
v/s Ratio Prot		c0.55		0.14	0.21				c0.20	c0.11	0.01	
v/s Ratio Perm			0.02				c0.12					
v/c Ratio		1.35	0.06	1.41	0.38		0.70		2.01	0.71	0.06	
Uniform Delay, d1		29.5	17.8	45.0	12.8		39.1		45.0	39.8	35.6	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		160.7	0.0	216.2	0.1		45.0		476.5	15.1	0.2	
Delay (s)		190.2	17.9	261.2	12.9		84.1		521.5	55.0	35.9	
Level of Service		F	B	F	B		F		F	D	D	
Approach Delay (s)		185.3			75.4			487.0			50.1	
Approach LOS		F			E			F			D	

Intersection Summary			
HCM Average Control Delay	198.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	105.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	175	795	0	0	465	780	180	130	450	140	0	120
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97		1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.92	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1660	3320			3320	1485	1577	1461	1411	3221		1485
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.54		1.00
Satd. Flow (perm)	1660	3320			3320	1485	1577	1461	1411	1834		1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	864	0	0	505	848	196	141	489	152	0	130
RTOR Reduction (vph)	0	0	0	0	0	403	0	39	126	0	0	108
Lane Group Flow (vph)	190	864	0	0	505	445	176	298	187	152	0	22
Turn Type	Prot					Perm	Split		Perm	custom		custom
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2	6		6
Actuated Green, G (s)	11.1	46.3			31.2	31.2	22.1	22.1	22.1	16.1		16.1
Effective Green, g (s)	11.1	46.3			31.2	31.2	22.1	22.1	22.1	16.1		16.1
Actuated g/C Ratio	0.12	0.48			0.32	0.32	0.23	0.23	0.23	0.17		0.17
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	191	1593			1073	480	361	335	323	306		248
v/s Ratio Prot	c0.11	0.26			0.15		0.11	c0.20				
v/s Ratio Perm						c0.30			0.13	c0.08		0.01
v/c Ratio	0.99	0.54			0.47	0.93	0.49	0.89	0.58	0.50		0.09
Uniform Delay, d1	42.7	17.7			26.1	31.5	32.3	36.0	33.1	36.5		34.0
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	63.3	0.4			0.3	23.9	4.6	28.0	7.3	5.7		0.7
Delay (s)	105.9	18.0			26.4	55.5	36.9	64.0	40.4	42.2		34.7
Level of Service	F	B			C	E	D	E	D	D		C
Approach Delay (s)		33.9			44.6			49.3			38.7	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	42.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	96.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	0	5	5	15	20	285	625	400	160	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	0	5	5	16	22	310	679	435	174	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								290				
pX, platoon unblocked												
vC, conflicting volume	1261	2076	87	1649	1736	495	174			989		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1261	2076	87	1649	1736	495	174			989		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	100	100	83	83	97	98			37		
cM capacity (veh/h)	53	19	951	32	31	518	1393			688		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	5	11	16	22	207	783	435	87	87
Volume Left	5	5	0	22	0	0	435	0	0
Volume Right	0	0	16	0	0	679	0	0	0
cSH	53	31	518	1393	1700	1700	688	1700	1700
Volume to Capacity	0.10	0.35	0.03	0.02	0.12	0.46	0.63	0.05	0.05
Queue Length 95th (ft)	8	28	2	1	0	0	113	0	0
Control Delay (s)	81.1	172.1	12.2	7.6	0.0	0.0	18.8	0.0	0.0
Lane LOS	F	F	B	A			C		
Approach Delay (s)	81.1	76.1		0.2			13.4		
Approach LOS	F	F							

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	10	745	45	345	940	95	85	390	30	40	280	470
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	810	49	375	1022	103	92	424	33	43	304	511
RTOR Reduction (vph)	0	0	36	0	0	46	0	0	25	0	0	418
Lane Group Flow (vph)	11	810	13	375	1022	57	92	424	8	43	304	93
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8			6			2
Actuated Green, G (s)	0.7	23.9	23.9	25.0	48.2	48.2	6.1	19.8	19.8	2.2	15.9	15.9
Effective Green, g (s)	0.7	23.9	23.9	25.0	48.2	48.2	6.1	19.8	19.8	2.2	15.9	15.9
Actuated g/C Ratio	0.01	0.28	0.28	0.29	0.55	0.55	0.07	0.23	0.23	0.03	0.18	0.18
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	13	913	408	478	1841	824	117	756	338	42	607	272
v/s Ratio Prot	0.01	c0.24		c0.23	0.31		c0.06	c0.13		0.03	0.09	
v/s Ratio Perm			0.01			0.04			0.01			0.06
v/c Ratio	0.85	0.89	0.03	0.78	0.56	0.07	0.79	0.56	0.02	1.02	0.50	0.34
Uniform Delay, d1	43.0	30.2	23.0	28.5	12.5	9.0	39.8	29.7	26.0	42.4	31.9	31.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	166.4	10.4	0.0	8.2	0.4	0.0	28.5	1.0	0.0	146.0	0.7	0.8
Delay (s)	209.5	40.6	23.1	36.7	12.8	9.0	68.2	30.7	26.1	188.3	32.6	31.7
Level of Service	F	D	C	D	B	A	E	C	C	F	C	C
Approach Delay (s)		41.8			18.5			36.7			39.9	
Approach LOS		D			B			D			D	

Intersection Summary			
HCM Average Control Delay	31.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	86.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	345	405	20	30	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	375	440	22	33	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	462				848	451
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	462				848	451
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				90	96
cM capacity (veh/h)	1094				327	606

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	386	462	54
Volume Left	11	0	33
Volume Right	0	22	22
cSH	1094	1700	401
Volume to Capacity	0.01	0.27	0.14
Queue Length 95th (ft)	1	0	12
Control Delay (s)	0.3	0.0	15.4
Lane LOS	A		C
Approach Delay (s)	0.3	0.0	15.4
Approach LOS			C

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	255	170	220	475	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	277	185	239	516	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			462		1272	277
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			462		1272	277
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			78		100	100
cM capacity (veh/h)			1094		144	759

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	277	185	239	516
Volume Left	0	0	239	0
Volume Right	0	185	0	0
cSH	1700	1700	1094	1700
Volume to Capacity	0.16	0.11	0.22	0.30
Queue Length 95th (ft)	0	0	21	0
Control Delay (s)	0.0	0.0	9.2	0.0
Lane LOS			A	
Approach Delay (s)	0.0		2.9	
Approach LOS				

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	270	0	0	540	180	235
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	293	0	0	587	196	255
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1094		
pX, platoon unblocked					0.77	
vC, conflicting volume			293		880	293
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			293		696	293
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		37	66
cM capacity (veh/h)			1262		313	743

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	293	587	451
Volume Left	0	0	196
Volume Right	0	0	255
cSH	1700	1700	722
Volume to Capacity	0.17	0.35	0.63
Queue Length 95th (ft)	0	0	111
Control Delay (s)	0.0	0.0	21.7
Lane LOS			C
Approach Delay (s)	0.0	0.0	21.7
Approach LOS			C

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	70	435	20	90	475	90	120	65	50	35	210	65
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3298		1660	3241		1660	3320	1485	1660	3320	1485
Flt Permitted	0.29	1.00		0.39	1.00		0.61	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	513	3298		677	3241		1065	3320	1485	1238	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	473	22	98	516	98	130	71	54	38	228	71
RTOR Reduction (vph)	0	6	0	0	27	0	0	0	23	0	0	30
Lane Group Flow (vph)	76	489	0	98	587	0	130	71	31	38	228	41
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6		6	2		2
Actuated Green, G (s)	16.7	16.7		16.7	16.7		33.2	33.2	33.2	33.2	33.2	33.2
Effective Green, g (s)	16.7	16.7		16.7	16.7		33.2	33.2	33.2	33.2	33.2	33.2
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.57	0.57	0.57	0.57	0.57	0.57
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	148	951		195	935		611	1904	852	710	1904	852
v/s Ratio Prot		0.15			c0.18			0.02			0.07	
v/s Ratio Perm	0.15			0.14			c0.12		0.02	0.03		0.03
v/c Ratio	0.51	0.51		0.50	0.63		0.21	0.04	0.04	0.05	0.12	0.05
Uniform Delay, d1	17.2	17.2		17.1	17.9		6.0	5.4	5.4	5.4	5.7	5.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0	0.5		2.0	1.3		0.8	0.0	0.1	0.1	0.1	0.1
Delay (s)	20.2	17.7		19.2	19.2		6.8	5.4	5.5	5.6	5.8	5.5
Level of Service	C	B		B	B		A	A	A	A	A	A
Approach Delay (s)		18.0			19.2			6.1			5.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	57.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	440	65	140	505	190	75	310	105	130	265	130
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	478	71	152	549	207	82	337	114	141	288	141
RTOR Reduction (vph)	0	0	50	0	0	153	0	0	92	0	0	110
Lane Group Flow (vph)	207	478	21	152	549	54	82	337	22	141	288	31
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	14.4	20.8	20.8	12.3	18.7	18.7	6.6	13.5	13.5	8.6	15.5	15.5
Effective Green, g (s)	14.4	20.8	20.8	12.3	18.7	18.7	6.6	13.5	13.5	8.6	15.5	15.5
Actuated g/C Ratio	0.20	0.29	0.29	0.17	0.26	0.26	0.09	0.19	0.19	0.12	0.22	0.22
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	336	970	434	287	872	390	154	629	282	201	723	323
v/s Ratio Prot	c0.12	0.14		0.09	c0.17		0.05	c0.10		c0.08	0.09	
v/s Ratio Perm			0.01			0.04			0.01			0.02
v/c Ratio	0.62	0.49	0.05	0.53	0.63	0.14	0.53	0.54	0.08	0.70	0.40	0.10
Uniform Delay, d1	25.9	20.8	18.1	26.8	23.2	20.1	30.8	26.0	23.7	30.1	23.9	22.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	0.4	0.0	1.8	1.4	0.2	3.5	0.9	0.1	10.5	0.4	0.1
Delay (s)	29.2	21.2	18.1	28.6	24.6	20.3	34.3	26.9	23.8	40.6	24.2	22.4
Level of Service	C	C	B	C	C	C	C	C	C	D	C	C
Approach Delay (s)		23.1			24.3			27.4			27.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	71.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	640	50	150	800	495	60	130	210	240	80	60
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.94		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1660	3285		1660	3130		1660	1586		1660	1748	1485
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1660	3285		1660	3130		1660	1586		1660	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	696	54	163	870	538	65	141	228	261	87	65
RTOR Reduction (vph)	0	6	0	0	96	0	0	58	0	0	0	44
Lane Group Flow (vph)	49	744	0	163	1312	0	65	311	0	261	87	21
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	3.1	27.5		16.6	41.0		7.1	23.9		16.0	32.8	32.8
Effective Green, g (s)	3.1	27.5		16.6	41.0		7.1	23.9		16.0	32.8	32.8
Actuated g/C Ratio	0.03	0.28		0.17	0.41		0.07	0.24		0.16	0.33	0.33
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	51	903		276	1283		118	379		266	573	487
v/s Ratio Prot	0.03	c0.23		0.10	c0.42		0.04	c0.20		c0.16	0.05	
v/s Ratio Perm												0.01
v/c Ratio	0.96	0.82		0.59	1.02		0.55	0.82		0.98	0.15	0.04
Uniform Delay, d1	48.4	34.0		38.6	29.5		44.9	36.0		41.9	23.8	22.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	111.0	6.2		3.4	31.1		5.5	17.8		49.7	0.6	0.2
Delay (s)	159.4	40.2		41.9	60.6		50.4	53.9		91.6	24.3	23.1
Level of Service	F	D		D	E		D	D		F	C	C
Approach Delay (s)		47.5			58.7			53.3			66.6	
Approach LOS		D			E			D			E	

Intersection Summary			
HCM Average Control Delay	56.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	572	213	396	1264	15	125
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	839	294	452	1443	49	173
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	738			1151		
pX, platoon unblocked			0.81		0.81	0.81
vC, conflicting volume			1133		2612	567
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			703		2522	6
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			37		0	80
cM capacity (veh/h)			718		7	871

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	560	574	452	721	721	49	173
Volume Left	0	0	452	0	0	49	0
Volume Right	0	294	0	0	0	0	173
cSH	1700	1700	718	1700	1700	7	871
Volume to Capacity	0.33	0.34	0.63	0.42	0.42	7.21	0.20
Queue Length 95th (ft)	0	0	112	0	0	Err	18
Control Delay (s)	0.0	0.0	18.1	0.0	0.0	Err	10.1
Lane LOS			C			F	B
Approach Delay (s)	0.0		4.3			2216.3	
Approach LOS						F	

Intersection Summary			
Average Delay	153.6		
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					386							
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1614			1614			1020	893	1081	1020	893	1081

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	0	0	0	0	0	0	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS									A	A	A	A
Approach Delay (s)	0.0				0.0				0.0			
Approach LOS									A			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	715	0	0	1010	255	620	0	760	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	0.97	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.97		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	3221	3320			5830		3221		2614			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	3221	3320			5830		3221		2614			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	777	0	0	1098	277	674	0	826	0	0	0
RTOR Reduction (vph)	0	0	0	0	73	0	0	0	109	0	0	0
Lane Group Flow (vph)	152	777	0	0	1302	0	674	0	717	0	0	0
Turn Type	Prot						custom		custom			
Protected Phases	7	4			8							
Permitted Phases							2		2			
Actuated Green, G (s)	3.7	24.3			16.6		20.6		20.6			
Effective Green, g (s)	3.7	24.3			16.6		20.6		20.6			
Actuated g/C Ratio	0.07	0.46			0.31		0.39		0.39			
Clearance Time (s)	4.0	4.0			4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	225	1525			1829		1254		1018			
v/s Ratio Prot	0.05	c0.23			c0.22							
v/s Ratio Perm							0.21		c0.27			
v/c Ratio	0.68	0.51			0.71		0.54		0.70			
Uniform Delay, d1	24.0	10.1			16.0		12.5		13.6			
Progression Factor	1.00	1.00			1.00		1.00		1.00			
Incremental Delay, d2	7.8	0.3			1.3		0.4		2.2			
Delay (s)	31.8	10.4			17.4		12.9		15.8			
Level of Service	C	B			B		B		B			
Approach Delay (s)		13.9			17.4			14.5			0.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	52.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	580	730	25	10	545	200	225	130	465	30	250	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.88		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	3320	1485	1660	3187		1660	2931		1660	3275	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1660	3320	1485	1660	3187		1660	2931		1660	3275	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	630	793	27	11	592	217	245	141	505	33	272	27
RTOR Reduction (vph)	0	0	12	0	38	0	0	372	0	0	7	0
Lane Group Flow (vph)	630	793	15	11	771	0	245	274	0	33	292	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	37.2	57.4	57.4	0.8	21.0		13.0	27.6		3.0	17.6	
Effective Green, g (s)	37.2	57.4	57.4	0.8	21.0		13.0	27.6		3.0	17.6	
Actuated g/C Ratio	0.35	0.55	0.55	0.01	0.20		0.12	0.26		0.03	0.17	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	589	1818	813	13	639		206	772		48	550	
v/s Ratio Prot	c0.38	0.24		0.01	c0.24		c0.15	0.09		0.02	c0.09	
v/s Ratio Perm			0.01									
v/c Ratio	1.07	0.44	0.02	0.85	1.21		1.19	0.35		0.69	0.53	
Uniform Delay, d1	33.8	14.1	10.8	51.9	41.9		45.9	31.4		50.4	39.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	57.1	0.2	0.0	166.4	107.5		123.2	1.3		33.8	3.6	
Delay (s)	90.9	14.3	10.8	218.4	149.4		169.1	32.6		84.2	43.5	
Level of Service	F	B	B	F	F		F	C		F	D	
Approach Delay (s)		47.5			150.3			70.2			47.5	
Approach LOS		D			F			E			D	

Intersection Summary			
HCM Average Control Delay	77.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	104.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	26	8	0	0	0	20	0	2	0	6	17
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	36	11	0	0	0	28	0	3	0	8	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	64	66	8	81	87	0	32			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	64	66	8	81	87	0	32			3		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	96	99	100	100	100	98			100		
cM capacity (veh/h)	916	808	1071	853	787	1082	1574			1613		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	36	11	28	3	8	23
Volume Left	0	0	28	0	0	0
Volume Right	0	11	0	3	0	23
cSH	808	1071	1574	1700	1700	1700
Volume to Capacity	0.04	0.01	0.02	0.00	0.00	0.01
Queue Length 95th (ft)	3	1	1	0	0	0
Control Delay (s)	9.7	8.4	7.3	0.0	0.0	0.0
Lane LOS	A	A	A			
Approach Delay (s)	9.4		6.7		0.0	
Approach LOS	A					

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	21.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	112	180	17	39	20	3	334	183	10	95	81	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	155	248	23	54	28	4	461	253	14	131	112	19

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	403	23	81	4	461	253	14	131	112	19
Volume Left (vph)	155	0	54	0	461	0	0	131	0	0
Volume Right (vph)	0	23	0	4	0	0	14	0	0	19
Hadj (s)	0.13	-0.55	0.38	-0.65	0.55	0.05	-0.65	0.55	0.05	-0.65
Departure Headway (s)	7.3	3.2	8.7	7.7	7.5	7.0	3.2	8.3	7.8	3.2
Degree Utilization, x	0.82	0.02	0.20	0.01	0.96	0.49	0.01	0.30	0.24	0.02
Capacity (veh/h)	484	1121	395	443	475	507	1121	423	449	1121
Control Delay (s)	35.2	6.3	12.7	9.5	58.4	15.4	5.0	13.6	12.0	5.1
Approach Delay (s)	33.6		12.5		42.4			12.3		
Approach LOS	D		B		E			B		

Intersection Summary			
Delay	33.0		
HCM Level of Service	D		
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	25	370	45	5	440	45	60	40	15	40	40	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	402	49	5	478	49	65	43	16	43	43	65

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	478	484	49	125	152
Volume Left (vph)	27	5	0	65	43
Volume Right (vph)	49	0	49	16	65
Hadj (s)	0.00	0.06	-0.65	0.08	-0.15
Departure Headway (s)	6.0	6.3	5.6	7.3	7.0
Degree Utilization, x	0.80	0.85	0.08	0.25	0.30
Capacity (veh/h)	586	556	622	436	463
Control Delay (s)	28.2	34.1	7.9	12.8	12.9
Approach Delay (s)	28.2	31.7		12.8	12.9
Approach LOS	D	D		B	B

Intersection Summary			
Delay	26.3		
HCM Level of Service	D		
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	60	135	30	120	160	70	55	345	85	85	235	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	147	33	130	174	76	60	375	92	92	255	33

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	65	179	130	250	60	467	92	288
Volume Left (vph)	65	0	130	0	60	0	92	0
Volume Right (vph)	0	33	0	76	0	92	0	33
Hadj (s)	0.55	-0.08	0.55	-0.16	0.55	-0.09	0.55	-0.03
Departure Headway (s)	8.7	8.1	8.4	7.7	7.9	7.3	8.2	7.6
Degree Utilization, x	0.16	0.40	0.30	0.53	0.13	0.94	0.21	0.61
Capacity (veh/h)	398	430	415	446	441	491	424	451
Control Delay (s)	12.1	15.2	13.9	18.0	10.9	53.5	12.2	20.6
Approach Delay (s)	14.4		16.6		48.7		18.6	
Approach LOS	B		C		E		C	

Intersection Summary			
Delay	27.8		
HCM Level of Service	D		
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	75	65	65	170	30	100	335	35	25	390	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	82	71	71	185	33	109	364	38	27	424	49

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	207	255	33	473	38	500
Volume Left (vph)	54	71	0	109	0	27
Volume Right (vph)	71	0	33	0	38	49
Hadj (s)	-0.10	0.19	-0.65	0.17	-0.65	0.00
Departure Headway (s)	9.0	8.8	8.0	8.0	7.2	8.0
Degree Utilization, x	0.52	0.63	0.07	1.05	0.08	1.12
Capacity (veh/h)	382	400	439	455	492	461
Control Delay (s)	21.4	24.3	10.4	84.3	9.6	105.5
Approach Delay (s)	21.4	22.8		78.7		105.5
Approach LOS	C	C		F		F

Intersection Summary			
Delay	69.0		
HCM Level of Service	F		
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	985	45	515	1745	0	65	0	545	220	65	110
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.91	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		1485	1660	3007	
Flt Permitted		1.00	1.00	0.95	1.00		0.24		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		411		1485	1660	3007	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1071	49	560	1897	0	71	0	592	239	71	120
RTOR Reduction (vph)	0	0	28	0	0	0	0	0	268	0	101	0
Lane Group Flow (vph)	0	1071	21	560	1897	0	71	0	324	239	90	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		26.0	26.0	25.0	55.0		17.0		25.0	16.0	16.0	
Effective Green, g (s)		26.0	26.0	25.0	55.0		17.0		25.0	16.0	16.0	
Actuated g/C Ratio		0.26	0.26	0.25	0.55		0.17		0.25	0.16	0.16	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		863	386	415	1826		70		371	266	481	
v/s Ratio Prot		c0.32		c0.34	0.57				0.22	c0.14	0.03	
v/s Ratio Perm			0.01				c0.17					
v/c Ratio		1.24	0.05	1.35	1.04		1.01		0.87	0.90	0.19	
Uniform Delay, d1		37.0	27.8	37.5	22.5		41.5		36.0	41.2	36.4	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		118.3	0.1	172.5	31.9		111.6		19.8	34.2	0.9	
Delay (s)		155.3	27.8	210.0	54.4		153.1		55.8	75.4	37.2	
Level of Service		F	C	F	D		F		E	E	D	
Approach Delay (s)		149.7			89.9			66.2			58.5	
Approach LOS		F			F			E			E	

Intersection Summary			
HCM Average Control Delay	98.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	175	765	0	0	1135	495	320	120	595	245	0	250
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97		1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.91	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1660	3320			3320	1485	1577	1440	1411	3221		1485
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.50		1.00
Satd. Flow (perm)	1660	3320			3320	1485	1577	1440	1411	1692		1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	832	0	0	1234	538	348	130	647	266	0	272
RTOR Reduction (vph)	0	0	0	0	0	268	0	55	90	0	0	181
Lane Group Flow (vph)	190	832	0	0	1234	270	313	362	305	266	0	91
Turn Type	Prot					Perm	Split		Perm	custom		custom
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2	6		6
Actuated Green, G (s)	10.0	49.0			35.0	35.0	23.0	23.0	23.0	16.0		16.0
Effective Green, g (s)	10.0	49.0			35.0	35.0	23.0	23.0	23.0	16.0		16.0
Actuated g/C Ratio	0.10	0.49			0.35	0.35	0.23	0.23	0.23	0.16		0.16
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	166	1627			1162	520	363	331	325	271		238
v/s Ratio Prot	c0.11	0.25			c0.37		0.20	c0.25				
v/s Ratio Perm						0.18			0.22	c0.16		0.06
v/c Ratio	1.14	0.51			1.06	0.52	0.86	1.09	0.94	0.98		0.38
Uniform Delay, d1	45.0	17.4			32.5	25.8	37.0	38.5	37.8	41.9		37.6
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	114.0	0.3			44.5	0.9	22.7	77.3	36.4	50.2		4.6
Delay (s)	159.0	17.6			77.0	26.7	59.7	115.8	74.2	92.0		42.2
Level of Service	F	B			E	C	E	F	E	F		D
Approach Delay (s)		43.9			61.7			85.6			66.8	
Approach LOS		D			E			F			E	

Intersection Summary			
HCM Average Control Delay	64.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	5	25	5	5	35	245	600	385	325	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	5	27	5	5	38	266	652	418	353	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								290				
pX, platoon unblocked												
vC, conflicting volume	1410	2188	179	1688	1864	459	359			918		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1410	2188	179	1688	1864	459	359			918		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	15	82	99	97			43		
cM capacity (veh/h)	45	18	829	32	30	546	1189			732		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	5	33	5	38	178	741	418	236	123
Volume Left	0	27	0	38	0	0	418	0	0
Volume Right	5	0	5	0	0	652	0	0	5
cSH	829	32	546	1189	1700	1700	732	1700	1700
Volume to Capacity	0.01	1.03	0.01	0.03	0.10	0.44	0.57	0.14	0.07
Queue Length 95th (ft)	0	89	1	2	0	0	91	0	0
Control Delay (s)	9.4	356.4	11.7	8.1	0.0	0.0	16.3	0.0	0.0
Lane LOS	A	F	B	A			C		
Approach Delay (s)	9.4	307.1		0.3			8.8		
Approach LOS	A	F							

Intersection Summary			
Average Delay	10.6		
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	15	1065	30	430	1705	115	120	220	20	60	485	785
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	1158	33	467	1853	125	130	239	22	65	527	853
RTOR Reduction (vph)	0	0	17	0	0	48	0	0	16	0	0	326
Lane Group Flow (vph)	16	1158	16	467	1853	77	130	239	6	65	527	527
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8			6			2
Actuated Green, G (s)	1.6	28.0	28.0	23.4	49.8	49.8	6.0	28.8	28.8	7.0	29.8	29.8
Effective Green, g (s)	1.6	28.0	28.0	23.4	49.8	49.8	6.0	28.8	28.8	7.0	29.8	29.8
Actuated g/C Ratio	0.02	0.27	0.27	0.23	0.48	0.48	0.06	0.28	0.28	0.07	0.29	0.29
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	26	901	403	376	1602	717	97	927	414	113	959	429
v/s Ratio Prot	0.01	c0.35		0.28	c0.56		c0.08	0.07		0.04	0.16	
v/s Ratio Perm			0.01			0.05			0.00			c0.35
v/c Ratio	0.62	1.29	0.04	1.24	1.16	0.11	1.34	0.26	0.01	0.58	0.55	1.23
Uniform Delay, d1	50.5	37.6	27.7	39.9	26.7	14.6	48.6	28.9	26.9	46.7	31.0	36.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	36.3	136.8	0.0	129.6	78.0	0.1	207.1	0.1	0.0	6.9	0.6	122.1
Delay (s)	86.8	174.4	27.7	169.5	104.7	14.6	255.7	29.0	26.9	53.6	31.7	158.8
Level of Service	F	F	C	F	F	B	F	C	C	D	C	F
Approach Delay (s)		169.2			112.5			104.3			107.7	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	123.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	103.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

2020 Build

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	35	375	220	20	10	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	408	239	22	11	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	261				734	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	261				734	250
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				97	97
cM capacity (veh/h)	1298				375	786

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	446	261	33
Volume Left	38	0	11
Volume Right	0	22	22
cSH	1298	1700	575
Volume to Capacity	0.03	0.15	0.06
Queue Length 95th (ft)	2	0	4
Control Delay (s)	0.9	0.0	11.6
Lane LOS	A		B
Approach Delay (s)	0.9	0.0	11.6
Approach LOS			B

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	260	205	325	390	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	283	223	353	424	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			505		1413	283
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			505		1413	283
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			66		100	100
cM capacity (veh/h)			1054		100	754

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	283	223	353	424
Volume Left	0	0	353	0
Volume Right	0	223	0	0
cSH	1700	1700	1054	1700
Volume to Capacity	0.17	0.13	0.34	0.25
Queue Length 95th (ft)	0	0	37	0
Control Delay (s)	0.0	0.0	10.1	0.0
Lane LOS			B	
Approach Delay (s)	0.0		4.6	
Approach LOS				

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	265	0	0	560	165	160
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	288	0	0	609	179	174
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1094		
pX, platoon unblocked					0.82	
vC, conflicting volume			288		897	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			288		761	288
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		41	77
cM capacity (veh/h)			1268		304	749

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	288	609	353
Volume Left	0	0	179
Volume Right	0	0	174
cSH	1700	1700	598
Volume to Capacity	0.17	0.36	0.59
Queue Length 95th (ft)	0	0	96
Control Delay (s)	0.0	0.0	22.1
Lane LOS			C
Approach Delay (s)	0.0	0.0	22.1
Approach LOS			C

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	30	265	10	140	385	60	240	175	20	15	55	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3302		1660	3253		1660	3320	1485	1660	3320	1485
Flt Permitted	0.37	1.00		0.55	1.00		0.72	1.00	1.00	0.63	1.00	1.00
Satd. Flow (perm)	642	3302		963	3253		1251	3320	1485	1105	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	288	11	152	418	65	261	190	22	16	60	33
RTOR Reduction (vph)	0	4	0	0	19	0	0	0	8	0	0	13
Lane Group Flow (vph)	33	295	0	152	464	0	261	190	14	16	60	20
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6		6	2		2
Actuated Green, G (s)	16.5	16.5		16.5	16.5		39.3	39.3	39.3	39.3	39.3	39.3
Effective Green, g (s)	16.5	16.5		16.5	16.5		39.3	39.3	39.3	39.3	39.3	39.3
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.62	0.62	0.62	0.62	0.62	0.62
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	166	854		249	841		771	2045	915	681	2045	915
v/s Ratio Prot		0.09			0.14			0.06			0.02	
v/s Ratio Perm	0.05			c0.16			c0.21		0.01	0.01		0.01
v/c Ratio	0.20	0.34		0.61	0.55		0.34	0.09	0.01	0.02	0.03	0.02
Uniform Delay, d1	18.5	19.3		20.8	20.4		5.9	5.0	4.7	4.8	4.8	4.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.2		4.4	0.8		1.2	0.1	0.0	0.1	0.0	0.0
Delay (s)	19.1	19.5		25.2	21.2		7.1	5.1	4.8	4.8	4.8	4.8
Level of Service	B	B		C	C		A	A	A	A	A	A
Approach Delay (s)		19.5			22.2			6.2			4.8	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	63.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	610	85	60	315	110	45	115	60	285	180	110
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	663	92	65	342	120	49	125	65	310	196	120
RTOR Reduction (vph)	0	0	65	0	0	95	0	0	55	0	0	78
Lane Group Flow (vph)	109	663	27	65	342	25	49	125	10	310	196	42
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	10.1	19.8	19.8	4.4	14.1	14.1	4.5	10.7	10.7	17.8	24.0	24.0
Effective Green, g (s)	10.1	19.8	19.8	4.4	14.1	14.1	4.5	10.7	10.7	17.8	24.0	24.0
Actuated g/C Ratio	0.15	0.29	0.29	0.06	0.21	0.21	0.07	0.16	0.16	0.26	0.35	0.35
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	244	957	428	106	681	305	109	517	231	430	1160	519
v/s Ratio Prot	0.07	c0.20		0.04	c0.10		0.03	c0.04		c0.19	0.06	
v/s Ratio Perm			0.02			0.02			0.01			0.03
v/c Ratio	0.45	0.69	0.06	0.61	0.50	0.08	0.45	0.24	0.04	0.72	0.17	0.08
Uniform Delay, d1	26.7	21.7	17.7	31.3	24.2	22.1	30.9	25.4	24.7	23.2	15.5	15.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	2.2	0.1	10.1	0.6	0.1	2.9	0.2	0.1	5.9	0.1	0.1
Delay (s)	28.1	23.9	17.8	41.4	24.8	22.2	33.8	25.7	24.7	29.1	15.5	15.0
Level of Service	C	C	B	D	C	C	C	C	C	C	B	B
Approach Delay (s)		23.8			26.2			27.1			22.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	68.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	1255	50	125	520	255	70	120	210	350	210	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.95		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1660	3301		1660	3157		1660	1581		1660	1748	1485
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1660	3301		1660	3157		1660	1581		1660	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	1364	54	136	565	277	76	130	228	380	228	38
RTOR Reduction (vph)	0	3	0	0	58	0	0	63	0	0	0	26
Lane Group Flow (vph)	49	1415	0	136	784	0	76	295	0	380	228	12
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	5.6	38.0		8.8	41.2		8.0	17.8		21.0	30.8	30.8
Effective Green, g (s)	5.6	38.0		8.8	41.2		8.0	17.8		21.0	30.8	30.8
Actuated g/C Ratio	0.06	0.37		0.09	0.41		0.08	0.18		0.21	0.30	0.30
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	91	1235		144	1280		131	277		343	530	450
v/s Ratio Prot	0.03	c0.43		c0.08	0.25		0.05	c0.19		c0.23	0.13	
v/s Ratio Perm												0.01
v/c Ratio	0.54	1.15		0.94	0.61		0.58	1.07		1.11	0.43	0.03
Uniform Delay, d1	46.7	31.8		46.2	23.9		45.2	41.9		40.3	28.4	24.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.0	75.5		57.9	0.9		6.4	72.7		80.9	2.5	0.1
Delay (s)	52.8	107.3		104.1	24.8		51.6	114.6		121.2	30.9	25.0
Level of Service	D	F		F	C		D	F		F	C	C
Approach Delay (s)		105.5			35.8			103.5			83.7	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	81.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	101.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1800	15	15	850	15	25
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1957	16	16	924	16	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	728			775		
pX, platoon unblocked			0.64		0.66	0.64
vC, conflicting volume			1973		2459	986
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1404		2015	0
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		48	96
cM capacity (veh/h)			307		31	696

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	1304	668	16	462	462	16	27
Volume Left	0	0	16	0	0	16	0
Volume Right	0	16	0	0	0	0	27
cSH	1700	1700	307	1700	1700	31	696
Volume to Capacity	0.77	0.39	0.05	0.27	0.27	0.52	0.04
Queue Length 95th (ft)	0	0	4	0	0	43	3
Control Delay (s)	0.0	0.0	17.4	0.0	0.0	209.4	10.4
Lane LOS			C			F	B
Approach Delay (s)	0.0		0.3			85.0	
Approach LOS						F	

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1068	819	473	692	0	0	0	0	121	0	173
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86		0.97	0.95					0.91	0.86	0.91
Frt		0.93		1.00	1.00					1.00	0.90	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.98	1.00
Satd. Flow (prot)		5620		3221	3320					1511	2669	1352
Flt Permitted		1.00		0.95	1.00					0.95	0.98	1.00
Satd. Flow (perm)		5620		3221	3320					1511	2669	1352
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1161	890	514	752	0	0	0	0	132	0	188
RTOR Reduction (vph)	0	135	0	0	0	0	0	0	0	0	83	83
Lane Group Flow (vph)	0	1916	0	514	752	0	0	0	0	79	64	11
Turn Type				Prot						Perm		Perm
Protected Phases		4		3	8						6	
Permitted Phases										6		6
Actuated Green, G (s)		48.8		19.0	71.8					10.2	10.2	10.2
Effective Green, g (s)		48.8		19.0	71.8					10.2	10.2	10.2
Actuated g/C Ratio		0.54		0.21	0.80					0.11	0.11	0.11
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		3047		680	2649					171	302	153
v/s Ratio Prot		c0.34		c0.16	0.23							
v/s Ratio Perm										c0.05	0.02	0.01
v/c Ratio		0.93dr		0.76	0.28					0.46	0.21	0.07
Uniform Delay, d1		14.3		33.3	2.4					37.3	36.2	35.7
Progression Factor		1.00		0.78	0.27					1.00	1.00	1.00
Incremental Delay, d2		1.0		4.6	0.3					2.0	0.3	0.2
Delay (s)		15.3		30.5	0.9					39.3	36.6	35.9
Level of Service		B		C	A					D	D	D
Approach Delay (s)		15.3			12.9			0.0			37.0	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1089	0	0	885	115	280	0	610	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	0.97	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.98		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	3221	3320			5908		3221		2614			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	3221	3320			5908		3221		2614			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	1184	0	0	962	125	304	0	663	0	0	0
RTOR Reduction (vph)	0	0	0	0	18	0	0	0	85	0	0	0
Lane Group Flow (vph)	109	1184	0	0	1069	0	304	0	578	0	0	0
Turn Type	Prot						custom		custom			
Protected Phases	7	4			8							
Permitted Phases							2		2			
Actuated Green, G (s)	7.2	56.8			45.6		25.2		25.2			
Effective Green, g (s)	7.2	56.8			45.6		25.2		25.2			
Actuated g/C Ratio	0.08	0.63			0.51		0.28		0.28			
Clearance Time (s)	4.0	4.0			4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	258	2095			2993		902		732			
v/s Ratio Prot	0.03	c0.36			0.18							
v/s Ratio Perm							0.09		c0.22			
v/c Ratio	0.42	0.57			0.36		0.34		0.79			
Uniform Delay, d1	39.4	9.5			13.4		25.8		30.0			
Progression Factor	1.42	0.18			1.00		1.00		1.00			
Incremental Delay, d2	0.9	0.9			0.3		0.2		5.7			
Delay (s)	56.7	2.6			13.7		26.0		35.6			
Level of Service	E	A			B		C		D			
Approach Delay (s)		7.1			13.7			32.6			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	460	1015	35	15	320	145	290	170	535	40	160	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.89		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	3320	1485	1660	3165		1660	2942		1660	3264	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1660	3320	1485	1660	3165		1660	2942		1660	3264	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	500	1103	38	16	348	158	315	185	582	43	174	22
RTOR Reduction (vph)	0	0	21	0	56	0	0	377	0	0	10	0
Lane Group Flow (vph)	500	1103	17	16	450	0	315	390	0	43	186	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	25.9	42.9	42.9	1.5	18.5		19.8	34.6		3.1	17.9	
Effective Green, g (s)	25.9	42.9	42.9	1.5	18.5		19.8	34.6		3.1	17.9	
Actuated g/C Ratio	0.26	0.44	0.44	0.02	0.19		0.20	0.35		0.03	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	438	1452	649	25	597		335	1038		52	596	
v/s Ratio Prot	c0.30	0.33		0.01	c0.14		c0.19	c0.13		c0.03	0.06	
v/s Ratio Perm			0.01									
v/c Ratio	1.14	0.76	0.03	0.64	0.75		0.94	0.38		0.83	0.31	
Uniform Delay, d1	36.1	23.3	15.7	48.0	37.6		38.6	23.7		47.2	34.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	87.8	2.3	0.0	44.6	5.4		33.9	1.0		64.4	1.4	
Delay (s)	123.9	25.6	15.7	92.6	43.0		72.4	24.7		111.7	36.1	
Level of Service	F	C	B	F	D		E	C		F	D	
Approach Delay (s)		55.3			44.5			38.6			49.7	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM Average Control Delay	48.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	98.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	210	225	10	210	95	30	15	15	15	15	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	228	245	11	228	103	33	16	16	16	16	33

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	495	239	103	65	65
Volume Left (vph)	22	11	0	33	16
Volume Right (vph)	245	0	103	16	33
Hadj (s)	-0.24	0.07	-0.65	0.00	-0.20
Departure Headway (s)	4.6	5.4	4.7	5.9	5.7
Degree Utilization, x	0.63	0.36	0.13	0.11	0.10
Capacity (veh/h)	764	643	739	522	542
Control Delay (s)	14.9	10.2	7.2	9.6	9.4
Approach Delay (s)	14.9	9.3		9.6	9.4
Approach LOS	B	A		A	A

Intersection Summary			
Delay	12.2		
HCM Level of Service	B		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	45	135	115	55	75	30	25	150	25	10	190	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	147	125	60	82	33	27	163	27	11	207	38

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	49	272	60	114	27	190	11	245
Volume Left (vph)	49	0	60	0	27	0	11	0
Volume Right (vph)	0	125	0	33	0	27	0	38
Hadj (s)	0.55	-0.27	0.55	-0.15	0.55	-0.05	0.55	-0.06
Departure Headway (s)	6.7	5.9	6.9	6.2	6.8	6.2	6.8	6.2
Degree Utilization, x	0.09	0.44	0.11	0.20	0.05	0.33	0.02	0.42
Capacity (veh/h)	506	583	485	539	494	544	498	554
Control Delay (s)	9.2	12.3	9.6	9.5	9.0	11.0	8.7	12.3
Approach Delay (s)	11.8		9.5		10.8		12.2	
Approach LOS	B		A		B		B	

Intersection Summary			
Delay	11.3		
HCM Level of Service	B		
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	85	260	70	25	110	30	110	270	30	75	210	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	92	283	76	27	120	33	120	293	33	82	228	109

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	451	147	33	413	33	418
Volume Left (vph)	92	27	0	120	0	82
Volume Right (vph)	76	0	33	0	33	109
Hadj (s)	-0.01	0.14	-0.65	0.20	-0.65	-0.07
Departure Headway (s)	8.8	9.7	8.9	8.6	7.8	8.5
Degree Utilization, x	1.10	0.40	0.08	0.99	0.07	0.99
Capacity (veh/h)	419	365	395	413	454	418
Control Delay (s)	103.5	17.8	11.5	70.5	10.2	70.0
Approach Delay (s)	103.5	16.7		66.1		70.0
Approach LOS	F	C		F		F

Intersection Summary			
Delay	72.6		
HCM Level of Service	F		
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1685	50	215	640	0	45	0	525	175	170	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.97	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		1485	1660	3226	
Flt Permitted		1.00	1.00	0.95	1.00		0.24		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		411		1485	1660	3226	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1832	54	234	696	0	49	0	571	190	185	43
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	272	0	20	0
Lane Group Flow (vph)	0	1832	36	234	696	0	49	0	299	190	208	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		41.0	41.0	10.0	55.0		17.0		10.0	16.0	16.0	
Effective Green, g (s)		41.0	41.0	10.0	55.0		17.0		10.0	16.0	16.0	
Actuated g/C Ratio		0.41	0.41	0.10	0.55		0.17		0.10	0.16	0.16	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1361	609	166	1826		70		149	266	516	
v/s Ratio Prot		c0.55		0.14	0.21				c0.20	c0.11	0.06	
v/s Ratio Perm			0.02				c0.12					
v/c Ratio		1.35	0.06	1.41	0.38		0.70		2.01	0.71	0.40	
Uniform Delay, d1		29.5	17.8	45.0	12.8		39.1		45.0	39.8	37.7	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		160.7	0.0	216.2	0.1		45.0		476.5	15.1	2.3	
Delay (s)		190.2	17.9	261.2	12.9		84.1		521.5	55.0	40.0	
Level of Service		F	B	F	B		F		F	D	D	
Approach Delay (s)		185.3			75.4			487.0			46.8	
Approach LOS		F			E			F			D	

Intersection Summary			
HCM Average Control Delay	192.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	105.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	175	795	0	0	465	780	180	130	450	140	0	120
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97		1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.92	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1660	3320			3320	1485	1577	1461	1411	3221		1485
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.54		1.00
Satd. Flow (perm)	1660	3320			3320	1485	1577	1461	1411	1834		1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	864	0	0	505	848	196	141	489	152	0	130
RTOR Reduction (vph)	0	0	0	0	0	403	0	39	126	0	0	108
Lane Group Flow (vph)	190	864	0	0	505	445	176	298	187	152	0	22
Turn Type	Prot					Perm	Split		Perm	custom		custom
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2	6		6
Actuated Green, G (s)	11.1	46.3			31.2	31.2	22.1	22.1	22.1	16.1		16.1
Effective Green, g (s)	11.1	46.3			31.2	31.2	22.1	22.1	22.1	16.1		16.1
Actuated g/C Ratio	0.12	0.48			0.32	0.32	0.23	0.23	0.23	0.17		0.17
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	191	1593			1073	480	361	335	323	306		248
v/s Ratio Prot	c0.11	0.26			0.15		0.11	c0.20				
v/s Ratio Perm						c0.30			0.13	c0.08		0.01
v/c Ratio	0.99	0.54			0.47	0.93	0.49	0.89	0.58	0.50		0.09
Uniform Delay, d1	42.7	17.7			26.1	31.5	32.3	36.0	33.1	36.5		34.0
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	63.3	0.4			0.3	23.9	4.6	28.0	7.3	5.7		0.7
Delay (s)	105.9	18.0			26.4	55.5	36.9	64.0	40.4	42.2		34.7
Level of Service	F	B			C	E	D	E	D	D		C
Approach Delay (s)		33.9			44.6			49.3			38.7	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	42.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	96.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	0	5	5	15	20	285	625	400	160	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	0	5	5	16	22	310	679	435	174	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								290				
pX, platoon unblocked												
vC, conflicting volume	1261	2076	87	1649	1736	495	174			989		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1261	2076	87	1649	1736	495	174			989		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	100	100	83	83	97	98			37		
cM capacity (veh/h)	53	19	951	32	31	518	1393			688		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	5	11	16	22	207	783	435	87	87
Volume Left	5	5	0	22	0	0	435	0	0
Volume Right	0	0	16	0	0	679	0	0	0
cSH	53	31	518	1393	1700	1700	688	1700	1700
Volume to Capacity	0.10	0.35	0.03	0.02	0.12	0.46	0.63	0.05	0.05
Queue Length 95th (ft)	8	28	2	1	0	0	113	0	0
Control Delay (s)	81.1	172.1	12.2	7.6	0.0	0.0	18.8	0.0	0.0
Lane LOS	F	F	B	A			C		
Approach Delay (s)	81.1	76.1		0.2			13.4		
Approach LOS	F	F							

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	10	745	45	345	940	95	85	390	30	40	280	470
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	810	49	375	1022	103	92	424	33	43	304	511
RTOR Reduction (vph)	0	0	36	0	0	46	0	0	25	0	0	418
Lane Group Flow (vph)	11	810	13	375	1022	57	92	424	8	43	304	93
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8			6			2
Actuated Green, G (s)	0.7	23.9	23.9	25.0	48.2	48.2	6.1	19.8	19.8	2.2	15.9	15.9
Effective Green, g (s)	0.7	23.9	23.9	25.0	48.2	48.2	6.1	19.8	19.8	2.2	15.9	15.9
Actuated g/C Ratio	0.01	0.28	0.28	0.29	0.55	0.55	0.07	0.23	0.23	0.03	0.18	0.18
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	13	913	408	478	1841	824	117	756	338	42	607	272
v/s Ratio Prot	0.01	c0.24		c0.23	0.31		c0.06	c0.13		0.03	0.09	
v/s Ratio Perm			0.01			0.04			0.01			0.06
v/c Ratio	0.85	0.89	0.03	0.78	0.56	0.07	0.79	0.56	0.02	1.02	0.50	0.34
Uniform Delay, d1	43.0	30.2	23.0	28.5	12.5	9.0	39.8	29.7	26.0	42.4	31.9	31.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	166.4	10.4	0.0	8.2	0.4	0.0	28.5	1.0	0.0	146.0	0.7	0.8
Delay (s)	209.5	40.6	23.1	36.7	12.8	9.0	68.2	30.7	26.1	188.3	32.6	31.7
Level of Service	F	D	C	D	B	A	E	C	C	F	C	C
Approach Delay (s)		41.8			18.5			36.7			39.9	
Approach LOS		D			B			D			D	

Intersection Summary			
HCM Average Control Delay	31.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	86.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	1255	50	125	520	255	70	120	210	350	210	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	0.97	1.00	
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1660	3301		1660	3157		1660	1748	1485	3221	1710	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1660	3301		1660	3157		1660	1748	1485	3221	1710	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	1364	54	136	565	277	76	130	228	380	228	38
RTOR Reduction (vph)	0	3	0	0	58	0	0	0	140	0	6	0
Lane Group Flow (vph)	49	1415	0	136	784	0	76	130	88	380	260	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	5.6	44.0		9.8	48.2		5.6	19.8	19.8	12.0	26.2	
Effective Green, g (s)	5.6	44.0		9.8	48.2		5.6	19.8	19.8	12.0	26.2	
Actuated g/C Ratio	0.06	0.43		0.10	0.47		0.06	0.19	0.19	0.12	0.26	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	91	1430		160	1498		91	341	289	380	441	
v/s Ratio Prot	0.03	c0.43		c0.08	0.25		c0.05	0.07		c0.12	c0.15	
v/s Ratio Perm									0.06			
v/c Ratio	0.54	0.99		0.85	0.52		0.84	0.38	0.30	1.00	0.59	
Uniform Delay, d1	46.7	28.6		45.2	18.7		47.5	35.6	35.0	44.8	33.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.0	21.1		32.7	0.3		45.3	3.2	2.7	46.2	5.7	
Delay (s)	52.8	49.7		77.8	19.0		92.8	38.8	37.7	91.0	38.7	
Level of Service	D	D		E	B		F	D	D	F	D	
Approach Delay (s)		49.8			27.2			47.7			69.4	
Approach LOS		D			C			D			E	

Intersection Summary			
HCM Average Control Delay	46.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	101.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	460	1015	35	15	320	145	290	170	535	40	160	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.89		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3221	3320	1485	1660	3165		3221	2942		1660	3264	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3221	3320	1485	1660	3165		3221	2942		1660	3264	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	500	1103	38	16	348	158	315	185	582	43	174	22
RTOR Reduction (vph)	0	0	22	0	58	0	0	385	0	0	9	0
Lane Group Flow (vph)	500	1103	16	16	448	0	315	382	0	43	187	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	21.6	37.8	37.8	1.4	17.6		13.2	30.2		3.8	20.8	
Effective Green, g (s)	21.6	37.8	37.8	1.4	17.6		13.2	30.2		3.8	20.8	
Actuated g/C Ratio	0.24	0.42	0.42	0.02	0.20		0.15	0.34		0.04	0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	780	1407	629	26	624		477	996		71	761	
v/s Ratio Prot	0.16	c0.33		0.01	c0.14		c0.10	c0.13		c0.03	0.06	
v/s Ratio Perm			0.01									
v/c Ratio	0.64	0.78	0.03	0.62	0.72		0.66	0.38		0.61	0.25	
Uniform Delay, d1	30.3	22.2	15.0	43.6	33.5		35.9	22.4		42.0	27.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.8	2.9	0.0	36.3	4.0		3.4	1.1		13.7	0.8	
Delay (s)	32.1	25.1	15.0	79.9	37.4		39.3	23.5		55.7	28.6	
Level of Service	C	C	B	E	D		D	C		E	C	
Approach Delay (s)		27.0			38.7			28.1			33.5	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	29.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	89.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	135	115	55	75	30	25	150	25	10	190	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.96		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	1627		1660	1672		1660	1710		1660	1707	
Flt Permitted	0.68	1.00		0.59	1.00		0.61	1.00		0.64	1.00	
Satd. Flow (perm)	1194	1627		1035	1672		1060	1710		1115	1707	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	147	125	60	82	33	27	163	27	11	207	38
RTOR Reduction (vph)	0	38	0	0	18	0	0	7	0	0	8	0
Lane Group Flow (vph)	49	234	0	60	97	0	27	183	0	11	237	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	9.9	9.9		9.9	9.9		10.6	10.6		10.6	10.6	
Effective Green, g (s)	9.9	9.9		9.9	9.9		10.6	10.6		10.6	10.6	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.37	0.37		0.37	0.37	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	415	565		360	581		394	636		415	635	
v/s Ratio Prot		c0.14			0.06			0.11			c0.14	
v/s Ratio Perm	0.04			0.06			0.03			0.01		
v/c Ratio	0.12	0.41		0.17	0.17		0.07	0.29		0.03	0.37	
Uniform Delay, d1	6.3	7.1		6.4	6.4		5.8	6.3		5.7	6.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.5		0.2	0.1		0.1	0.3		0.0	0.4	
Delay (s)	6.5	7.6		6.7	6.6		5.8	6.5		5.7	6.9	
Level of Service	A	A		A	A		A	A		A	A	
Approach Delay (s)		7.4			6.6			6.5			6.8	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	6.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	28.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	260	70	25	110	30	110	270	30	75	210	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt		0.98			1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected		0.99			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1691			1732	1485	1660	1721		1660	1748	1485
Flt Permitted		0.91			0.90	1.00	0.62	1.00		0.49	1.00	1.00
Satd. Flow (perm)		1557			1575	1485	1077	1721		855	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	283	76	27	120	33	120	293	33	82	228	109
RTOR Reduction (vph)	0	8	0	0	0	18	0	4	0	0	0	70
Lane Group Flow (vph)	0	443	0	0	147	15	120	322	0	82	228	39
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		19.1			19.1	19.1	15.1	15.1		15.1	15.1	15.1
Effective Green, g (s)		19.1			19.1	19.1	15.1	15.1		15.1	15.1	15.1
Actuated g/C Ratio		0.45			0.45	0.45	0.36	0.36		0.36	0.36	0.36
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		705			713	672	385	616		306	625	531
v/s Ratio Prot								c0.19			0.13	
v/s Ratio Perm		c0.28			0.09	0.01	0.11			0.10		0.03
v/c Ratio		0.63			0.21	0.02	0.31	0.52		0.27	0.36	0.07
Uniform Delay, d1		8.8			7.0	6.4	9.8	10.7		9.6	10.0	8.9
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.8			0.1	0.0	0.5	0.8		0.5	0.4	0.1
Delay (s)		10.6			7.1	6.4	10.3	11.5		10.1	10.4	9.0
Level of Service		B			A	A	B	B		B	B	A
Approach Delay (s)		10.6			7.0			11.2			10.0	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	42.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1685	50	215	640	0	45	0	525	175	170	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		0.88	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.97	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		2614	1660	3226	
Flt Permitted		1.00	1.00	0.95	1.00		0.24		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		411		2614	1660	3226	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1832	54	234	696	0	49	0	571	190	185	43
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	478	0	20	0
Lane Group Flow (vph)	0	1832	36	234	696	0	49	0	93	190	208	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		41.0	41.0	10.0	55.0		17.0		10.0	16.0	16.0	
Effective Green, g (s)		41.0	41.0	10.0	55.0		17.0		10.0	16.0	16.0	
Actuated g/C Ratio		0.41	0.41	0.10	0.55		0.17		0.10	0.16	0.16	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1361	609	166	1826		70		261	266	516	
v/s Ratio Prot		c0.55		c0.14	0.21				0.04	c0.11	0.06	
v/s Ratio Perm			0.02				c0.12					
v/c Ratio		1.35	0.06	1.41	0.38		0.70		0.36	0.71	0.40	
Uniform Delay, d1		29.5	17.8	45.0	12.8		39.1		42.0	39.8	37.7	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		160.7	0.0	216.2	0.1		45.0		0.8	15.1	2.3	
Delay (s)		190.2	17.9	261.2	12.9		84.1		42.8	55.0	40.0	
Level of Service		F	B	F	B		F		D	D	D	
Approach Delay (s)		185.3			75.4			46.1			46.8	
Approach LOS		F			E			D			D	

Intersection Summary			
HCM Average Control Delay	121.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	35	355	405	20	20	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	386	440	22	22	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	462				913	451
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	462				913	451
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				93	95
cM capacity (veh/h)	1094				292	606

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	424	462	54
Volume Left	38	0	22
Volume Right	0	22	33
cSH	1094	1700	424
Volume to Capacity	0.03	0.27	0.13
Queue Length 95th (ft)	3	0	11
Control Delay (s)	1.1	0.0	14.7
Lane LOS	A		B
Approach Delay (s)	1.1	0.0	14.7
Approach LOS			B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	255	170	200	475	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	277	185	217	516	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			462		1228	277
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			462		1228	277
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			80		100	100
cM capacity (veh/h)			1094		157	759

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	277	185	217	516
Volume Left	0	0	217	0
Volume Right	0	185	0	0
cSH	1700	1700	1094	1700
Volume to Capacity	0.16	0.11	0.20	0.30
Queue Length 95th (ft)	0	0	18	0
Control Delay (s)	0.0	0.0	9.1	0.0
Lane LOS			A	
Approach Delay (s)	0.0		2.7	
Approach LOS				

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	270	0	0	520	180	235
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	293	0	0	565	196	255
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1094		
pX, platoon unblocked					0.77	
vC, conflicting volume			293		859	293
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			293		669	293
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		40	66
cM capacity (veh/h)			1262		325	743

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	293	565	451
Volume Left	0	0	196
Volume Right	0	0	255
cSH	1700	1700	750
Volume to Capacity	0.17	0.33	0.60
Queue Length 95th (ft)	0	0	102
Control Delay (s)	0.0	0.0	20.7
Lane LOS			C
Approach Delay (s)	0.0	0.0	20.7
Approach LOS			C

Intersection Summary			
Average Delay	7.1		
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	70	435	20	90	475	90	120	65	30	35	210	65
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3298		1660	3241		1660	3320	1485	1660	3320	1485
Flt Permitted	0.29	1.00		0.39	1.00		0.61	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	513	3298		677	3241		1065	3320	1485	1238	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	473	22	98	516	98	130	71	33	38	228	71
RTOR Reduction (vph)	0	6	0	0	27	0	0	0	14	0	0	30
Lane Group Flow (vph)	76	489	0	98	587	0	130	71	19	38	228	41
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6		6	2		2
Actuated Green, G (s)	16.7	16.7		16.7	16.7		33.2	33.2	33.2	33.2	33.2	33.2
Effective Green, g (s)	16.7	16.7		16.7	16.7		33.2	33.2	33.2	33.2	33.2	33.2
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.57	0.57	0.57	0.57	0.57	0.57
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	148	951		195	935		611	1904	852	710	1904	852
v/s Ratio Prot		0.15			c0.18			0.02			0.07	
v/s Ratio Perm	0.15			0.14			c0.12		0.01	0.03		0.03
v/c Ratio	0.51	0.51		0.50	0.63		0.21	0.04	0.02	0.05	0.12	0.05
Uniform Delay, d1	17.2	17.2		17.1	17.9		6.0	5.4	5.3	5.4	5.7	5.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0	0.5		2.0	1.3		0.8	0.0	0.0	0.1	0.1	0.1
Delay (s)	20.2	17.7		19.2	19.2		6.8	5.4	5.4	5.6	5.8	5.5
Level of Service	C	B		B	B		A	A	A	A	A	A
Approach Delay (s)		18.0			19.2			6.2			5.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	14.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	57.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	440	65	140	505	230	75	310	105	265	265	130
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	478	71	152	549	250	82	337	114	288	288	141
RTOR Reduction (vph)	0	0	52	0	0	192	0	0	94	0	0	97
Lane Group Flow (vph)	207	478	19	152	549	58	82	337	20	288	288	44
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	15.0	22.4	22.4	12.3	19.7	19.7	8.0	15.0	15.0	19.4	26.4	26.4
Effective Green, g (s)	15.0	22.4	22.4	12.3	19.7	19.7	8.0	15.0	15.0	19.4	26.4	26.4
Actuated g/C Ratio	0.18	0.26	0.26	0.14	0.23	0.23	0.09	0.18	0.18	0.23	0.31	0.31
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	293	874	391	240	769	344	156	585	262	378	1030	461
v/s Ratio Prot	c0.12	0.14		0.09	c0.17		0.05	c0.10		c0.17	0.09	
v/s Ratio Perm			0.01			0.04			0.01			0.03
v/c Ratio	0.71	0.55	0.05	0.63	0.71	0.17	0.53	0.58	0.08	0.76	0.28	0.09
Uniform Delay, d1	33.0	27.0	23.4	34.3	30.1	26.1	36.7	32.1	29.3	30.7	22.2	20.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.6	0.7	0.1	5.4	3.2	0.2	3.2	1.4	0.1	8.8	0.1	0.1
Delay (s)	40.5	27.7	23.4	39.6	33.3	26.4	39.9	33.5	29.4	39.5	22.3	20.9
Level of Service	D	C	C	D	C	C	D	C	C	D	C	C
Approach Delay (s)		30.8			32.5			33.6			28.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	31.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	85.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	915	50	150	890	550	60	155	210	240	120	60
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.94		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1660	3295		1660	3130		1660	1597		1660	1748	1485
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1660	3295		1660	3130		1660	1597		1660	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	995	54	163	967	598	65	168	228	261	130	65
RTOR Reduction (vph)	0	4	0	0	95	0	0	49	0	0	0	45
Lane Group Flow (vph)	49	1045	0	163	1470	0	65	347	0	261	130	20
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	3.2	34.7		11.9	43.4		7.1	22.9		15.0	30.8	30.8
Effective Green, g (s)	3.2	34.7		11.9	43.4		7.1	22.9		15.0	30.8	30.8
Actuated g/C Ratio	0.03	0.35		0.12	0.43		0.07	0.23		0.15	0.31	0.31
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	53	1138		197	1352		117	364		248	536	455
v/s Ratio Prot	0.03	c0.32		0.10	c0.47		0.04	c0.22		c0.16	0.07	
v/s Ratio Perm												0.01
v/c Ratio	0.92	0.92		0.83	1.09		0.56	0.95		1.05	0.24	0.04
Uniform Delay, d1	48.5	31.5		43.3	28.6		45.2	38.3		42.8	26.1	24.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	95.3	11.6		23.9	51.9		5.6	36.9		71.6	1.1	0.2
Delay (s)	143.8	43.1		67.2	80.4		50.8	75.2		114.3	27.2	24.7
Level of Service	F	D		E	F		D	E		F	C	C
Approach Delay (s)		47.6			79.2			71.8			76.7	
Approach LOS		D			E			E			E	

Intersection Summary			
HCM Average Control Delay	68.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	100.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	100.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1350	15	15	1550	15	25
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1467	16	16	1685	16	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	738			765		
pX, platoon unblocked			0.71		0.83	0.71
vC, conflicting volume			1484		2351	742
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			851		879	0
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		93	96
cM capacity (veh/h)			548		229	763

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	978	505	16	842	842	16	27
Volume Left	0	0	16	0	0	16	0
Volume Right	0	16	0	0	0	0	27
cSH	1700	1700	548	1700	1700	229	763
Volume to Capacity	0.58	0.30	0.03	0.50	0.50	0.07	0.04
Queue Length 95th (ft)	0	0	2	0	0	6	3
Control Delay (s)	0.0	0.0	11.8	0.0	0.0	21.9	9.9
Lane LOS			B			C	A
Approach Delay (s)	0.0		0.1			14.4	
Approach LOS						B	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	680	718	304	1342	0	0	0	0	117	0	229
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86		0.97	0.95					0.91	0.86	0.91
Frt		0.92		1.00	1.00					1.00	0.88	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		5549		3221	3320					1511	2629	1352
Flt Permitted		1.00		0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		5549		3221	3320					1511	2629	1352
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	739	780	330	1459	0	0	0	0	127	0	249
RTOR Reduction (vph)	0	266	0	0	0	0	0	0	0	0	34	34
Lane Group Flow (vph)	0	1253	0	330	1459	0	0	0	0	89	129	90
Turn Type				Prot						Perm		Perm
Protected Phases		4		3	8						6	
Permitted Phases										6		6
Actuated Green, G (s)		27.4		10.7	42.1					9.9	9.9	9.9
Effective Green, g (s)		27.4		10.7	42.1					9.9	9.9	9.9
Actuated g/C Ratio		0.46		0.18	0.70					0.16	0.16	0.16
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2534		574	2330					249	434	223
v/s Ratio Prot		0.23		0.10	c0.44							
v/s Ratio Perm										0.06	0.05	c0.07
v/c Ratio		0.49		0.57	0.63					0.36	0.30	0.40
Uniform Delay, d1		11.4		22.6	4.8					22.2	22.0	22.4
Progression Factor		1.00		1.08	0.46					1.00	1.00	1.00
Incremental Delay, d2		0.7		1.2	1.1					0.9	0.4	1.2
Delay (s)		12.1		25.5	3.3					23.1	22.4	23.6
Level of Service		B		C	A					C	C	C
Approach Delay (s)		12.1			7.4			0.0			23.0	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	657	0	0	1026	255	620	0	760	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	0.97	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.97		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	3221	3320			5832		3221		2614			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	3221	3320			5832		3221		2614			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	714	0	0	1115	277	674	0	826	0	0	0
RTOR Reduction (vph)	0	0	0	0	69	0	0	0	183	0	0	0
Lane Group Flow (vph)	152	714	0	0	1323	0	674	0	643	0	0	0
Turn Type	Prot						custom		custom			
Protected Phases	7	4			8							
Permitted Phases							2		2			
Actuated Green, G (s)	4.6	31.9			23.3		20.1		20.1			
Effective Green, g (s)	4.6	31.9			23.3		20.1		20.1			
Actuated g/C Ratio	0.08	0.53			0.39		0.34		0.34			
Clearance Time (s)	4.0	4.0			4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	247	1765			2265		1079		876			
v/s Ratio Prot	c0.05	0.22			c0.23							
v/s Ratio Perm							0.21		c0.25			
v/c Ratio	0.62	0.40			0.58		0.62		0.73			
Uniform Delay, d1	26.8	8.4			14.5		16.8		17.6			
Progression Factor	0.78	1.68			1.00		1.00		1.00			
Incremental Delay, d2	4.0	0.6			1.1		1.1		3.2			
Delay (s)	24.9	14.7			15.6		17.9		20.8			
Level of Service	C	B			B		B		C			
Approach Delay (s)		16.5			15.6			19.5			0.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	700	700	20	10	545	200	225	110	480	30	250	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.88		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	3320	1485	1660	3187		1660	2915		1660	3275	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1660	3320	1485	1660	3187		1660	2915		1660	3275	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	761	761	22	11	592	217	245	120	522	33	272	27
RTOR Reduction (vph)	0	0	10	0	38	0	0	385	0	0	7	0
Lane Group Flow (vph)	761	761	12	11	771	0	245	257	0	33	292	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	37.2	57.4	57.4	0.8	21.0		13.0	27.6		3.0	17.6	
Effective Green, g (s)	37.2	57.4	57.4	0.8	21.0		13.0	27.6		3.0	17.6	
Actuated g/C Ratio	0.35	0.55	0.55	0.01	0.20		0.12	0.26		0.03	0.17	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	589	1818	813	13	639		206	768		48	550	
v/s Ratio Prot	c0.46	0.23		0.01	c0.24		c0.15	0.09		0.02	c0.09	
v/s Ratio Perm			0.01									
v/c Ratio	1.29	0.42	0.01	0.85	1.21		1.19	0.34		0.69	0.53	
Uniform Delay, d1	33.8	13.9	10.8	51.9	41.9		45.9	31.2		50.4	39.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	143.8	0.2	0.0	166.4	107.5		123.2	1.2		33.8	3.6	
Delay (s)	177.6	14.1	10.8	218.4	149.4		169.1	32.4		84.2	43.5	
Level of Service	F	B	B	F	F		F	C		F	D	
Approach Delay (s)		94.6			150.3			70.1			47.5	
Approach LOS		F			F			E			D	

Intersection Summary			
HCM Average Control Delay	96.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	104.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	25	100	180	5	440	275	60	40	15	10	40	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	109	196	5	478	299	65	43	16	11	43	65

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	332	484	299	125	120
Volume Left (vph)	27	5	0	65	11
Volume Right (vph)	196	0	299	16	65
Hadj (s)	-0.29	0.06	-0.65	0.08	-0.26
Departure Headway (s)	5.4	5.8	5.1	6.7	6.4
Degree Utilization, x	0.50	0.78	0.42	0.23	0.21
Capacity (veh/h)	628	610	692	483	508
Control Delay (s)	13.8	25.2	10.6	11.7	11.1
Approach Delay (s)	13.8	19.6		11.7	11.1
Approach LOS	B	C		B	B

Intersection Summary			
Delay	16.7		
HCM Level of Service	C		
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	60	75	95	120	160	70	55	345	85	20	300	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	82	103	130	174	76	60	375	92	22	326	76

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	65	185	130	250	60	467	22	402
Volume Left (vph)	65	0	130	0	60	0	22	0
Volume Right (vph)	0	103	0	76	0	92	0	76
Hadj (s)	0.55	-0.34	0.55	-0.16	0.55	-0.09	0.55	-0.08
Departure Headway (s)	9.0	8.1	8.7	8.0	8.1	7.5	8.3	7.7
Degree Utilization, x	0.16	0.42	0.31	0.55	0.13	0.97	0.05	0.86
Capacity (veh/h)	386	428	403	433	430	467	421	459
Control Delay (s)	12.5	15.6	14.4	19.2	11.2	60.6	10.5	40.3
Approach Delay (s)	14.8		17.6		55.0		38.8	
Approach LOS	B		C		F		E	

Intersection Summary			
Delay	35.3		
HCM Level of Service	E		
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	75	65	65	170	30	100	335	35	110	525	175
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	82	71	71	185	33	109	364	38	120	571	190

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	207	255	33	473	38	880
Volume Left (vph)	54	71	0	109	0	120
Volume Right (vph)	71	0	33	0	38	190
Hadj (s)	-0.10	0.19	-0.65	0.17	-0.65	-0.05
Departure Headway (s)	9.0	8.8	8.0	8.0	7.2	8.0
Degree Utilization, x	0.52	0.63	0.07	1.05	0.08	1.95
Capacity (veh/h)	382	400	439	455	492	458
Control Delay (s)	21.4	24.3	10.4	84.1	9.6	453.8
Approach Delay (s)	21.4	22.8		78.5		453.8
Approach LOS	C	C		F		F

Intersection Summary			
Delay	239.0		
HCM Level of Service	F		
Intersection Capacity Utilization	111.8%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	985	45	515	1745	0	65	0	545	220	440	110
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.97	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		1485	1660	3220	
Flt Permitted		1.00	1.00	0.95	1.00		0.24		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		411		1485	1660	3220	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1071	49	560	1897	0	71	0	592	239	478	120
RTOR Reduction (vph)	0	0	28	0	0	0	0	0	268	0	22	0
Lane Group Flow (vph)	0	1071	21	560	1897	0	71	0	324	239	576	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		26.0	26.0	25.0	55.0		17.0		25.0	16.0	16.0	
Effective Green, g (s)		26.0	26.0	25.0	55.0		17.0		25.0	16.0	16.0	
Actuated g/C Ratio		0.26	0.26	0.25	0.55		0.17		0.25	0.16	0.16	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		863	386	415	1826		70		371	266	515	
v/s Ratio Prot		c0.32		c0.34	0.57				0.22	0.14	c0.18	
v/s Ratio Perm			0.01				c0.17					
v/c Ratio		1.24	0.05	1.35	1.04		1.01		0.87	0.90	1.12	
Uniform Delay, d1		37.0	27.8	37.5	22.5		41.5		36.0	41.2	42.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		118.3	0.1	172.5	31.9		111.6		19.8	34.2	76.5	
Delay (s)		155.3	27.8	210.0	54.4		153.1		55.8	75.4	118.5	
Level of Service		F	C	F	D		F		E	E	F	
Approach Delay (s)		149.7			89.9			66.2			106.2	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	102.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	175	765	0	0	1135	495	320	120	595	245	0	250
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97		1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.91	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1660	3320			3320	1485	1577	1440	1411	3221		1485
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.50		1.00
Satd. Flow (perm)	1660	3320			3320	1485	1577	1440	1411	1692		1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	832	0	0	1234	538	348	130	647	266	0	272
RTOR Reduction (vph)	0	0	0	0	0	268	0	55	90	0	0	181
Lane Group Flow (vph)	190	832	0	0	1234	270	313	362	305	266	0	91
Turn Type	Prot					Perm	Split		Perm	custom		custom
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2	6		6
Actuated Green, G (s)	10.0	49.0			35.0	35.0	23.0	23.0	23.0	16.0		16.0
Effective Green, g (s)	10.0	49.0			35.0	35.0	23.0	23.0	23.0	16.0		16.0
Actuated g/C Ratio	0.10	0.49			0.35	0.35	0.23	0.23	0.23	0.16		0.16
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	166	1627			1162	520	363	331	325	271		238
v/s Ratio Prot	c0.11	0.25			c0.37		0.20	c0.25				
v/s Ratio Perm						0.18			0.22	c0.16		0.06
v/c Ratio	1.14	0.51			1.06	0.52	0.86	1.09	0.94	0.98		0.38
Uniform Delay, d1	45.0	17.4			32.5	25.8	37.0	38.5	37.8	41.9		37.6
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	114.0	0.3			44.5	0.9	22.7	77.3	36.4	50.2		4.6
Delay (s)	159.0	17.6			77.0	26.7	59.7	115.8	74.2	92.0		42.2
Level of Service	F	B			E	C	E	F	E	F		D
Approach Delay (s)		43.9			61.7			85.6			66.8	
Approach LOS		D			E			F			E	

Intersection Summary			
HCM Average Control Delay	64.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	5	25	5	5	35	245	600	385	325	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	5	27	5	5	38	266	652	418	353	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								290				
pX, platoon unblocked												
vC, conflicting volume	1410	2188	179	1688	1864	459	359			918		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1410	2188	179	1688	1864	459	359			918		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	15	82	99	97			43		
cM capacity (veh/h)	45	18	829	32	30	546	1189			732		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	5	33	5	38	178	741	418	236	123
Volume Left	0	27	0	38	0	0	418	0	0
Volume Right	5	0	5	0	0	652	0	0	5
cSH	829	32	546	1189	1700	1700	732	1700	1700
Volume to Capacity	0.01	1.03	0.01	0.03	0.10	0.44	0.57	0.14	0.07
Queue Length 95th (ft)	0	89	1	2	0	0	91	0	0
Control Delay (s)	9.4	356.4	11.7	8.1	0.0	0.0	16.3	0.0	0.0
Lane LOS	A	F	B	A			C		
Approach Delay (s)	9.4	307.1		0.3			8.8		
Approach LOS	A	F							

Intersection Summary			
Average Delay	10.6		
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	15	1065	30	430	1705	115	120	220	20	60	485	785
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	1158	33	467	1853	125	130	239	22	65	527	853
RTOR Reduction (vph)	0	0	17	0	0	48	0	0	16	0	0	326
Lane Group Flow (vph)	16	1158	16	467	1853	77	130	239	6	65	527	527
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8			6			2
Actuated Green, G (s)	1.6	28.0	28.0	23.4	49.8	49.8	6.0	28.8	28.8	7.0	29.8	29.8
Effective Green, g (s)	1.6	28.0	28.0	23.4	49.8	49.8	6.0	28.8	28.8	7.0	29.8	29.8
Actuated g/C Ratio	0.02	0.27	0.27	0.23	0.48	0.48	0.06	0.28	0.28	0.07	0.29	0.29
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	26	901	403	376	1602	717	97	927	414	113	959	429
v/s Ratio Prot	0.01	c0.35		0.28	c0.56		c0.08	0.07		0.04	0.16	
v/s Ratio Perm			0.01			0.05			0.00			c0.35
v/c Ratio	0.62	1.29	0.04	1.24	1.16	0.11	1.34	0.26	0.01	0.58	0.55	1.23
Uniform Delay, d1	50.5	37.6	27.7	39.9	26.7	14.6	48.6	28.9	26.9	46.7	31.0	36.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	36.3	136.8	0.0	129.6	78.0	0.1	207.1	0.1	0.0	6.9	0.6	122.1
Delay (s)	86.8	174.4	27.7	169.5	104.7	14.6	255.7	29.0	26.9	53.6	31.7	158.8
Level of Service	F	F	C	F	F	B	F	C	C	D	C	F
Approach Delay (s)		169.2			112.5			104.3			107.7	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	123.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	103.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	915	50	150	890	550	60	155	210	240	120	60
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	0.97	1.00	
Frt	1.00	0.99		1.00	0.94		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1660	3295		1660	3130		1660	1748	1485	3221	1660	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1660	3295		1660	3130		1660	1748	1485	3221	1660	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	995	54	163	967	598	65	168	228	261	130	65
RTOR Reduction (vph)	0	4	0	0	97	0	0	0	183	0	17	0
Lane Group Flow (vph)	49	1045	0	163	1468	0	65	168	45	261	178	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	3.8	36.9		15.5	48.6		5.4	19.2	19.2	9.9	23.7	
Effective Green, g (s)	3.8	36.9		15.5	48.6		5.4	19.2	19.2	9.9	23.7	
Actuated g/C Ratio	0.04	0.38		0.16	0.50		0.06	0.20	0.20	0.10	0.24	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	65	1247		264	1560		92	344	292	327	404	
v/s Ratio Prot	0.03	c0.32		0.10	c0.47		0.04	c0.10		c0.08	0.11	
v/s Ratio Perm									0.03			
v/c Ratio	0.75	0.84		0.62	0.94		0.71	0.49	0.15	0.80	0.44	
Uniform Delay, d1	46.4	27.6		38.2	23.1		45.3	34.8	32.4	42.8	31.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	38.4	5.1		4.3	11.6		21.8	4.9	1.1	12.7	3.4	
Delay (s)	84.8	32.6		42.5	34.7		67.1	39.7	33.5	55.5	34.7	
Level of Service	F	C		D	C		E	D	C	E	C	
Approach Delay (s)		35.0			35.4			40.5			46.6	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	37.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	97.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	700	700	20	10	545	200	225	110	480	30	250	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.88		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3221	3320	1485	1660	3187		3221	2915		1660	3275	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3221	3320	1485	1660	3187		3221	2915		1660	3275	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	761	761	22	11	592	217	245	120	522	33	272	27
RTOR Reduction (vph)	0	0	10	0	38	0	0	380	0	0	7	0
Lane Group Flow (vph)	761	761	12	11	771	0	245	262	0	33	292	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	29.3	54.5	54.5	0.8	26.0		9.8	27.7		2.9	20.8	
Effective Green, g (s)	29.3	54.5	54.5	0.8	26.0		9.8	27.7		2.9	20.8	
Actuated g/C Ratio	0.29	0.53	0.53	0.01	0.26		0.10	0.27		0.03	0.20	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	926	1776	794	13	813		310	792		47	668	
v/s Ratio Prot	c0.24	0.23		0.01	c0.24		c0.08	0.09		0.02	c0.09	
v/s Ratio Perm			0.01									
v/c Ratio	0.82	0.43	0.01	0.85	0.95		0.79	0.33		0.70	0.44	
Uniform Delay, d1	33.9	14.3	11.1	50.5	37.3		45.0	29.7		49.1	35.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.9	0.2	0.0	166.4	19.8		12.8	1.1		38.0	2.1	
Delay (s)	39.8	14.5	11.1	216.9	57.1		57.9	30.8		87.1	37.5	
Level of Service	D	B	B	F	E		E	C		F	D	
Approach Delay (s)		26.9			59.3			38.3			42.4	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM Average Control Delay	38.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	101.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	75	95	120	160	70	55	345	85	20	300	70
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.95		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	1602		1660	1668		1660	1696		1660	1698	
Flt Permitted	0.60	1.00		0.64	1.00		0.47	1.00		0.41	1.00	
Satd. Flow (perm)	1056	1602		1120	1668		830	1696		718	1698	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	82	103	130	174	76	60	375	92	22	326	76
RTOR Reduction (vph)	0	48	0	0	16	0	0	11	0	0	11	0
Lane Group Flow (vph)	65	137	0	130	234	0	60	456	0	22	391	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	11.5	11.5		11.5	11.5		16.7	16.7		16.7	16.7	
Effective Green, g (s)	11.5	11.5		11.5	11.5		16.7	16.7		16.7	16.7	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	335	509		356	530		383	782		331	783	
v/s Ratio Prot		0.09			c0.14			c0.27			0.23	
v/s Ratio Perm	0.06			0.12			0.07			0.03		
v/c Ratio	0.19	0.27		0.37	0.44		0.16	0.58		0.07	0.50	
Uniform Delay, d1	9.0	9.2		9.5	9.8		5.7	7.2		5.4	6.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.3		0.6	0.6		0.2	1.1		0.1	0.5	
Delay (s)	9.3	9.5		10.2	10.4		5.9	8.3		5.5	7.3	
Level of Service	A	A		B	B		A	A		A	A	
Approach Delay (s)		9.4			10.3			8.0			7.2	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	36.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	75	65	65	170	30	100	335	35	110	525	175
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt		0.95			1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected		0.99			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1645			1724	1485	1660	1723		1660	1748	1485
Flt Permitted		0.87			0.88	1.00	0.33	1.00		0.47	1.00	1.00
Satd. Flow (perm)		1444			1540	1485	580	1723		826	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	82	71	71	185	33	109	364	38	120	571	190
RTOR Reduction (vph)	0	19	0	0	0	23	0	4	0	0	0	90
Lane Group Flow (vph)	0	188	0	0	256	10	109	398	0	120	571	100
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		14.7			14.7	14.7	25.0	25.0		25.0	25.0	25.0
Effective Green, g (s)		14.7			14.7	14.7	25.0	25.0		25.0	25.0	25.0
Actuated g/C Ratio		0.31			0.31	0.31	0.52	0.52		0.52	0.52	0.52
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		445			475	458	304	903		433	916	778
v/s Ratio Prot								0.23			c0.33	
v/s Ratio Perm		0.13			c0.17	0.01	0.19			0.15		0.07
v/c Ratio		0.42			0.54	0.02	0.36	0.44		0.28	0.62	0.13
Uniform Delay, d1		13.1			13.7	11.5	6.7	7.0		6.3	8.0	5.8
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.6			1.2	0.0	0.7	0.3		0.4	1.3	0.1
Delay (s)		13.8			14.9	11.5	7.4	7.4		6.7	9.4	5.9
Level of Service		B			B	B	A	A		A	A	A
Approach Delay (s)		13.8			14.5			7.4			8.2	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	9.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	47.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	985	45	515	1745	0	65	0	545	220	440	110
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		0.88	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.97	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		2614	1660	3220	
Flt Permitted		1.00	1.00	0.95	1.00		0.24		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		411		2614	1660	3220	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1071	49	560	1897	0	71	0	592	239	478	120
RTOR Reduction (vph)	0	0	28	0	0	0	0	0	444	0	22	0
Lane Group Flow (vph)	0	1071	21	560	1897	0	71	0	148	239	576	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		26.0	26.0	25.0	55.0		17.0		25.0	16.0	16.0	
Effective Green, g (s)		26.0	26.0	25.0	55.0		17.0		25.0	16.0	16.0	
Actuated g/C Ratio		0.26	0.26	0.25	0.55		0.17		0.25	0.16	0.16	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		863	386	415	1826		70		654	266	515	
v/s Ratio Prot		c0.32		c0.34	0.57				0.06	0.14	c0.18	
v/s Ratio Perm			0.01				c0.17					
v/c Ratio		1.24	0.05	1.35	1.04		1.01		0.23	0.90	1.12	
Uniform Delay, d1		37.0	27.8	37.5	22.5		41.5		29.8	41.2	42.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		118.3	0.1	172.5	31.9		111.6		0.2	34.2	76.5	
Delay (s)		155.3	27.8	210.0	54.4		153.1		30.0	75.4	118.5	
Level of Service		F	C	F	D		F		C	E	F	
Approach Delay (s)		149.7			89.9			43.2			106.2	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM Average Control Delay	99.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

2035 No-Build

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	15	450	275	20	25	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	489	299	22	27	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	321				832	310
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	321				832	310
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				92	99
cM capacity (veh/h)	1234				333	728

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	505	321	38
Volume Left	16	0	27
Volume Right	0	22	11
cSH	1234	1700	395
Volume to Capacity	0.01	0.19	0.10
Queue Length 95th (ft)	1	0	8
Control Delay (s)	0.4	0.0	15.1
Lane LOS	A		C
Approach Delay (s)	0.4	0.0	15.1
Approach LOS			C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	325	255	435	485	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	353	277	473	527	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			630		1826	353
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			630		1826	353
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			50		100	100
cM capacity (veh/h)			947		42	688

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	353	277	473	527
Volume Left	0	0	473	0
Volume Right	0	277	0	0
cSH	1700	1700	947	1700
Volume to Capacity	0.21	0.16	0.50	0.31
Queue Length 95th (ft)	0	0	71	0
Control Delay (s)	0.0	0.0	12.5	0.0
Lane LOS			B	
Approach Delay (s)	0.0		5.9	
Approach LOS				

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	330	0	0	730	205	200
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	359	0	0	793	223	217
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1094		
pX, platoon unblocked					0.75	
vC, conflicting volume			359		1152	359
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			359		1038	359
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		0	68
cM capacity (veh/h)			1194		192	683

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	359	793	440
Volume Left	0	0	223
Volume Right	0	0	217
cSH	1700	1700	357
Volume to Capacity	0.21	0.47	1.23
Queue Length 95th (ft)	0	0	478
Control Delay (s)	0.0	0.0	159.6
Lane LOS			F
Approach Delay (s)	0.0	0.0	159.6
Approach LOS			F

Intersection Summary			
Average Delay	44.1		
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	35	330	15	175	485	75	300	215	55	15	70	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3299		1660	3253		1660	3320	1485	1660	3320	1485
Flt Permitted	0.30	1.00		0.48	1.00		0.70	1.00	1.00	0.61	1.00	1.00
Satd. Flow (perm)	519	3299		844	3253		1232	3320	1485	1059	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	359	16	190	527	82	326	234	60	16	76	38
RTOR Reduction (vph)	0	5	0	0	18	0	0	0	26	0	0	16
Lane Group Flow (vph)	38	370	0	190	591	0	326	234	34	16	76	22
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6		6	2		2
Actuated Green, G (s)	21.3	21.3		21.3	21.3		39.5	39.5	39.5	39.5	39.5	39.5
Effective Green, g (s)	21.3	21.3		21.3	21.3		39.5	39.5	39.5	39.5	39.5	39.5
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.57	0.57	0.57	0.57	0.57	0.57
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	161	1021		261	1007		707	1906	853	608	1906	853
v/s Ratio Prot		0.11			0.18			0.07			0.02	
v/s Ratio Perm	0.07			c0.23			c0.26		0.02	0.02		0.01
v/c Ratio	0.24	0.36		0.73	0.59		0.46	0.12	0.04	0.03	0.04	0.03
Uniform Delay, d1	17.7	18.5		21.2	20.0		8.5	6.7	6.4	6.3	6.4	6.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.2		9.7	0.9		2.2	0.1	0.1	0.1	0.0	0.1
Delay (s)	18.4	18.7		30.9	20.9		10.6	6.8	6.5	6.4	6.4	6.4
Level of Service	B	B		C	C		B	A	A	A	A	A
Approach Delay (s)		18.7			23.3			8.8			6.4	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	155	950	135	90	490	130	70	180	95	145	280	170
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	1033	147	98	533	141	76	196	103	158	304	185
RTOR Reduction (vph)	0	0	95	0	0	108	0	0	83	0	0	138
Lane Group Flow (vph)	168	1033	52	98	533	33	76	196	20	158	304	47
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	12.8	22.8	22.8	5.0	15.0	15.0	4.0	12.3	12.3	8.0	16.3	16.3
Effective Green, g (s)	12.8	22.8	22.8	5.0	15.0	15.0	4.0	12.3	12.3	8.0	16.3	16.3
Actuated g/C Ratio	0.20	0.36	0.36	0.08	0.23	0.23	0.06	0.19	0.19	0.12	0.25	0.25
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	331	1181	528	129	777	348	104	637	285	207	844	378
v/s Ratio Prot	0.10	c0.31		0.06	c0.16		0.05	0.06		c0.10	c0.09	
v/s Ratio Perm			0.04			0.02			0.01			0.03
v/c Ratio	0.51	0.87	0.10	0.76	0.69	0.09	0.73	0.31	0.07	0.76	0.36	0.12
Uniform Delay, d1	22.8	19.3	13.8	29.0	22.4	19.2	29.5	22.2	21.2	27.1	19.6	18.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	7.4	0.1	22.3	2.5	0.1	23.0	0.3	0.1	15.3	0.3	0.1
Delay (s)	24.1	26.8	13.9	51.3	24.9	19.4	52.5	22.5	21.3	42.4	19.9	18.6
Level of Service	C	C	B	D	C	B	D	C	C	D	B	B
Approach Delay (s)		25.0			27.3			28.3			25.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	26.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	64.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	1270	80	165	650	290	105	140	325	540	260	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.95		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1660	3291		1660	3167		1660	1564		1660	1748	1485
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1660	3291		1660	3167		1660	1564		1660	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	1380	87	179	707	315	114	152	353	587	283	60
RTOR Reduction (vph)	0	5	0	0	50	0	0	84	0	0	0	42
Lane Group Flow (vph)	76	1462	0	179	973	0	114	421	0	587	283	18
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	4.8	32.0		8.8	36.0		13.0	22.0		22.0	31.0	31.0
Effective Green, g (s)	4.8	32.0		8.8	36.0		13.0	22.0		22.0	31.0	31.0
Actuated g/C Ratio	0.05	0.32		0.09	0.36		0.13	0.22		0.22	0.31	0.31
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	79	1045		145	1131		214	341		362	538	457
v/s Ratio Prot	0.05	c0.44		c0.11	0.31		0.07	c0.27		c0.35	0.16	
v/s Ratio Perm												0.01
v/c Ratio	0.96	1.40		1.23	0.86		0.53	1.24		1.62	0.53	0.04
Uniform Delay, d1	47.9	34.4		46.0	30.1		41.1	39.4		39.4	28.8	24.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	87.9	185.5		151.1	6.7		2.5	128.8		292.1	3.7	0.2
Delay (s)	135.8	219.9		197.1	36.8		43.6	168.2		331.5	32.5	24.6
Level of Service	F	F		F	D		D	F		F	C	C
Approach Delay (s)		215.8			60.7			145.3			220.7	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	163.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	100.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	577	362	485	555	5	103
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1505	787	606	1207	11	224
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	708			1181		
pX, platoon unblocked			0.70		0.70	0.70
vC, conflicting volume			2292		3714	1146
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1989		4020	352
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			0		0	50
cM capacity (veh/h)			197		0	449

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	1003	1289	606	603	603	11	224
Volume Left	0	0	606	0	0	11	0
Volume Right	0	787	0	0	0	0	224
cSH	1700	1700	197	1700	1700	0	449
Volume to Capacity	0.59	0.76	3.07	0.35	0.35	Err	0.50
Queue Length 95th (ft)	0	0	Err	0	0	Err	68
Control Delay (s)	0.0	0.0	981.4	0.0	0.0	Err	20.7
Lane LOS			F			F	C
Approach Delay (s)	0.0		328.2			Err	
Approach LOS						F	

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	113.5%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					386							
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1614			1614			1020	893	1081	1020	893	1081

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	0	0	0	0	0	0	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS									A	A	A	A
Approach Delay (s)	0.0				0.0				0.0			
Approach LOS									A			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	595	1050	0	0	1155	155	380	0	825	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	0.97	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.98		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	3221	3320			5905		3221		2614			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	3221	3320			5905		3221		2614			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	647	1141	0	0	1255	168	413	0	897	0	0	0
RTOR Reduction (vph)	0	0	0	0	40	0	0	0	82	0	0	0
Lane Group Flow (vph)	647	1141	0	0	1383	0	413	0	815	0	0	0
Turn Type	Prot						custom		custom			
Protected Phases	7	4			8							
Permitted Phases							2		2			
Actuated Green, G (s)	13.0	33.0			16.0		19.0		19.0			
Effective Green, g (s)	13.0	33.0			16.0		19.0		19.0			
Actuated g/C Ratio	0.22	0.55			0.27		0.32		0.32			
Clearance Time (s)	4.0	4.0			4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	698	1826			1575		1020		828			
v/s Ratio Prot	c0.20	0.34			c0.23							
v/s Ratio Perm							0.13		c0.31			
v/c Ratio	0.93	0.62			0.88		0.40		0.98			
Uniform Delay, d1	23.0	9.3			21.1		16.1		20.4			
Progression Factor	1.00	1.00			1.00		1.00		1.00			
Incremental Delay, d2	18.3	0.7			5.9		0.3		27.2			
Delay (s)	41.4	9.9			26.9		16.3		47.6			
Level of Service	D	A			C		B		D			
Approach Delay (s)		21.3			26.9			37.7			0.0	
Approach LOS		C			C			D			A	

Intersection Summary			
HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	500	1345	35	20	500	225	455	310	790	60	245	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.89		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	3320	1485	1660	3166		1660	2963		1660	3265	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1660	3320	1485	1660	3166		1660	2963		1660	3265	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	543	1462	38	22	543	245	495	337	859	65	266	33
RTOR Reduction (vph)	0	0	15	0	52	0	0	411	0	0	10	0
Lane Group Flow (vph)	543	1462	23	22	736	0	495	785	0	65	289	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	27.4	43.8	43.8	1.6	18.0		22.0	37.8		4.0	19.8	
Effective Green, g (s)	27.4	43.8	43.8	1.6	18.0		22.0	37.8		4.0	19.8	
Actuated g/C Ratio	0.27	0.42	0.42	0.02	0.17		0.21	0.37		0.04	0.19	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	441	1409	630	26	552		354	1085		64	626	
v/s Ratio Prot	c0.33	0.44		0.01	c0.23		c0.30	c0.27		c0.04	0.09	
v/s Ratio Perm			0.02									
v/c Ratio	1.23	1.04	0.04	0.85	1.33		1.40	0.89dr		1.02	0.46	
Uniform Delay, d1	37.9	29.7	17.4	50.7	42.6		40.6	28.2		49.6	37.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	122.5	34.3	0.0	109.6	162.1		195.6	4.2		116.9	2.4	
Delay (s)	160.4	64.0	17.4	160.3	204.7		236.2	32.4		166.5	39.4	
Level of Service	F	E	B	F	F		F	C		F	D	
Approach Delay (s)		88.8			203.5			92.1			62.1	
Approach LOS		F			F			F			E	

Intersection Summary			
HCM Average Control Delay	106.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	103.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	107.4%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	48	15	0	0	0	2	0	0	0	13	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	116	36	0	0	0	5	0	0	0	31	48
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	41	41	31	99	89	0	80			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	41	41	31	99	89	0	80			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	86	97	100	100	100	100			100		
cM capacity (veh/h)	958	846	1040	759	796	1082	1512			1617		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	116	36	5	0	31	48
Volume Left	0	0	5	0	0	0
Volume Right	0	36	0	0	0	48
cSH	846	1040	1512	1700	1700	1700
Volume to Capacity	0.14	0.03	0.00	0.00	0.02	0.03
Queue Length 95th (ft)	12	3	0	0	0	0
Control Delay (s)	9.9	8.6	7.4	0.0	0.0	0.0
Lane LOS	A	A	A			
Approach Delay (s)	9.6		7.4		0.0	
Approach LOS	A					

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	9	314	134	37	7	4	95	51	8	235	111	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	758	323	89	17	10	229	123	19	567	268	19

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	779	323	106	10	229	123	19	567	268	19
Volume Left (vph)	22	0	89	0	229	0	0	567	0	0
Volume Right (vph)	0	323	0	10	0	0	19	0	0	19
Hadj (s)	0.06	-0.55	0.47	-0.65	0.55	0.05	-0.65	0.55	0.05	-0.65
Departure Headway (s)	7.7	3.2	9.4	8.3	8.8	8.3	3.2	8.2	7.7	3.2
Degree Utilization, x	1.66	0.29	0.28	0.02	0.56	0.28	0.02	1.29	0.57	0.02
Capacity (veh/h)	475	1112	373	420	399	429	1121	447	455	1121
Control Delay (s)	325.6	7.5	14.8	10.3	21.0	13.3	5.1	170.8	19.4	5.1
Approach Delay (s)	232.3		14.4		17.6			119.6		
Approach LOS	F		B		C			F		

Intersection Summary			
Delay	150.0		
HCM Level of Service	F		
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	35	920	55	15	320	35	45	20	20	45	20	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	1000	60	16	348	38	49	22	22	49	22	49

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	1098	364	38	92	120
Volume Left (vph)	38	16	0	49	49
Volume Right (vph)	60	0	38	22	49
Hadj (s)	0.03	0.07	-0.65	0.02	-0.11
Departure Headway (s)	5.4	6.1	5.4	7.0	6.8
Degree Utilization, x	1.66	0.62	0.06	0.18	0.23
Capacity (veh/h)	653	571	651	478	495
Control Delay (s)	318.3	17.2	7.5	11.5	11.7
Approach Delay (s)	318.3	16.3		11.5	11.7
Approach LOS	F	C		B	B

Intersection Summary			
Delay	209.4		
HCM Level of Service	F		
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	350	35	85	115	50	40	230	40	135	170	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	380	38	92	125	54	43	250	43	147	185	38

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	76	418	92	179	43	293	147	223
Volume Left (vph)	76	0	92	0	43	0	147	0
Volume Right (vph)	0	38	0	54	0	43	0	38
Hadj (s)	0.55	-0.01	0.55	-0.16	0.55	-0.05	0.55	-0.07
Departure Headway (s)	7.9	7.3	8.4	7.7	8.3	7.7	8.2	7.6
Degree Utilization, x	0.17	0.85	0.22	0.38	0.10	0.62	0.34	0.47
Capacity (veh/h)	439	481	406	443	415	447	417	443
Control Delay (s)	11.3	38.6	12.5	14.1	11.0	21.3	14.2	16.1
Approach Delay (s)	34.4		13.6		20.0		15.3	
Approach LOS	D		B		C		C	

Intersection Summary			
Delay	22.5		
HCM Level of Service	C		
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	130	400	105	40	170	40	170	420	40	45	260	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	141	435	114	43	185	43	185	457	43	49	283	98

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	690	228	43	641	43	429
Volume Left (vph)	141	43	0	185	0	49
Volume Right (vph)	114	0	43	0	43	98
Hadj (s)	-0.01	0.15	-0.65	0.20	-0.65	-0.06
Departure Headway (s)	9.2	9.8	9.0	9.1	8.3	9.1
Degree Utilization, x	1.76	0.62	0.11	1.62	0.10	1.09
Capacity (veh/h)	398	360	395	399	429	404
Control Delay (s)	372.0	26.2	11.9	312.9	11.0	100.6
Approach Delay (s)	372.0	23.9		293.7		100.6
Approach LOS	F	C		F		F

Intersection Summary			
Delay	244.5		
HCM Level of Service	F		
Intersection Capacity Utilization	120.4%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	3035	90	385	1145	0	75	0	945	315	35	70
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.90	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		1485	1660	2988	
Flt Permitted		1.00	1.00	0.95	1.00		0.20		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		350		1485	1660	2988	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	3299	98	418	1245	0	82	0	1027	342	38	76
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	277	0	64	0
Lane Group Flow (vph)	0	3299	80	418	1245	0	82	0	750	342	50	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		39.0	39.0	9.0	52.0		20.0		9.0	16.0	16.0	
Effective Green, g (s)		39.0	39.0	9.0	52.0		20.0		9.0	16.0	16.0	
Actuated g/C Ratio		0.39	0.39	0.09	0.52		0.20		0.09	0.16	0.16	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1295	579	149	1726		70		134	266	478	
v/s Ratio Prot		c0.99		0.25	0.37				c0.51	c0.21	0.02	
v/s Ratio Perm			0.05				c0.23					
v/c Ratio		2.55	0.14	2.81	0.72		1.17		5.60	1.29	0.10	
Uniform Delay, d1		30.5	19.7	45.5	18.4		40.0		45.5	42.0	35.9	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		698.7	0.1	830.8	1.5		161.2		2086.1	154.0	0.4	
Delay (s)		729.2	19.8	876.3	19.9		201.2		2131.6	196.0	36.3	
Level of Service		F	B	F	B		F		F	F	D	
Approach Delay (s)		708.7			235.2			1988.9			156.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	766.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	180.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	925	0	0	540	910	210	150	525	165	0	140
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97		1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.92	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1660	3320			3320	1485	1577	1461	1411	3221		1485
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.51		1.00
Satd. Flow (perm)	1660	3320			3320	1485	1577	1461	1411	1735		1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1005	0	0	587	989	228	163	571	179	0	152
RTOR Reduction (vph)	0	0	0	0	0	365	0	40	94	0	0	128
Lane Group Flow (vph)	217	1005	0	0	587	624	205	352	271	179	0	24
Turn Type	Prot					Perm	Split		Perm	custom		custom
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2	6		6
Actuated Green, G (s)	11.0	50.0			35.0	35.0	22.0	22.0	22.0	16.0		16.0
Effective Green, g (s)	11.0	50.0			35.0	35.0	22.0	22.0	22.0	16.0		16.0
Actuated g/C Ratio	0.11	0.50			0.35	0.35	0.22	0.22	0.22	0.16		0.16
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	183	1660			1162	520	347	321	310	278		238
v/s Ratio Prot	c0.13	0.30			0.18		0.13	c0.24				
v/s Ratio Perm						c0.42			0.19	c0.10		0.02
v/c Ratio	1.19	0.61			0.51	1.20	0.59	1.10	0.87	0.64		0.10
Uniform Delay, d1	44.5	17.9			25.7	32.5	35.0	39.0	37.7	39.3		35.9
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	125.4	0.6			0.3	107.2	7.2	78.9	27.1	11.0		0.9
Delay (s)	169.9	18.6			26.0	139.7	42.2	117.9	64.7	50.3		36.7
Level of Service	F	B			C	F	D	F	E	D		D
Approach Delay (s)		45.4			97.3			81.6			44.1	
Approach LOS		D			F			F			D	

Intersection Summary			
HCM Average Control Delay	73.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	0	5	5	20	25	330	725	465	185	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	0	5	5	22	27	359	788	505	201	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								290				
pX, platoon unblocked												
vC, conflicting volume	1470	2413	101	1918	2019	573	201			1147		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1470	2413	101	1918	2019	573	201			1147		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	60	100	100	53	38	95	98			16		
cM capacity (veh/h)	14	5	932	12	9	460	1361			599		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	5	11	22	27	239	908	505	101	101
Volume Left	5	5	0	27	0	0	505	0	0
Volume Right	0	0	22	0	0	788	0	0	0
cSH	14	10	460	1361	1700	1700	599	1700	1700
Volume to Capacity	0.40	1.09	0.05	0.02	0.14	0.53	0.84	0.06	0.06
Queue Length 95th (ft)	25	52	4	2	0	0	227	0	0
Control Delay (s)	388.8	810.8	13.2	7.7	0.0	0.0	35.1	0.0	0.0
Lane LOS	F	F	B	A			E		
Approach Delay (s)	388.8	279.1		0.2			25.1		
Approach LOS	F	F							

Intersection Summary			
Average Delay	15.2		
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	15	1005	55	465	1265	125	115	525	40	50	375	630
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	1092	60	505	1375	136	125	571	43	54	408	685
RTOR Reduction (vph)	0	0	38	0	0	61	0	0	33	0	0	428
Lane Group Flow (vph)	16	1092	22	505	1375	75	125	571	10	54	408	257
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8			6			2
Actuated Green, G (s)	1.6	26.0	26.0	26.4	50.8	50.8	6.0	21.0	21.0	3.2	18.2	18.2
Effective Green, g (s)	1.6	26.0	26.0	26.4	50.8	50.8	6.0	21.0	21.0	3.2	18.2	18.2
Actuated g/C Ratio	0.02	0.28	0.28	0.29	0.55	0.55	0.06	0.23	0.23	0.03	0.20	0.20
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	29	932	417	473	1821	815	108	753	337	57	653	292
v/s Ratio Prot	0.01	c0.33		c0.30	0.41		c0.08	c0.17		0.03	0.12	
v/s Ratio Perm			0.01			0.05			0.01			c0.17
v/c Ratio	0.55	1.17	0.05	1.07	0.76	0.09	1.16	0.76	0.03	0.95	0.62	0.88
Uniform Delay, d1	45.1	33.3	24.3	33.1	16.1	9.9	43.3	33.4	27.9	44.6	34.1	36.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	20.8	88.7	0.1	60.6	1.8	0.0	135.1	4.4	0.0	99.1	1.9	24.5
Delay (s)	65.9	122.0	24.4	93.7	17.9	10.0	178.4	37.8	27.9	143.7	35.9	60.6
Level of Service	E	F	C	F	B	A	F	D	C	F	D	E
Approach Delay (s)		116.2			36.4			61.0			55.8	
Approach LOS		F			D			E			E	

Intersection Summary			
HCM Average Control Delay	62.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	92.6	Sum of lost time (s)	20.0
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	15	430	505	25	35	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	467	549	27	38	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	576				1062	562
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	576				1062	562
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				84	96
cM capacity (veh/h)	992				242	524

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	484	576	60
Volume Left	16	0	38
Volume Right	0	27	22
cSH	992	1700	301
Volume to Capacity	0.02	0.34	0.20
Queue Length 95th (ft)	1	0	18
Control Delay (s)	0.5	0.0	19.9
Lane LOS	A		C
Approach Delay (s)	0.5	0.0	19.9
Approach LOS			C

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	320	210	275	590	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	348	228	299	641	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			576		1587	348
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			576		1587	348
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			70		100	100
cM capacity (veh/h)			992		83	693

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	348	228	299	641
Volume Left	0	0	299	0
Volume Right	0	228	0	0
cSH	1700	1700	992	1700
Volume to Capacity	0.20	0.13	0.30	0.38
Queue Length 95th (ft)	0	0	32	0
Control Delay (s)	0.0	0.0	10.2	0.0
Lane LOS			B	
Approach Delay (s)	0.0		3.2	
Approach LOS				

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	335	0	0	675	225	295
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	364	0	0	734	245	321
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1094		
pX, platoon unblocked					0.70	
vC, conflicting volume			364		1098	364
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			364		926	364
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		0	53
cM capacity (veh/h)			1189		208	679

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	364	734	565
Volume Left	0	0	245
Volume Right	0	0	321
cSH	1700	1700	435
Volume to Capacity	0.21	0.43	1.30
Queue Length 95th (ft)	0	0	620
Control Delay (s)	0.0	0.0	177.4
Lane LOS			F
Approach Delay (s)	0.0	0.0	177.4
Approach LOS			F

Intersection Summary			
Average Delay	60.3		
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	85	545	25	110	590	110	150	80	60	40	260	80
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3299		1660	3242		1660	3320	1485	1660	3320	1485
Flt Permitted	0.23	1.00		0.32	1.00		0.58	1.00	1.00	0.70	1.00	1.00
Satd. Flow (perm)	407	3299		558	3242		1010	3320	1485	1219	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	592	27	120	641	120	163	87	65	43	283	87
RTOR Reduction (vph)	0	5	0	0	24	0	0	0	31	0	0	41
Lane Group Flow (vph)	92	614	0	120	737	0	163	87	34	43	283	46
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6		6	2		2
Actuated Green, G (s)	21.8	21.8		21.8	21.8		33.3	33.3	33.3	33.3	33.3	33.3
Effective Green, g (s)	21.8	21.8		21.8	21.8		33.3	33.3	33.3	33.3	33.3	33.3
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.53	0.53	0.53	0.53	0.53	0.53
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	141	1140		193	1120		533	1752	784	643	1752	784
v/s Ratio Prot		0.19			c0.23			0.03			0.09	
v/s Ratio Perm	0.23			0.22			c0.16		0.02	0.04		0.03
v/c Ratio	0.65	0.54		0.62	0.66		0.31	0.05	0.04	0.07	0.16	0.06
Uniform Delay, d1	17.4	16.6		17.2	17.5		8.4	7.2	7.2	7.3	7.7	7.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.3	0.5		6.1	1.4		1.5	0.1	0.1	0.2	0.2	0.1
Delay (s)	27.8	17.1		23.3	18.9		9.9	7.3	7.3	7.5	7.9	7.4
Level of Service	C	B		C	B		A	A	A	A	A	A
Approach Delay (s)		18.5			19.5			8.6			7.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	63.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	295	685	100	220	785	295	115	480	165	205	410	205
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	321	745	109	239	853	321	125	522	179	223	446	223
RTOR Reduction (vph)	0	0	76	0	0	222	0	0	144	0	0	171
Lane Group Flow (vph)	321	745	33	239	853	99	125	522	35	223	446	52
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	18.7	27.0	27.0	15.7	24.0	24.0	9.5	17.2	17.2	13.0	20.7	20.7
Effective Green, g (s)	18.7	27.0	27.0	15.7	24.0	24.0	9.5	17.2	17.2	13.0	20.7	20.7
Actuated g/C Ratio	0.21	0.30	0.30	0.18	0.27	0.27	0.11	0.19	0.19	0.15	0.23	0.23
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	349	1008	451	293	896	401	177	642	287	243	773	346
v/s Ratio Prot	c0.19	0.22		0.14	c0.26		0.08	c0.16		c0.13	c0.13	
v/s Ratio Perm			0.02			0.07			0.02			0.03
v/c Ratio	0.92	0.74	0.07	0.82	0.95	0.25	0.71	0.81	0.12	0.92	0.58	0.15
Uniform Delay, d1	34.4	27.8	22.0	35.2	31.9	25.4	38.4	34.3	29.6	37.4	30.2	27.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.4	2.9	0.1	15.9	19.3	0.3	12.1	7.8	0.2	35.9	1.0	0.2
Delay (s)	62.7	30.7	22.1	51.1	51.2	25.7	50.4	42.1	29.8	73.3	31.3	27.3
Level of Service	E	C	C	D	D	C	D	D	C	E	C	C
Approach Delay (s)		38.6			45.4			40.7			40.8	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	41.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	88.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	865	65	150	840	505	85	170	280	325	110	85
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.94		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1660	3285		1660	3133		1660	1585		1660	1748	1485
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1660	3285		1660	3133		1660	1585		1660	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	940	71	163	913	549	92	185	304	353	120	92
RTOR Reduction (vph)	0	6	0	0	90	0	0	59	0	0	0	60
Lane Group Flow (vph)	60	1005	0	163	1372	0	92	430	0	353	120	32
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	4.0	30.0		10.0	36.0		9.6	26.8		18.0	35.2	35.2
Effective Green, g (s)	4.0	30.0		10.0	36.0		9.6	26.8		18.0	35.2	35.2
Actuated g/C Ratio	0.04	0.30		0.10	0.36		0.10	0.27		0.18	0.35	0.35
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	66	978		165	1119		158	421		296	610	519
v/s Ratio Prot	0.04	c0.31		0.10	c0.44		0.06	c0.27		c0.21	0.07	
v/s Ratio Perm												0.02
v/c Ratio	0.91	1.03		0.99	1.23		0.58	1.02		1.19	0.20	0.06
Uniform Delay, d1	48.2	35.4		45.3	32.4		43.7	37.0		41.4	22.9	21.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	78.5	36.2		65.8	109.8		5.4	49.6		115.0	0.7	0.2
Delay (s)	126.7	71.6		111.2	142.2		49.1	86.6		156.4	23.6	22.0
Level of Service	F	E		F	F		D	F		F	C	C
Approach Delay (s)		74.6			139.1			80.6			106.3	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM Average Control Delay	107.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	100.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	108.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	572	213	396	1264	15	125
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1243	370	465	1580	28	231
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	718			1171		
pX, platoon unblocked			0.72		0.72	0.72
vC, conflicting volume			1614		3148	807
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1087		3205	0
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			0		0	71
cM capacity (veh/h)			458		0	783

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	829	785	465	790	790	28	231
Volume Left	0	0	465	0	0	28	0
Volume Right	0	370	0	0	0	0	231
cSH	1700	1700	458	1700	1700	0	783
Volume to Capacity	0.49	0.46	1.02	0.46	0.46	Err	0.29
Queue Length 95th (ft)	0	0	342	0	0	Err	31
Control Delay (s)	0.0	0.0	76.5	0.0	0.0	Err	11.5
Lane LOS			F			F	B
Approach Delay (s)	0.0		17.4			Err	
Approach LOS						F	

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					386							
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1614			1614			1020	893	1081	1020	893	1081

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	0	0	0	0	0	0	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS									A	A	A	A
Approach Delay (s)	0.0				0.0				0.0			
Approach LOS									A			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	560	770	0	0	1090	135	665	0	820	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	0.97	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.98		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	3221	3320			5912		3221		2614			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	3221	3320			5912		3221		2614			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	609	837	0	0	1185	147	723	0	891	0	0	0
RTOR Reduction (vph)	0	0	0	0	37	0	0	0	178	0	0	0
Lane Group Flow (vph)	609	837	0	0	1295	0	723	0	713	0	0	0
Turn Type	Prot						custom		custom			
Protected Phases	7	4			8							
Permitted Phases							2		2			
Actuated Green, G (s)	12.9	32.9			16.0		18.5		18.5			
Effective Green, g (s)	12.9	32.9			16.0		18.5		18.5			
Actuated g/C Ratio	0.22	0.55			0.27		0.31		0.31			
Clearance Time (s)	4.0	4.0			4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	700	1839			1592		1003		814			
v/s Ratio Prot	c0.19	0.25			c0.22							
v/s Ratio Perm							0.22		c0.27			
v/c Ratio	0.87	0.46			0.81		0.72		0.88			
Uniform Delay, d1	22.4	7.9			20.3		18.2		19.4			
Progression Factor	1.00	1.00			1.00		1.00		1.00			
Incremental Delay, d2	11.4	0.2			3.3		2.6		10.4			
Delay (s)	33.8	8.1			23.6		20.7		29.7			
Level of Service	C	A			C		C		C			
Approach Delay (s)		18.9			23.6			25.7			0.0	
Approach LOS		B			C			C			A	

Intersection Summary			
HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	59.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	600	970	25	10	635	235	260	150	540	35	290	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.88		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	3320	1485	1660	3186		1660	2931		1660	3281	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1660	3320	1485	1660	3186		1660	2931		1660	3281	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	652	1054	27	11	690	255	283	163	587	38	315	27
RTOR Reduction (vph)	0	0	13	0	38	0	0	421	0	0	7	0
Lane Group Flow (vph)	652	1054	14	11	907	0	283	329	0	38	335	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	33.2	55.4	55.4	0.8	23.0		14.0	29.6		3.0	18.6	
Effective Green, g (s)	33.2	55.4	55.4	0.8	23.0		14.0	29.6		3.0	18.6	
Actuated g/C Ratio	0.32	0.53	0.53	0.01	0.22		0.13	0.28		0.03	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	526	1755	785	13	699		222	828		48	582	
v/s Ratio Prot	c0.39	0.32		0.01	c0.28		c0.17	0.11		0.02	c0.10	
v/s Ratio Perm			0.01									
v/c Ratio	1.24	0.60	0.02	0.85	1.30		1.27	0.40		0.79	0.58	
Uniform Delay, d1	35.8	17.1	11.8	51.9	40.9		45.4	30.4		50.6	39.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	123.3	0.6	0.0	166.4	144.2		153.9	1.4		58.5	4.1	
Delay (s)	159.1	17.6	11.8	218.4	185.1		199.3	31.8		109.0	43.6	
Level of Service	F	B	B	F	F		F	C		F	D	
Approach Delay (s)		70.8			185.5			77.7			50.2	
Approach LOS		E			F			E			D	

Intersection Summary			
HCM Average Control Delay	97.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	104.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	26	8	0	0	0	20	0	2	0	6	17
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	48	15	0	0	0	37	0	4	0	11	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	85	89	11	109	116	0	42			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	85	89	11	109	116	0	42			4		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	94	99	100	100	100	98			100		
cM capacity (veh/h)	883	781	1067	800	754	1082	1560			1612		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	48	15	37	4	11	31
Volume Left	0	0	37	0	0	0
Volume Right	0	15	0	4	0	31
cSH	781	1067	1560	1700	1700	1700
Volume to Capacity	0.06	0.01	0.02	0.00	0.01	0.02
Queue Length 95th (ft)	5	1	2	0	0	0
Control Delay (s)	9.9	8.4	7.4	0.0	0.0	0.0
Lane LOS	A	A	A			
Approach Delay (s)	9.6		6.7		0.0	
Approach LOS	A					

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	22.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	112	180	17	39	20	3	334	183	10	95	81	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	207	333	31	72	37	6	617	338	18	176	150	26

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	540	31	109	6	617	338	18	176	150	26
Volume Left (vph)	207	0	72	0	617	0	0	176	0	0
Volume Right (vph)	0	31	0	6	0	0	18	0	0	26
Hadj (s)	0.13	-0.55	0.38	-0.65	0.55	0.05	-0.65	0.55	0.05	-0.65
Departure Headway (s)	7.6	3.2	9.2	8.2	8.1	7.6	3.2	8.8	8.3	3.2
Degree Utilization, x	1.15	0.03	0.28	0.01	1.39	0.72	0.02	0.43	0.34	0.02
Capacity (veh/h)	475	1121	381	425	455	464	1121	405	428	1121
Control Delay (s)	114.2	6.3	14.6	10.1	210.8	26.3	5.1	17.0	14.3	5.1
Approach Delay (s)	108.3		14.3		142.8			15.0		
Approach LOS	F		B		F			B		

Intersection Summary			
Delay	103.4		
HCM Level of Service	F		
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	35	575	65	10	685	70	95	60	20	60	60	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	625	71	11	745	76	103	65	22	65	65	103

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	734	755	76	190	234
Volume Left (vph)	38	11	0	103	65
Volume Right (vph)	71	0	76	22	103
Hadj (s)	0.00	0.06	-0.65	0.09	-0.16
Departure Headway (s)	7.1	7.4	6.7	8.4	7.9
Degree Utilization, x	1.44	1.56	0.14	0.44	0.52
Capacity (veh/h)	505	488	529	408	439
Control Delay (s)	229.0	279.7	9.6	17.9	19.1
Approach Delay (s)	229.0	255.0		17.9	19.1
Approach LOS	F	F		C	C

Intersection Summary			
Delay	195.0		
HCM Level of Service	F		
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	95	210	45	190	245	110	80	535	130	130	365	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	103	228	49	207	266	120	87	582	141	141	397	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	103	277	207	386	87	723	141	440
Volume Left (vph)	103	0	207	0	87	0	141	0
Volume Right (vph)	0	49	0	120	0	141	0	43
Hadj (s)	0.55	-0.07	0.55	-0.17	0.55	-0.09	0.55	-0.02
Departure Headway (s)	9.9	9.3	9.6	8.9	9.5	8.9	9.5	8.9
Degree Utilization, x	0.28	0.72	0.55	0.95	0.23	1.79	0.37	1.09
Capacity (veh/h)	357	378	363	400	370	408	374	411
Control Delay (s)	15.6	31.6	22.4	62.2	14.2	386.7	16.8	101.0
Approach Delay (s)	27.2		48.3		346.7		80.5	
Approach LOS	D		E		F		F	

Intersection Summary			
Delay	155.1		
HCM Level of Service	F		
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	75	115	100	100	265	50	155	520	55	35	610	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	125	109	109	288	54	168	565	60	38	663	71

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	315	397	54	734	60	772
Volume Left (vph)	82	109	0	168	0	38
Volume Right (vph)	109	0	54	0	60	71
Hadj (s)	-0.10	0.19	-0.65	0.17	-0.65	0.01
Departure Headway (s)	9.9	9.6	8.7	9.5	8.7	9.7
Degree Utilization, x	0.87	1.05	0.13	1.94	0.14	2.09
Capacity (veh/h)	350	376	407	383	407	376
Control Delay (s)	52.8	91.7	11.8	454.6	12.0	520.3
Approach Delay (s)	52.8	82.1		421.3		520.3
Approach LOS	F	F		F		F

Intersection Summary			
Delay	338.6		
HCM Level of Service	F		
Intersection Capacity Utilization	131.8%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1650	75	860	2920	0	110	0	910	365	110	180
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.91	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		1485	1660	3011	
Flt Permitted		1.00	1.00	0.95	1.00		0.17		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		304		1485	1660	3011	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1793	82	935	3174	0	120	0	989	397	120	196
RTOR Reduction (vph)	0	0	28	0	0	0	0	0	321	0	159	0
Lane Group Flow (vph)	0	1793	54	935	3174	0	120	0	668	397	157	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		26.0	26.0	18.0	48.0		23.0		18.0	17.0	17.0	
Effective Green, g (s)		26.0	26.0	18.0	48.0		23.0		18.0	17.0	17.0	
Actuated g/C Ratio		0.26	0.26	0.18	0.48		0.23		0.18	0.17	0.17	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		863	386	299	1594		70		267	282	512	
v/s Ratio Prot		0.54		c0.56	c0.96				0.45	c0.24	0.05	
v/s Ratio Perm			0.04				c0.39					
v/c Ratio		2.08	0.14	3.13	1.99		1.71		2.50	1.41	0.31	
Uniform Delay, d1		37.0	28.4	41.0	26.0		38.5		41.0	41.5	36.3	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		488.9	0.2	966.0	448.3		374.4		686.2	203.4	1.5	
Delay (s)		525.9	28.6	1007.0	474.3		412.9		727.2	244.9	37.9	
Level of Service		F	C	F	F		F		F	F	D	
Approach Delay (s)		504.2			595.5			693.2			153.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	547.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.08		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	141.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	800	0	0	1190	520	330	125	620	260	0	265
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97		1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.91	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1660	3320			3320	1485	1577	1440	1411	3221		1485
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.49		1.00
Satd. Flow (perm)	1660	3320			3320	1485	1577	1440	1411	1661		1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	870	0	0	1293	565	359	136	674	283	0	288
RTOR Reduction (vph)	0	0	0	0	0	269	0	55	80	0	0	177
Lane Group Flow (vph)	196	870	0	0	1293	296	323	380	331	283	0	111
Turn Type	Prot					Perm	Split		Perm	custom		custom
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2	6		6
Actuated Green, G (s)	10.0	49.0			35.0	35.0	23.0	23.0	23.0	16.0		16.0
Effective Green, g (s)	10.0	49.0			35.0	35.0	23.0	23.0	23.0	16.0		16.0
Actuated g/C Ratio	0.10	0.49			0.35	0.35	0.23	0.23	0.23	0.16		0.16
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	166	1627			1162	520	363	331	325	266		238
v/s Ratio Prot	c0.12	0.26			c0.39		0.20	c0.26				
v/s Ratio Perm						0.20			0.23	c0.17		0.07
v/c Ratio	1.18	0.53			1.11	0.57	0.89	1.15	1.02	1.06		0.47
Uniform Delay, d1	45.0	17.6			32.5	26.4	37.3	38.5	38.5	42.0		38.1
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	126.8	0.3			63.0	1.4	26.2	96.3	54.6	73.1		6.4
Delay (s)	171.8	18.0			95.5	27.8	63.5	134.8	93.1	115.1		44.5
Level of Service	F	B			F	C	E	F	F	F		D
Approach Delay (s)		46.2			74.9			100.4			79.5	
Approach LOS		D			E			F			E	

Intersection Summary			
HCM Average Control Delay	75.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	5	30	5	5	40	280	695	450	380	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	5	33	5	5	43	304	755	489	413	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								290				
pX, platoon unblocked												
vC, conflicting volume	1641	2541	209	1959	2166	530	418			1060		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1641	2541	209	1959	2166	530	418			1060		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	0	50	99	96			24		
cM capacity (veh/h)	16	6	793	14	11	491	1130			647		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	5	38	5	43	203	857	489	275	143
Volume Left	0	33	0	43	0	0	489	0	0
Volume Right	5	0	5	0	0	755	0	0	5
cSH	793	13	491	1130	1700	1700	647	1700	1700
Volume to Capacity	0.01	2.87	0.01	0.04	0.12	0.50	0.76	0.16	0.08
Queue Length 95th (ft)	1	141	1	3	0	0	172	0	0
Control Delay (s)	9.6	1422.0	12.4	8.3	0.0	0.0	25.7	0.0	0.0
Lane LOS	A	F	B	A			D		
Approach Delay (s)	9.6	1245.8		0.3			13.9		
Approach LOS	A	F							

Intersection Summary			
Average Delay	32.6		
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	20	1435	40	580	2295	155	165	295	25	80	655	1055
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	1560	43	630	2495	168	179	321	27	87	712	1147
RTOR Reduction (vph)	0	0	17	0	0	47	0	0	20	0	0	293
Lane Group Flow (vph)	22	1560	26	630	2495	121	179	321	7	87	712	854
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8			6			2
Actuated Green, G (s)	1.6	29.0	29.0	21.4	48.8	48.8	6.0	28.5	28.5	8.3	30.8	30.8
Effective Green, g (s)	1.6	29.0	29.0	21.4	48.8	48.8	6.0	28.5	28.5	8.3	30.8	30.8
Actuated g/C Ratio	0.02	0.28	0.28	0.21	0.47	0.47	0.06	0.28	0.28	0.08	0.30	0.30
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	26	933	417	344	1570	702	97	917	410	134	991	443
v/s Ratio Prot	0.01	c0.47		c0.38	0.75		c0.11	0.10		0.05	0.21	
v/s Ratio Perm			0.02			0.08			0.01			c0.58
v/c Ratio	0.85	1.67	0.06	1.83	1.59	0.17	1.85	0.35	0.02	0.65	0.72	1.93
Uniform Delay, d1	50.7	37.1	27.1	40.9	27.2	15.6	48.6	29.9	27.2	46.0	32.3	36.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	109.6	307.1	0.1	385.3	268.2	0.1	417.3	0.2	0.0	10.4	2.5	426.2
Delay (s)	160.3	344.2	27.2	426.2	295.4	15.7	465.9	30.2	27.2	56.4	34.8	462.4
Level of Service	F	F	C	F	F	B	F	C	C	E	C	F
Approach Delay (s)		333.4			306.1			178.0			287.8	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	298.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.73		
Actuated Cycle Length (s)	103.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	132.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

2035 Build

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	44	465	275	20	10	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	505	299	22	11	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	321				911	310
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	321				911	310
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				96	96
cM capacity (veh/h)	1234				291	728

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	553	321	38
Volume Left	48	0	11
Volume Right	0	22	27
cSH	1234	1700	510
Volume to Capacity	0.04	0.19	0.07
Queue Length 95th (ft)	3	0	6
Control Delay (s)	1.1	0.0	12.6
Lane LOS	A		B
Approach Delay (s)	1.1	0.0	12.6
Approach LOS			B

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	325	255	406	485	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	353	277	441	527	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			630		1763	353
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			630		1763	353
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			53		100	100
cM capacity (veh/h)			947		49	688

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	353	277	441	527
Volume Left	0	0	441	0
Volume Right	0	277	0	0
cSH	1700	1700	947	1700
Volume to Capacity	0.21	0.16	0.47	0.31
Queue Length 95th (ft)	0	0	63	0
Control Delay (s)	0.0	0.0	12.1	0.0
Lane LOS			B	
Approach Delay (s)	0.0		5.5	
Approach LOS				

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	330	0	0	701	205	200
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	359	0	0	762	223	217
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1094		
pX, platoon unblocked					0.75	
vC, conflicting volume			359		1121	359
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			359		996	359
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		0	68
cM capacity (veh/h)			1194		203	683

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	359	762	440
Volume Left	0	0	223
Volume Right	0	0	217
cSH	1700	1700	383
Volume to Capacity	0.21	0.45	1.15
Queue Length 95th (ft)	0	0	423
Control Delay (s)	0.0	0.0	125.2
Lane LOS			F
Approach Delay (s)	0.0	0.0	125.2
Approach LOS			F

Intersection Summary			
Average Delay	35.3		
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	35	330	15	175	485	75	300	215	26	15	70	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3299		1660	3253		1660	3320	1485	1660	3320	1485
Flt Permitted	0.30	1.00		0.48	1.00		0.70	1.00	1.00	0.61	1.00	1.00
Satd. Flow (perm)	519	3299		844	3253		1232	3320	1485	1059	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	359	16	190	527	82	326	234	28	16	76	38
RTOR Reduction (vph)	0	5	0	0	18	0	0	0	12	0	0	16
Lane Group Flow (vph)	38	370	0	190	591	0	326	234	16	16	76	22
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6		6	2		2
Actuated Green, G (s)	21.3	21.3		21.3	21.3		39.5	39.5	39.5	39.5	39.5	39.5
Effective Green, g (s)	21.3	21.3		21.3	21.3		39.5	39.5	39.5	39.5	39.5	39.5
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.57	0.57	0.57	0.57	0.57	0.57
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	161	1021		261	1007		707	1906	853	608	1906	853
v/s Ratio Prot		0.11			0.18			0.07			0.02	
v/s Ratio Perm	0.07			c0.23			c0.26		0.01	0.02		0.01
v/c Ratio	0.24	0.36		0.73	0.59		0.46	0.12	0.02	0.03	0.04	0.03
Uniform Delay, d1	17.7	18.5		21.2	20.0		8.5	6.7	6.3	6.3	6.4	6.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.2		9.7	0.9		2.2	0.1	0.0	0.1	0.0	0.1
Delay (s)	18.4	18.7		30.9	20.9		10.6	6.8	6.3	6.4	6.4	6.4
Level of Service	B	B		C	C		B	A	A	A	A	A
Approach Delay (s)		18.7			23.3			8.9			6.4	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	155	950	135	90	490	174	70	180	95	443	280	170
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	1033	147	98	533	189	76	196	103	482	304	185
RTOR Reduction (vph)	0	0	95	0	0	148	0	0	89	0	0	122
Lane Group Flow (vph)	168	1033	52	98	533	41	76	196	14	482	304	63
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	14.7	27.0	27.0	6.0	18.3	18.3	7.3	11.3	11.3	25.0	29.0	29.0
Effective Green, g (s)	14.7	27.0	27.0	6.0	18.3	18.3	7.3	11.3	11.3	25.0	29.0	29.0
Actuated g/C Ratio	0.17	0.32	0.32	0.07	0.21	0.21	0.09	0.13	0.13	0.29	0.34	0.34
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	286	1051	470	117	712	319	142	440	197	487	1129	505
v/s Ratio Prot	0.10	c0.31		0.06	c0.16		0.05	c0.06		c0.29	0.09	
v/s Ratio Perm			0.04			0.03			0.01			0.04
v/c Ratio	0.59	0.98	0.11	0.84	0.75	0.13	0.54	0.45	0.07	0.99	0.27	0.12
Uniform Delay, d1	32.5	28.9	20.6	39.2	31.3	27.1	37.4	34.1	32.4	30.0	20.5	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	23.5	0.1	38.0	4.3	0.2	3.8	0.7	0.1	37.7	0.1	0.1
Delay (s)	35.6	52.4	20.8	77.2	35.7	27.2	41.2	34.8	32.5	67.7	20.6	19.5
Level of Service	D	D	C	E	D	C	D	C	C	E	C	B
Approach Delay (s)		46.9			38.7			35.5			43.8	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	42.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	85.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	1954	80	210	889	432	105	184	325	540	327	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.95		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1660	3301		1660	3157		1660	1580		1660	1748	1485
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1660	3301		1660	3157		1660	1580		1660	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	2124	87	228	966	470	114	200	353	587	355	60
RTOR Reduction (vph)	0	3	0	0	59	0	0	64	0	0	0	41
Lane Group Flow (vph)	76	2208	0	228	1377	0	114	489	0	587	355	19
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	5.0	37.0		7.0	39.0		9.0	24.0		16.0	31.0	31.0
Effective Green, g (s)	5.0	37.0		7.0	39.0		9.0	24.0		16.0	31.0	31.0
Actuated g/C Ratio	0.05	0.37		0.07	0.39		0.09	0.24		0.16	0.31	0.31
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	83	1221		116	1231		149	379		266	542	460
v/s Ratio Prot	0.05	c0.67		c0.14	0.44		0.07	c0.31		c0.35	0.20	
v/s Ratio Perm												0.01
v/c Ratio	0.92	1.81		1.97	1.12		0.77	1.29		2.21	0.65	0.04
Uniform Delay, d1	47.3	31.5		46.5	30.5		44.5	38.0		42.0	29.9	24.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	70.5	367.0		464.1	64.7		20.6	149.3		555.1	6.1	0.2
Delay (s)	117.8	398.5		510.6	95.2		65.0	187.3		597.1	35.9	24.3
Level of Service	F	F		F	F		E	F		F	D	C
Approach Delay (s)		389.1			152.1			166.4			364.0	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	288.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	150.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	2790	20	20	1490	20	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3033	22	22	1620	22	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	708			795		
pX, platoon unblocked			0.65		0.69	0.65
vC, conflicting volume			3054		3897	1527
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			3084		3777	725
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			67		0	86
cM capacity (veh/h)			66		1	236

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	2022	1033	22	810	810	22	33
Volume Left	0	0	22	0	0	22	0
Volume Right	0	22	0	0	0	0	33
cSH	1700	1700	66	1700	1700	1	236
Volume to Capacity	1.19	0.61	0.33	0.48	0.48	16.20	0.14
Queue Length 95th (ft)	0	0	30	0	0	Err	12
Control Delay (s)	0.0	0.0	83.6	0.0	0.0	Err	22.6
Lane LOS			F			F	C
Approach Delay (s)	0.0		1.1			4013.2	
Approach LOS						F	

Intersection Summary			
Average Delay	46.3		
Intersection Capacity Utilization	94.1%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1736	1187	737	831	0	0	0	0	474	0	677
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86		0.97	0.95					0.91	0.86	0.91
Frt		0.94		1.00	1.00					1.00	0.90	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.98	1.00
Satd. Flow (prot)		5646		3221	3320					1511	2669	1352
Flt Permitted		1.00		0.95	1.00					0.95	0.98	1.00
Satd. Flow (perm)		5646		3221	3320					1511	2669	1352
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1887	1290	801	903	0	0	0	0	515	0	736
RTOR Reduction (vph)	0	137	0	0	0	0	0	0	0	0	179	179
Lane Group Flow (vph)	0	3040	0	801	903	0	0	0	0	309	395	189
Turn Type				Prot						Perm		Perm
Protected Phases		4		3	8						6	
Permitted Phases										6		6
Actuated Green, G (s)		43.0		19.0	66.0					16.0	16.0	16.0
Effective Green, g (s)		43.0		19.0	66.0					16.0	16.0	16.0
Actuated g/C Ratio		0.48		0.21	0.73					0.18	0.18	0.18
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2698		680	2435					269	474	240
v/s Ratio Prot		c0.54		c0.25	0.27							
v/s Ratio Perm										c0.20	0.15	0.14
v/c Ratio		1.50dr		1.18	0.37					1.15	0.83	0.79
Uniform Delay, d1		23.5		35.5	4.4					37.0	35.7	35.4
Progression Factor		1.00		0.53	0.33					1.00	1.00	1.00
Incremental Delay, d2		62.5		90.7	0.3					101.1	11.9	15.5
Delay (s)		86.0		109.6	1.7					138.1	47.6	50.9
Level of Service		F		F	A					F	D	D
Approach Delay (s)		86.0			52.4			0.0			70.9	
Approach LOS		F			D			A			E	

Intersection Summary			
HCM Average Control Delay	73.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	595	1615	0	0	1188	155	380	0	825	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	0.97	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.98		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	3221	3320			5908		3221		2614			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	3221	3320			5908		3221		2614			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	647	1755	0	0	1291	168	413	0	897	0	0	0
RTOR Reduction (vph)	0	0	0	0	26	0	0	0	18	0	0	0
Lane Group Flow (vph)	647	1755	0	0	1433	0	413	0	879	0	0	0
Turn Type	Prot						custom		custom			
Protected Phases	7	4			8							
Permitted Phases							2		2			
Actuated Green, G (s)	20.4	51.0			26.6		31.0		31.0			
Effective Green, g (s)	20.4	51.0			26.6		31.0		31.0			
Actuated g/C Ratio	0.23	0.57			0.30		0.34		0.34			
Clearance Time (s)	4.0	4.0			4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	730	1881			1746		1109		900			
v/s Ratio Prot	0.20	c0.53			0.24							
v/s Ratio Perm							0.13		c0.34			
v/c Ratio	0.89	0.93			0.82		0.37		0.98			
Uniform Delay, d1	33.7	17.9			29.5		22.2		29.1			
Progression Factor	1.12	0.24			1.00		1.00		1.00			
Incremental Delay, d2	1.4	1.2			4.5		0.2		24.1			
Delay (s)	39.0	5.5			34.0		22.4		53.2			
Level of Service	D	A			C		C		D			
Approach Delay (s)		14.5			34.0			43.5			0.0	
Approach LOS		B			C			D			A	

Intersection Summary			
HCM Average Control Delay	27.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	540	1860	45	20	500	225	455	268	832	60	245	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.89		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	3320	1485	1660	3166		1660	2944		1660	3265	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1660	3320	1485	1660	3166		1660	2944		1660	3265	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	587	2022	49	22	543	245	495	291	904	65	266	33
RTOR Reduction (vph)	0	0	14	0	52	0	0	384	0	0	10	0
Lane Group Flow (vph)	587	2022	35	22	736	0	495	811	0	65	289	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	25.4	47.8	47.8	1.6	24.0		20.0	33.0		4.0	17.0	
Effective Green, g (s)	25.4	47.8	47.8	1.6	24.0		20.0	33.0		4.0	17.0	
Actuated g/C Ratio	0.25	0.47	0.47	0.02	0.23		0.20	0.32		0.04	0.17	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	412	1550	693	26	742		324	949		65	542	
v/s Ratio Prot	0.35	c0.61		0.01	c0.23		c0.30	c0.28		c0.04	0.09	
v/s Ratio Perm			0.02									
v/c Ratio	1.42	1.30	0.05	0.85	0.99		1.53	1.04dr		1.00	0.53	
Uniform Delay, d1	38.5	27.3	14.9	50.3	39.1		41.2	32.5		49.2	39.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	204.8	141.8	0.0	109.6	30.9		252.6	9.7		111.6	3.7	
Delay (s)	243.3	169.1	14.9	159.9	70.0		293.8	42.1		160.8	42.8	
Level of Service	F	F	B	F	E		F	D		F	D	
Approach Delay (s)		182.7			72.4			115.9			63.9	
Approach LOS		F			E			F			E	

Intersection Summary			
HCM Average Control Delay	138.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	102.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	114.5%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	35	325	353	15	320	148	45	20	20	23	20	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	353	384	16	348	161	49	22	22	25	22	49

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	775	364	161	92	96
Volume Left (vph)	38	16	0	49	25
Volume Right (vph)	384	0	161	22	49
Hadj (s)	-0.24	0.07	-0.65	0.02	-0.20
Departure Headway (s)	5.1	6.0	5.3	7.0	6.8
Degree Utilization, x	1.11	0.60	0.23	0.18	0.18
Capacity (veh/h)	695	593	670	484	495
Control Delay (s)	87.6	16.5	8.7	11.5	11.3
Approach Delay (s)	87.6	14.1		11.5	11.3
Approach LOS	F	B		B	B

Intersection Summary			
Delay	52.1		
HCM Level of Service	F		
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	210	175	85	115	50	40	230	40	9	296	56
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	228	190	92	125	54	43	250	43	10	322	61

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	76	418	92	179	43	293	10	383
Volume Left (vph)	76	0	92	0	43	0	10	0
Volume Right (vph)	0	190	0	54	0	43	0	61
Hadj (s)	0.55	-0.27	0.55	-0.16	0.55	-0.05	0.55	-0.06
Departure Headway (s)	8.2	7.4	8.7	8.0	8.5	7.9	8.3	7.7
Degree Utilization, x	0.17	0.86	0.22	0.40	0.10	0.64	0.02	0.82
Capacity (veh/h)	424	477	376	412	404	433	414	454
Control Delay (s)	11.7	39.0	13.0	14.9	11.2	22.6	10.3	35.4
Approach Delay (s)	34.8		14.3		21.2		34.8	
Approach LOS	D		B		C		D	

Intersection Summary			
Delay	28.0		
HCM Level of Service	D		
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	130	400	105	40	170	40	170	420	40	114	327	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	141	435	114	43	185	43	185	457	43	124	355	171

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	690	228	43	641	43	650
Volume Left (vph)	141	43	0	185	0	124
Volume Right (vph)	114	0	43	0	43	171
Hadj (s)	-0.01	0.15	-0.65	0.20	-0.65	-0.07
Departure Headway (s)	9.2	9.8	9.0	9.1	8.3	9.1
Degree Utilization, x	1.76	0.62	0.11	1.62	0.10	1.64
Capacity (veh/h)	398	360	395	399	429	400
Control Delay (s)	372.0	26.2	11.9	312.9	11.0	322.6
Approach Delay (s)	372.0	23.9		293.7		322.6
Approach LOS	F	C		F		F

Intersection Summary			
Delay	293.5		
HCM Level of Service	F		
Intersection Capacity Utilization	132.5%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	3035	90	385	1145	0	75	0	945	315	303	70
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.97	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		1485	1660	3227	
Flt Permitted		1.00	1.00	0.95	1.00		0.20		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		350		1485	1660	3227	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	3299	98	418	1245	0	82	0	1027	342	329	76
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	277	0	20	0
Lane Group Flow (vph)	0	3299	80	418	1245	0	82	0	750	342	385	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		39.0	39.0	9.0	52.0		20.0		9.0	16.0	16.0	
Effective Green, g (s)		39.0	39.0	9.0	52.0		20.0		9.0	16.0	16.0	
Actuated g/C Ratio		0.39	0.39	0.09	0.52		0.20		0.09	0.16	0.16	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1295	579	149	1726		70		134	266	516	
v/s Ratio Prot		c0.99		0.25	0.37				c0.51	c0.21	0.12	
v/s Ratio Perm			0.05				c0.23					
v/c Ratio		2.55	0.14	2.81	0.72		1.17		5.60	1.29	0.75	
Uniform Delay, d1		30.5	19.7	45.5	18.4		40.0		45.5	42.0	40.1	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		698.7	0.1	830.8	1.5		161.2		2086.1	154.0	9.5	
Delay (s)		729.2	19.8	876.3	19.9		201.2		2131.6	196.0	49.5	
Level of Service		F	B	F	B		F		F	F	D	
Approach Delay (s)		708.7			235.2			1988.9			116.6	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	736.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	180.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	925	0	0	540	910	210	150	525	165	0	140
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97		1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.92	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1660	3320			3320	1485	1577	1461	1411	3221		1485
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.51		1.00
Satd. Flow (perm)	1660	3320			3320	1485	1577	1461	1411	1735		1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1005	0	0	587	989	228	163	571	179	0	152
RTOR Reduction (vph)	0	0	0	0	0	365	0	40	94	0	0	128
Lane Group Flow (vph)	217	1005	0	0	587	624	205	352	271	179	0	24
Turn Type	Prot					Perm	Split		Perm	custom		custom
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2	6		6
Actuated Green, G (s)	11.0	50.0			35.0	35.0	22.0	22.0	22.0	16.0		16.0
Effective Green, g (s)	11.0	50.0			35.0	35.0	22.0	22.0	22.0	16.0		16.0
Actuated g/C Ratio	0.11	0.50			0.35	0.35	0.22	0.22	0.22	0.16		0.16
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	183	1660			1162	520	347	321	310	278		238
v/s Ratio Prot	c0.13	0.30			0.18		0.13	c0.24				
v/s Ratio Perm						c0.42			0.19	c0.10		0.02
v/c Ratio	1.19	0.61			0.51	1.20	0.59	1.10	0.87	0.64		0.10
Uniform Delay, d1	44.5	17.9			25.7	32.5	35.0	39.0	37.7	39.3		35.9
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	125.4	0.6			0.3	107.2	7.2	78.9	27.1	11.0		0.9
Delay (s)	169.9	18.6			26.0	139.7	42.2	117.9	64.7	50.3		36.7
Level of Service	F	B			C	F	D	F	E	D		D
Approach Delay (s)		45.4			97.3			81.6			44.1	
Approach LOS		D			F			F			D	

Intersection Summary			
HCM Average Control Delay	73.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	0	5	5	20	25	330	725	465	185	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	0	5	5	22	27	359	788	505	201	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								290				
pX, platoon unblocked												
vC, conflicting volume	1470	2413	101	1918	2019	573	201			1147		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1470	2413	101	1918	2019	573	201			1147		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	60	100	100	53	38	95	98			16		
cM capacity (veh/h)	14	5	932	12	9	460	1361			599		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	5	11	22	27	239	908	505	101	101
Volume Left	5	5	0	27	0	0	505	0	0
Volume Right	0	0	22	0	0	788	0	0	0
cSH	14	10	460	1361	1700	1700	599	1700	1700
Volume to Capacity	0.40	1.09	0.05	0.02	0.14	0.53	0.84	0.06	0.06
Queue Length 95th (ft)	25	52	4	2	0	0	227	0	0
Control Delay (s)	388.8	810.8	13.2	7.7	0.0	0.0	35.1	0.0	0.0
Lane LOS	F	F	B	A			E		
Approach Delay (s)	388.8	279.1		0.2			25.1		
Approach LOS	F	F							

Intersection Summary			
Average Delay	15.2		
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	15	1005	55	465	1265	125	115	525	40	50	375	630
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	1092	60	505	1375	136	125	571	43	54	408	685
RTOR Reduction (vph)	0	0	38	0	0	61	0	0	33	0	0	428
Lane Group Flow (vph)	16	1092	22	505	1375	75	125	571	10	54	408	257
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8			6			2
Actuated Green, G (s)	1.6	26.0	26.0	26.4	50.8	50.8	6.0	21.0	21.0	3.2	18.2	18.2
Effective Green, g (s)	1.6	26.0	26.0	26.4	50.8	50.8	6.0	21.0	21.0	3.2	18.2	18.2
Actuated g/C Ratio	0.02	0.28	0.28	0.29	0.55	0.55	0.06	0.23	0.23	0.03	0.20	0.20
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	29	932	417	473	1821	815	108	753	337	57	653	292
v/s Ratio Prot	0.01	c0.33		c0.30	0.41		c0.08	c0.17		0.03	0.12	
v/s Ratio Perm			0.01			0.05			0.01			c0.17
v/c Ratio	0.55	1.17	0.05	1.07	0.76	0.09	1.16	0.76	0.03	0.95	0.62	0.88
Uniform Delay, d1	45.1	33.3	24.3	33.1	16.1	9.9	43.3	33.4	27.9	44.6	34.1	36.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	20.8	88.7	0.1	60.6	1.8	0.0	135.1	4.4	0.0	99.1	1.9	24.5
Delay (s)	65.9	122.0	24.4	93.7	17.9	10.0	178.4	37.8	27.9	143.7	35.9	60.6
Level of Service	E	F	C	F	B	A	F	D	C	F	D	E
Approach Delay (s)		116.2			36.4			61.0			55.8	
Approach LOS		F			D			E			E	

Intersection Summary			
HCM Average Control Delay	62.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	92.6	Sum of lost time (s)	20.0
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	155	950	135	90	490	174	70	180	95	443	280	170
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	3221	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	3221	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	1033	147	98	533	189	76	196	103	482	304	185
RTOR Reduction (vph)	0	0	91	0	0	145	0	0	88	0	0	138
Lane Group Flow (vph)	168	1033	56	98	533	44	76	196	15	482	304	47
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	17.7	29.9	29.9	5.9	18.1	18.1	6.8	11.4	11.4	15.1	19.7	19.7
Effective Green, g (s)	17.7	29.9	29.9	5.9	18.1	18.1	6.8	11.4	11.4	15.1	19.7	19.7
Actuated g/C Ratio	0.23	0.38	0.38	0.08	0.23	0.23	0.09	0.15	0.15	0.19	0.25	0.25
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	375	1268	567	125	767	343	144	483	216	621	835	374
v/s Ratio Prot	0.10	c0.31		0.06	c0.16		0.05	0.06		c0.15	c0.09	
v/s Ratio Perm			0.04			0.03			0.01			0.03
v/c Ratio	0.45	0.81	0.10	0.78	0.69	0.13	0.53	0.41	0.07	0.78	0.36	0.12
Uniform Delay, d1	26.1	21.7	15.5	35.6	27.6	23.8	34.2	30.4	28.9	30.0	24.1	22.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	4.1	0.1	26.7	2.7	0.2	3.5	0.6	0.1	6.0	0.3	0.2
Delay (s)	26.9	25.9	15.6	62.3	30.3	24.0	37.7	30.9	29.0	36.0	24.4	22.8
Level of Service	C	C	B	E	C	C	D	C	C	D	C	C
Approach Delay (s)		24.9			32.7			31.8			29.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	28.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	1954	80	210	889	432	105	184	325	540	327	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	0.97	1.00	
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1660	3301		1660	3157		1660	1748	1485	3221	1710	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1660	3301		1660	3157		1660	1748	1485	3221	1710	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	2124	87	228	966	470	114	200	353	587	355	60
RTOR Reduction (vph)	0	3	0	0	57	0	0	0	88	0	6	0
Lane Group Flow (vph)	76	2208	0	228	1379	0	114	200	265	587	409	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	5.6	49.0		6.8	50.2		5.0	17.0	17.0	12.0	24.0	
Effective Green, g (s)	5.6	49.0		6.8	50.2		5.0	17.0	17.0	12.0	24.0	
Actuated g/C Ratio	0.06	0.49		0.07	0.50		0.05	0.17	0.17	0.12	0.24	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	92	1605		112	1572		82	295	250	383	407	
v/s Ratio Prot	0.05	c0.67		c0.14	0.44		0.07	0.11		c0.18	c0.24	
v/s Ratio Perm									c0.18			
v/c Ratio	0.83	1.38		2.04	0.88		1.39	0.68	1.06	1.53	1.00	
Uniform Delay, d1	47.1	25.9		47.0	22.6		47.9	39.3	41.9	44.4	38.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	42.8	173.1		495.8	5.9		234.2	11.9	73.5	252.5	45.8	
Delay (s)	89.9	199.0		542.8	28.4		282.1	51.2	115.4	296.9	84.2	
Level of Service	F	F		F	C		F	D	F	F	F	
Approach Delay (s)		195.3			98.9			124.6			208.8	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	160.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	100.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	115.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1736	1187	737	831	0	0	0	0	474	0	677
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.81	0.81	0.97	0.95					0.91	0.86	0.91
Frt		0.96	0.85	1.00	1.00					1.00	0.90	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.98	1.00
Satd. Flow (prot)		5446	1203	3221	3320					1511	2669	1352
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.98	1.00
Satd. Flow (perm)		5446	1203	3221	3320					1511	2669	1352
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1887	1290	801	903	0	0	0	0	515	0	736
RTOR Reduction (vph)	0	68	288	0	0	0	0	0	0	0	166	166
Lane Group Flow (vph)	0	2464	357	801	903	0	0	0	0	309	408	202
Turn Type			Perm	Prot						Perm		Perm
Protected Phases		4		3	8						6	
Permitted Phases			4							6		6
Actuated Green, G (s)		38.0	38.0	22.0	64.0					18.0	18.0	18.0
Effective Green, g (s)		38.0	38.0	22.0	64.0					18.0	18.0	18.0
Actuated g/C Ratio		0.42	0.42	0.24	0.71					0.20	0.20	0.20
Clearance Time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2299	508	787	2361					302	534	270
v/s Ratio Prot		c0.45		c0.25	0.27							
v/s Ratio Perm			0.30							c0.20	0.15	0.15
v/c Ratio		1.07	0.70	1.02	0.38					1.02	0.76	0.75
Uniform Delay, d1		26.0	21.4	34.0	5.2					36.0	34.0	33.9
Progression Factor		1.00	1.00	0.53	0.44					1.00	1.00	1.00
Incremental Delay, d2		41.4	7.9	31.1	0.3					57.9	6.4	10.9
Delay (s)		67.4	29.3	49.1	2.6					93.9	40.4	44.7
Level of Service		E	C	D	A					F	D	D
Approach Delay (s)		59.7			24.4			0.0			54.9	
Approach LOS		E			C			A			D	

Intersection Summary			
HCM Average Control Delay	48.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	540	1860	45	20	500	225	455	268	832	60	245	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.89		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3221	3320	1485	1660	3166		3221	2944		1660	3265	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3221	3320	1485	1660	3166		3221	2944		1660	3265	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	587	2022	49	22	543	245	495	291	904	65	266	33
RTOR Reduction (vph)	0	0	14	0	55	0	0	381	0	0	10	0
Lane Group Flow (vph)	587	2022	35	22	733	0	495	814	0	65	289	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	25.6	51.7	51.7	1.5	27.6		12.0	25.0		4.0	17.0	
Effective Green, g (s)	25.6	51.7	51.7	1.5	27.6		12.0	25.0		4.0	17.0	
Actuated g/C Ratio	0.26	0.53	0.53	0.02	0.28		0.12	0.25		0.04	0.17	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	840	1748	782	25	890		394	749		68	565	
v/s Ratio Prot	0.18	c0.61		0.01	c0.23		c0.15	c0.28		c0.04	0.09	
v/s Ratio Perm			0.02									
v/c Ratio	0.70	1.16	0.04	0.88	0.82		1.26	1.18dr		0.96	0.51	
Uniform Delay, d1	32.8	23.3	11.3	48.3	33.0		43.1	36.6		47.0	36.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	77.5	0.0	127.2	6.2		134.6	59.0		92.9	3.3	
Delay (s)	35.4	100.7	11.3	175.4	39.2		177.7	95.6		139.9	40.1	
Level of Service	D	F	B	F	D		F	F		F	D	
Approach Delay (s)		84.6			42.9			119.6			57.9	
Approach LOS		F			D			F			E	

Intersection Summary			
HCM Average Control Delay	87.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	98.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	114.5%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	210	175	85	115	50	40	230	40	9	296	56
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.95		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	1628		1660	1668		1660	1709		1660	1706	
Flt Permitted	0.64	1.00		0.42	1.00		0.45	1.00		0.55	1.00	
Satd. Flow (perm)	1126	1628		731	1668		778	1709		965	1706	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	228	190	92	125	54	43	250	43	10	322	61
RTOR Reduction (vph)	0	34	0	0	17	0	0	7	0	0	7	0
Lane Group Flow (vph)	76	384	0	92	162	0	43	286	0	10	376	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.6	16.6		16.6	16.6		15.8	15.8		15.8	15.8	
Effective Green, g (s)	16.6	16.6		16.6	16.6		15.8	15.8		15.8	15.8	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.39	0.39		0.39	0.39	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	463	669		300	685		304	668		377	667	
v/s Ratio Prot		c0.24			0.10			0.17			c0.22	
v/s Ratio Perm	0.07			0.13			0.06			0.01		
v/c Ratio	0.16	0.57		0.31	0.24		0.14	0.43		0.03	0.56	
Uniform Delay, d1	7.5	9.2		8.0	7.8		7.9	9.0		7.6	9.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	1.2		0.6	0.2		0.2	0.4		0.0	1.1	
Delay (s)	7.7	10.4		8.6	7.9		8.1	9.4		7.6	10.7	
Level of Service	A	B		A	A		A	A		A	B	
Approach Delay (s)		10.0			8.2			9.3			10.6	
Approach LOS		A			A			A			B	

Intersection Summary			
HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	40.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	400	105	40	170	40	170	420	40	114	327	157
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt		0.98			1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected		0.99			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1691			1731	1485	1660	1725		1660	1748	1485
Flt Permitted		0.88			0.83	1.00	0.40	1.00		0.24	1.00	1.00
Satd. Flow (perm)		1499			1458	1485	693	1725		412	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	435	114	43	185	43	185	457	43	124	355	171
RTOR Reduction (vph)	0	7	0	0	0	20	0	4	0	0	0	107
Lane Group Flow (vph)	0	683	0	0	228	23	185	496	0	124	355	64
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		42.6			42.6	42.6	30.4	30.4		30.4	30.4	30.4
Effective Green, g (s)		42.6			42.6	42.6	30.4	30.4		30.4	30.4	30.4
Actuated g/C Ratio		0.53			0.53	0.53	0.38	0.38		0.38	0.38	0.38
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		788			767	781	260	647		155	656	557
v/s Ratio Prot								0.29			0.20	
v/s Ratio Perm		c0.46			0.16	0.02	0.27			c0.30		0.04
v/c Ratio		0.87			0.30	0.03	0.71	0.77		0.80	0.54	0.12
Uniform Delay, d1		16.7			10.8	9.2	21.6	22.2		22.6	19.8	16.5
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		9.9			0.2	0.0	8.9	5.4		24.8	0.9	0.1
Delay (s)		26.6			11.0	9.3	30.4	27.6		47.4	20.7	16.6
Level of Service		C			B	A	C	C		D	C	B
Approach Delay (s)		26.6			10.7			28.4			24.7	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	3035	90	385	1145	0	75	0	945	315	303	70
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		0.88	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.97	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		2614	1660	3227	
Flt Permitted		1.00	1.00	0.95	1.00		0.20		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		350		2614	1660	3227	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	3299	98	418	1245	0	82	0	1027	342	329	76
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	488	0	20	0
Lane Group Flow (vph)	0	3299	80	418	1245	0	82	0	539	342	385	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		39.0	39.0	9.0	52.0		20.0		9.0	16.0	16.0	
Effective Green, g (s)		39.0	39.0	9.0	52.0		20.0		9.0	16.0	16.0	
Actuated g/C Ratio		0.39	0.39	0.09	0.52		0.20		0.09	0.16	0.16	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1295	579	149	1726		70		235	266	516	
v/s Ratio Prot		c0.99		c0.25	0.37				0.21	c0.21	0.12	
v/s Ratio Perm			0.05				c0.23					
v/c Ratio		2.55	0.14	2.81	0.72		1.17		2.29	1.29	0.75	
Uniform Delay, d1		30.5	19.7	45.5	18.4		40.0		45.5	42.0	40.1	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		698.7	0.1	830.8	1.5		161.2		595.9	154.0	9.5	
Delay (s)		729.2	19.8	876.3	19.9		201.2		641.4	196.0	49.5	
Level of Service		F	B	F	B		F		F	F	D	
Approach Delay (s)		708.7			235.2			608.8			116.6	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	514.9	HCM Level of Service	F
HCM Volume to Capacity ratio	2.01		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	153.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	44	445	505	25	20	35
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	484	549	27	22	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	576				1142	562
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	576				1142	562
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				90	93
cM capacity (veh/h)	992				210	524

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	532	576	60
Volume Left	48	0	22
Volume Right	0	27	38
cSH	992	1700	339
Volume to Capacity	0.05	0.34	0.18
Queue Length 95th (ft)	4	0	16
Control Delay (s)	1.3	0.0	17.9
Lane LOS	A		C
Approach Delay (s)	1.3	0.0	17.9
Approach LOS			C

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	320	210	253	590	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	348	228	275	641	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			576		1539	348
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			576		1539	348
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			72		100	100
cM capacity (veh/h)			992		91	693

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	348	228	275	641
Volume Left	0	0	275	0
Volume Right	0	228	0	0
cSH	1700	1700	992	1700
Volume to Capacity	0.20	0.13	0.28	0.38
Queue Length 95th (ft)	0	0	28	0
Control Delay (s)	0.0	0.0	10.0	0.0
Lane LOS			B	
Approach Delay (s)	0.0		3.0	
Approach LOS				

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	335	0	0	653	225	295
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	364	0	0	710	245	321
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1094		
pX, platoon unblocked					0.70	
vC, conflicting volume			364		1074	364
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			364		892	364
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		0	53
cM capacity (veh/h)			1189		218	679

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	364	710	565
Volume Left	0	0	245
Volume Right	0	0	321
cSH	1700	1700	463
Volume to Capacity	0.21	0.42	1.22
Queue Length 95th (ft)	0	0	557
Control Delay (s)	0.0	0.0	144.2
Lane LOS			F
Approach Delay (s)	0.0	0.0	144.2
Approach LOS			F

Intersection Summary			
Average Delay	49.7		
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	85	545	25	110	590	110	150	80	38	40	260	80
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3299		1660	3242		1660	3320	1485	1660	3320	1485
Flt Permitted	0.23	1.00		0.32	1.00		0.58	1.00	1.00	0.70	1.00	1.00
Satd. Flow (perm)	407	3299		558	3242		1010	3320	1485	1219	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	592	27	120	641	120	163	87	41	43	283	87
RTOR Reduction (vph)	0	5	0	0	24	0	0	0	19	0	0	41
Lane Group Flow (vph)	92	614	0	120	737	0	163	87	22	43	283	46
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6		6	2		2
Actuated Green, G (s)	21.8	21.8		21.8	21.8		33.3	33.3	33.3	33.3	33.3	33.3
Effective Green, g (s)	21.8	21.8		21.8	21.8		33.3	33.3	33.3	33.3	33.3	33.3
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.53	0.53	0.53	0.53	0.53	0.53
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	141	1140		193	1120		533	1752	784	643	1752	784
v/s Ratio Prot		0.19			c0.23			0.03			0.09	
v/s Ratio Perm	0.23			0.22			c0.16		0.01	0.04		0.03
v/c Ratio	0.65	0.54		0.62	0.66		0.31	0.05	0.03	0.07	0.16	0.06
Uniform Delay, d1	17.4	16.6		17.2	17.5		8.4	7.2	7.1	7.3	7.7	7.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.3	0.5		6.1	1.4		1.5	0.1	0.1	0.2	0.2	0.1
Delay (s)	27.8	17.1		23.3	18.9		9.9	7.3	7.2	7.5	7.9	7.4
Level of Service	C	B		C	B		A	A	A	A	A	A
Approach Delay (s)		18.5			19.5			8.7			7.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	63.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	295	685	100	220	785	362	115	480	165	414	410	205
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	321	745	109	239	853	393	125	522	179	450	446	223
RTOR Reduction (vph)	0	0	80	0	0	283	0	0	149	0	0	156
Lane Group Flow (vph)	321	745	29	239	853	110	125	522	30	450	446	67
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	18.0	27.0	27.0	15.0	24.0	24.0	11.8	17.0	17.0	25.0	30.2	30.2
Effective Green, g (s)	18.0	27.0	27.0	15.0	24.0	24.0	11.8	17.0	17.0	25.0	30.2	30.2
Actuated g/C Ratio	0.18	0.27	0.27	0.15	0.24	0.24	0.12	0.17	0.17	0.25	0.30	0.30
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	299	896	401	249	797	356	196	564	252	415	1003	448
v/s Ratio Prot	c0.19	0.22		0.14	c0.26		0.08	c0.16		c0.27	0.13	
v/s Ratio Perm			0.02			0.07			0.02			0.05
v/c Ratio	1.07	0.83	0.07	0.96	1.07	0.31	0.64	0.93	0.12	1.08	0.44	0.15
Uniform Delay, d1	41.0	34.4	27.2	42.2	38.0	31.2	42.1	40.9	35.2	37.5	28.1	25.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	73.0	6.6	0.1	45.3	52.4	0.5	6.6	21.2	0.2	68.7	0.3	0.2
Delay (s)	114.0	41.0	27.3	87.5	90.4	31.7	48.7	62.1	35.4	106.2	28.5	25.7
Level of Service	F	D	C	F	F	C	D	E	D	F	C	C
Approach Delay (s)		59.7			74.4			54.3			59.2	
Approach LOS		E			E			D			E	

Intersection Summary			
HCM Average Control Delay	63.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	1234	65	195	1212	738	85	204	280	325	161	85
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.94		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1660	3295		1660	3132		1660	1596		1660	1748	1485
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1660	3295		1660	3132		1660	1596		1660	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	1341	71	212	1317	802	92	222	304	353	175	92
RTOR Reduction (vph)	0	4	0	0	93	0	0	49	0	0	0	65
Lane Group Flow (vph)	60	1408	0	212	2026	0	92	477	0	353	175	27
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	4.0	38.0		8.0	42.0		9.6	24.8		14.0	29.2	29.2
Effective Green, g (s)	4.0	38.0		8.0	42.0		9.6	24.8		14.0	29.2	29.2
Actuated g/C Ratio	0.04	0.38		0.08	0.42		0.10	0.25		0.14	0.29	0.29
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	66	1242		132	1305		158	393		231	506	430
v/s Ratio Prot	0.04	c0.43		0.13	c0.65		0.06	c0.30		c0.21	0.10	
v/s Ratio Perm												0.02
v/c Ratio	0.91	1.13		1.61	1.55		0.58	1.21		1.53	0.35	0.06
Uniform Delay, d1	48.2	31.4		46.4	29.4		43.7	38.0		43.4	28.3	25.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	78.5	70.7		305.0	252.5		5.4	117.5		258.4	1.9	0.3
Delay (s)	126.7	102.1		351.4	281.9		49.1	155.5		301.8	30.1	26.2
Level of Service	F	F		F	F		D	F		F	C	C
Approach Delay (s)		103.1			288.2			139.6			184.2	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	203.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	100.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	128.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1800	20	20	2140	20	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1957	22	22	2326	22	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	648			855		
pX, platoon unblocked			0.64		0.76	0.64
vC, conflicting volume			1978		3174	989
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1402		1105	0
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		85	95
cM capacity (veh/h)			306		145	691

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	1304	674	22	1163	1163	22	33
Volume Left	0	0	22	0	0	22	0
Volume Right	0	22	0	0	0	0	33
cSH	1700	1700	306	1700	1700	145	691
Volume to Capacity	0.77	0.40	0.07	0.68	0.68	0.15	0.05
Queue Length 95th (ft)	0	0	6	0	0	13	4
Control Delay (s)	0.0	0.0	17.7	0.0	0.0	34.3	10.5
Lane LOS			C			D	B
Approach Delay (s)	0.0		0.2			20.0	
Approach LOS						C	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	570	1331	353	1419	0	0	0	0	380	0	746
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86		0.97	0.95					0.91	0.86	0.91
Frt		0.89		1.00	1.00					1.00	0.89	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		5380		3221	3320					1511	2630	1352
Flt Permitted		1.00		0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		5380		3221	3320					1511	2630	1352
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	620	1447	384	1542	0	0	0	0	413	0	811
RTOR Reduction (vph)	0	503	0	0	0	0	0	0	0	0	16	16
Lane Group Flow (vph)	0	1564	0	384	1542	0	0	0	0	289	514	389
Turn Type				Prot						Perm		Perm
Protected Phases		4		3	8						6	
Permitted Phases										6		6
Actuated Green, G (s)		21.0		8.2	33.2					18.8	18.8	18.8
Effective Green, g (s)		21.0		8.2	33.2					18.8	18.8	18.8
Actuated g/C Ratio		0.35		0.14	0.55					0.31	0.31	0.31
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1883		440	1837					473	824	424
v/s Ratio Prot		0.29		0.12	c0.46							
v/s Ratio Perm										0.19	0.20	c0.29
v/c Ratio		1.40dr		0.87	0.84					0.61	0.92dr	0.92
Uniform Delay, d1		17.9		25.4	11.2					17.5	17.6	19.8
Progression Factor		1.00		0.87	0.38					1.00	1.00	1.00
Incremental Delay, d2		4.4		11.3	3.0					2.3	1.5	24.2
Delay (s)		22.3		33.4	7.2					19.8	19.1	44.1
Level of Service		C		C	A					B	B	D
Approach Delay (s)		22.3			12.4			0.0			27.5	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	560	390	0	0	1107	135	665	0	820	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	0.97	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.98		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	3221	3320			5913		3221		2614			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	3221	3320			5913		3221		2614			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	609	424	0	0	1203	147	723	0	891	0	0	0
RTOR Reduction (vph)	0	0	0	0	35	0	0	0	566	0	0	0
Lane Group Flow (vph)	609	424	0	0	1315	0	723	0	325	0	0	0
Turn Type	Prot						custom		custom			
Protected Phases	7	4			8							
Permitted Phases							2		2			
Actuated Green, G (s)	13.7	36.0			18.3		16.0		16.0			
Effective Green, g (s)	13.7	36.0			18.3		16.0		16.0			
Actuated g/C Ratio	0.23	0.60			0.30		0.27		0.27			
Clearance Time (s)	4.0	4.0			4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	735	1992			1803		859		697			
v/s Ratio Prot	c0.19	0.13			c0.22							
v/s Ratio Perm							c0.22		0.12			
v/c Ratio	0.83	0.21			0.73		0.84		0.47			
Uniform Delay, d1	22.0	5.5			18.6		20.8		18.4			
Progression Factor	0.95	0.78			1.00		1.00		1.00			
Incremental Delay, d2	4.9	0.2			2.6		7.5		0.5			
Delay (s)	25.9	4.5			21.3		28.3		18.9			
Level of Service	C	A			C		C		B			
Approach Delay (s)		17.1			21.3			23.1			0.0	
Approach LOS		B			C			C			A	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	600	600	20	10	635	235	260	131	559	35	290	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.88		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	3320	1485	1660	3186		1660	2917		1660	3281	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1660	3320	1485	1660	3186		1660	2917		1660	3281	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	652	652	22	11	690	255	283	142	608	38	315	27
RTOR Reduction (vph)	0	0	10	0	38	0	0	436	0	0	7	0
Lane Group Flow (vph)	652	652	12	11	907	0	283	314	0	38	335	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	33.2	55.4	55.4	0.8	23.0		14.0	29.6		3.0	18.6	
Effective Green, g (s)	33.2	55.4	55.4	0.8	23.0		14.0	29.6		3.0	18.6	
Actuated g/C Ratio	0.32	0.53	0.53	0.01	0.22		0.13	0.28		0.03	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	526	1755	785	13	699		222	824		48	582	
v/s Ratio Prot	c0.39	0.20		0.01	c0.28		c0.17	0.11		0.02	c0.10	
v/s Ratio Perm			0.01									
v/c Ratio	1.24	0.37	0.01	0.85	1.30		1.27	0.38		0.79	0.58	
Uniform Delay, d1	35.8	14.5	11.7	51.9	40.9		45.4	30.2		50.6	39.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	123.3	0.1	0.0	166.4	144.2		153.9	1.3		58.5	4.1	
Delay (s)	159.1	14.6	11.7	218.4	185.1		199.3	31.6		109.0	43.6	
Level of Service	F	B	B	F	F		F	C		F	D	
Approach Delay (s)		85.6			185.5			77.5			50.2	
Approach LOS		F			F			E			D	

Intersection Summary			
HCM Average Control Delay	105.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	104.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	104.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	35	157	274	10	685	423	95	60	20	16	60	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	171	298	11	745	460	103	65	22	17	65	103

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	507	755	460	190	186
Volume Left (vph)	38	11	0	103	17
Volume Right (vph)	298	0	460	22	103
Hadj (s)	-0.29	0.06	-0.65	0.09	-0.26
Departure Headway (s)	6.4	7.1	6.3	7.9	7.6
Degree Utilization, x	0.90	1.48	0.81	0.42	0.39
Capacity (veh/h)	554	509	560	425	445
Control Delay (s)	42.9	246.4	29.8	16.4	15.4
Approach Delay (s)	42.9	164.4		16.4	15.4
Approach LOS	E	F		C	C

Intersection Summary			
Delay	108.5		
HCM Level of Service	F		
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	95	112	143	190	245	110	80	535	130	32	463	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	103	122	155	207	266	120	87	582	141	35	503	112

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	103	277	207	386	87	723	35	615
Volume Left (vph)	103	0	207	0	87	0	35	0
Volume Right (vph)	0	155	0	120	0	141	0	112
Hadj (s)	0.55	-0.34	0.55	-0.17	0.55	-0.09	0.55	-0.08
Departure Headway (s)	9.8	9.0	9.5	8.8	9.4	8.8	9.4	8.8
Degree Utilization, x	0.28	0.69	0.54	0.94	0.23	1.76	0.09	1.51
Capacity (veh/h)	361	393	367	404	378	416	374	420
Control Delay (s)	15.4	28.4	21.9	59.3	13.9	370.8	12.2	262.8
Approach Delay (s)	24.9		46.3		332.5		249.4	
Approach LOS	C		E		F		F	

Intersection Summary			
Delay	192.5		
HCM Level of Service	F		
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	75	115	100	100	265	50	155	520	55	170	817	272
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	125	109	109	288	54	168	565	60	185	888	296

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	315	397	54	734	60	1368
Volume Left (vph)	82	109	0	168	0	185
Volume Right (vph)	109	0	54	0	60	296
Hadj (s)	-0.10	0.19	-0.65	0.17	-0.65	-0.05
Departure Headway (s)	9.9	9.6	8.7	9.5	8.7	9.7
Degree Utilization, x	0.87	1.05	0.13	1.94	0.14	3.68
Capacity (veh/h)	350	376	407	383	407	376
Control Delay (s)	52.8	91.7	11.8	454.6	12.0	1232.2
Approach Delay (s)	52.8	82.1		421.3		1232.2
Approach LOS	F	F		F		F

Intersection Summary			
Delay	708.3		
HCM Level of Service	F		
Intersection Capacity Utilization	164.5%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1650	75	860	2920	0	110	0	910	365	733	180
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.97	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		1485	1660	3222	
Flt Permitted		1.00	1.00	0.95	1.00		0.17		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		291		1485	1660	3222	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1793	82	935	3174	0	120	0	989	397	797	196
RTOR Reduction (vph)	0	0	29	0	0	0	0	0	337	0	21	0
Lane Group Flow (vph)	0	1793	54	935	3174	0	120	0	652	397	972	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		25.0	25.0	17.0	46.0		24.0		17.0	18.0	18.0	
Effective Green, g (s)		25.0	25.0	17.0	46.0		24.0		17.0	18.0	18.0	
Actuated g/C Ratio		0.25	0.25	0.17	0.46		0.24		0.17	0.18	0.18	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		830	371	282	1527		70		252	299	580	
v/s Ratio Prot		0.54		c0.56	c0.96				0.44	0.24	c0.30	
v/s Ratio Perm			0.04				c0.41					
v/c Ratio		2.16	0.14	3.32	2.08		1.71		2.59	1.33	1.68	
Uniform Delay, d1		37.5	29.2	41.5	27.0		38.0		41.5	41.0	41.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		526.1	0.2	1051.1	487.6		374.4		725.8	168.8	311.4	
Delay (s)		563.6	29.4	1092.6	514.6		412.4		767.3	209.8	352.4	
Level of Service		F	C	F	F		F		F	F	F	
Approach Delay (s)		540.3			646.1			728.9			311.7	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	578.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.18		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	148.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	800	0	0	1190	520	330	125	620	260	0	265
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97		1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.91	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1660	3320			3320	1485	1577	1440	1411	3221		1485
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.49		1.00
Satd. Flow (perm)	1660	3320			3320	1485	1577	1440	1411	1661		1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	870	0	0	1293	565	359	136	674	283	0	288
RTOR Reduction (vph)	0	0	0	0	0	269	0	55	80	0	0	177
Lane Group Flow (vph)	196	870	0	0	1293	296	323	380	331	283	0	111
Turn Type	Prot					Perm	Split		Perm	custom		custom
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2	6		6
Actuated Green, G (s)	10.0	49.0			35.0	35.0	23.0	23.0	23.0	16.0		16.0
Effective Green, g (s)	10.0	49.0			35.0	35.0	23.0	23.0	23.0	16.0		16.0
Actuated g/C Ratio	0.10	0.49			0.35	0.35	0.23	0.23	0.23	0.16		0.16
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	166	1627			1162	520	363	331	325	266		238
v/s Ratio Prot	c0.12	0.26			c0.39		0.20	c0.26				
v/s Ratio Perm						0.20			0.23	c0.17		0.07
v/c Ratio	1.18	0.53			1.11	0.57	0.89	1.15	1.02	1.06		0.47
Uniform Delay, d1	45.0	17.6			32.5	26.4	37.3	38.5	38.5	42.0		38.1
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	126.8	0.3			63.0	1.4	26.2	96.3	54.6	73.1		6.4
Delay (s)	171.8	18.0			95.5	27.8	63.5	134.8	93.1	115.1		44.5
Level of Service	F	B			F	C	E	F	F	F		D
Approach Delay (s)		46.2			74.9			100.4			79.5	
Approach LOS		D			E			F			E	

Intersection Summary			
HCM Average Control Delay	75.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	5	30	5	5	40	280	695	450	380	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	5	33	5	5	43	304	755	489	413	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								290				
pX, platoon unblocked												
vC, conflicting volume	1641	2541	209	1959	2166	530	418			1060		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1641	2541	209	1959	2166	530	418			1060		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	0	50	99	96			24		
cM capacity (veh/h)	16	6	793	14	11	491	1130			647		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	5	38	5	43	203	857	489	275	143
Volume Left	0	33	0	43	0	0	489	0	0
Volume Right	5	0	5	0	0	755	0	0	5
cSH	793	13	491	1130	1700	1700	647	1700	1700
Volume to Capacity	0.01	2.87	0.01	0.04	0.12	0.50	0.76	0.16	0.08
Queue Length 95th (ft)	1	141	1	3	0	0	172	0	0
Control Delay (s)	9.6	1422.0	12.4	8.3	0.0	0.0	25.7	0.0	0.0
Lane LOS	A	F	B	A			D		
Approach Delay (s)	9.6	1245.8		0.3			13.9		
Approach LOS	A	F							

Intersection Summary			
Average Delay	32.6		
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	20	1435	40	580	2295	155	165	295	25	80	655	1055
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	1660	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	1560	43	630	2495	168	179	321	27	87	712	1147
RTOR Reduction (vph)	0	0	17	0	0	47	0	0	20	0	0	293
Lane Group Flow (vph)	22	1560	26	630	2495	121	179	321	7	87	712	854
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8			6			2
Actuated Green, G (s)	1.6	29.0	29.0	21.4	48.8	48.8	6.0	28.5	28.5	8.3	30.8	30.8
Effective Green, g (s)	1.6	29.0	29.0	21.4	48.8	48.8	6.0	28.5	28.5	8.3	30.8	30.8
Actuated g/C Ratio	0.02	0.28	0.28	0.21	0.47	0.47	0.06	0.28	0.28	0.08	0.30	0.30
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	26	933	417	344	1570	702	97	917	410	134	991	443
v/s Ratio Prot	0.01	c0.47		c0.38	0.75		c0.11	0.10		0.05	0.21	
v/s Ratio Perm			0.02			0.08			0.01			c0.58
v/c Ratio	0.85	1.67	0.06	1.83	1.59	0.17	1.85	0.35	0.02	0.65	0.72	1.93
Uniform Delay, d1	50.7	37.1	27.1	40.9	27.2	15.6	48.6	29.9	27.2	46.0	32.3	36.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	109.6	307.1	0.1	385.3	268.2	0.1	417.3	0.2	0.0	10.4	2.5	426.2
Delay (s)	160.3	344.2	27.2	426.2	295.4	15.7	465.9	30.2	27.2	56.4	34.8	462.4
Level of Service	F	F	C	F	F	B	F	C	C	E	C	F
Approach Delay (s)		333.4			306.1			178.0			287.8	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	298.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.73		
Actuated Cycle Length (s)	103.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	132.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	295	685	100	220	785	362	115	480	165	414	410	205
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3320	1485	1660	3320	1485	1660	3320	1485	3221	3320	1485
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1660	3320	1485	1660	3320	1485	1660	3320	1485	3221	3320	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	321	745	109	239	853	393	125	522	179	450	446	223
RTOR Reduction (vph)	0	0	74	0	0	221	0	0	145	0	0	168
Lane Group Flow (vph)	321	745	35	239	853	172	125	522	34	450	446	55
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	21.0	31.1	31.1	16.8	26.9	26.9	9.6	18.8	18.8	15.0	24.2	24.2
Effective Green, g (s)	21.0	31.1	31.1	16.8	26.9	26.9	9.6	18.8	18.8	15.0	24.2	24.2
Actuated g/C Ratio	0.21	0.32	0.32	0.17	0.28	0.28	0.10	0.19	0.19	0.15	0.25	0.25
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	357	1057	473	285	914	409	163	639	286	495	822	368
v/s Ratio Prot	c0.19	0.22		0.14	c0.26		0.08	c0.16		c0.14	0.13	
v/s Ratio Perm			0.02			0.12			0.02			0.04
v/c Ratio	0.90	0.70	0.07	0.84	0.93	0.42	0.77	0.82	0.12	0.91	0.54	0.15
Uniform Delay, d1	37.3	29.3	23.2	39.1	34.5	29.0	43.0	37.8	32.6	40.7	31.9	28.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	24.2	2.2	0.1	18.9	16.0	0.7	19.2	8.0	0.2	20.4	0.7	0.2
Delay (s)	61.5	31.4	23.3	58.1	50.5	29.7	62.1	45.8	32.8	61.1	32.7	28.9
Level of Service	E	C	C	E	D	C	E	D	C	E	C	C
Approach Delay (s)		38.9			46.2			45.4			43.3	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	43.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	97.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	1234	65	195	1212	738	85	204	280	325	161	85
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	0.97	1.00	
Frt	1.00	0.99		1.00	0.94		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1660	3295		1660	3132		1660	1748	1485	3221	1657	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1660	3295		1660	3132		1660	1748	1485	3221	1657	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	1341	71	212	1317	802	92	222	304	353	175	92
RTOR Reduction (vph)	0	4	0	0	92	0	0	0	197	0	19	0
Lane Group Flow (vph)	60	1408	0	212	2027	0	92	222	107	353	248	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	4.0	44.0		13.0	53.0		6.0	18.0	18.0	9.0	21.0	
Effective Green, g (s)	4.0	44.0		13.0	53.0		6.0	18.0	18.0	9.0	21.0	
Actuated g/C Ratio	0.04	0.44		0.13	0.53		0.06	0.18	0.18	0.09	0.21	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	66	1450		216	1660		100	315	267	290	348	
v/s Ratio Prot	0.04	c0.43		0.13	c0.65		0.06	c0.13		c0.11	c0.15	
v/s Ratio Perm									0.07			
v/c Ratio	0.91	0.97		0.98	1.22		0.92	0.70	0.40	1.22	0.71	
Uniform Delay, d1	47.8	27.4		43.4	23.5		46.8	38.5	36.2	45.5	36.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	78.5	17.1		55.7	105.1		64.6	12.5	4.4	125.0	11.8	
Delay (s)	126.3	44.5		99.0	128.6		111.4	51.0	40.7	170.5	48.5	
Level of Service	F	D		F	F		F	D	D	F	D	
Approach Delay (s)		47.8			125.9			54.9			117.9	
Approach LOS		D			F			D			F	

Intersection Summary			
HCM Average Control Delay	93.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	570	1331	353	1419	0	0	0	0	380	0	746
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.81	0.81	0.97	0.95					0.91	0.86	0.91
Frt		0.92	0.85	1.00	1.00					1.00	0.89	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		5205	1203	3221	3320					1511	2630	1352
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		5205	1203	3221	3320					1511	2630	1352
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	620	1447	384	1542	0	0	0	0	413	0	811
RTOR Reduction (vph)	0	350	470	0	0	0	0	0	0	0	16	16
Lane Group Flow (vph)	0	994	253	384	1542	0	0	0	0	289	514	389
Turn Type			Perm	Prot						Perm		Perm
Protected Phases		4		3	8						6	
Permitted Phases			4							6		6
Actuated Green, G (s)		21.0	21.0	8.2	33.2					18.8	18.8	18.8
Effective Green, g (s)		21.0	21.0	8.2	33.2					18.8	18.8	18.8
Actuated g/C Ratio		0.35	0.35	0.14	0.55					0.31	0.31	0.31
Clearance Time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1822	421	440	1837					473	824	424
v/s Ratio Prot		0.19		0.12	c0.46							
v/s Ratio Perm			0.21							0.19	0.20	c0.29
v/c Ratio		0.86dr	0.60	0.87	0.84					0.61	0.92dr	0.92
Uniform Delay, d1		15.7	16.1	25.4	11.2					17.5	17.6	19.8
Progression Factor		1.00	1.00	0.87	0.38					1.00	1.00	1.00
Incremental Delay, d2		1.2	6.2	11.3	3.0					2.3	1.5	24.2
Delay (s)		16.8	22.3	33.4	7.2					19.8	19.1	44.1
Level of Service		B	C	C	A					B	B	D
Approach Delay (s)		18.7			12.4			0.0			27.5	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM Average Control Delay	18.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	600	600	20	10	635	235	260	131	559	35	290	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.88		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3221	3320	1485	1660	3186		3221	2917		1660	3281	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3221	3320	1485	1660	3186		3221	2917		1660	3281	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	652	652	22	11	690	255	283	142	608	38	315	27
RTOR Reduction (vph)	0	0	10	0	39	0	0	382	0	0	7	0
Lane Group Flow (vph)	652	652	12	11	906	0	283	368	0	38	335	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)	25.9	55.6	55.6	0.8	30.5		10.8	27.2		2.3	18.7	
Effective Green, g (s)	25.9	55.6	55.6	0.8	30.5		10.8	27.2		2.3	18.7	
Actuated g/C Ratio	0.25	0.55	0.55	0.01	0.30		0.11	0.27		0.02	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	819	1812	810	13	954		341	779		37	602	
v/s Ratio Prot	c0.20	0.20		0.01	c0.28		c0.09	0.13		0.02	c0.10	
v/s Ratio Perm			0.01									
v/c Ratio	0.80	0.36	0.01	0.85	0.95		0.83	0.47		1.03	0.56	
Uniform Delay, d1	35.5	13.1	10.6	50.5	34.9		44.6	31.3		49.8	37.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.4	0.1	0.0	166.4	17.9		15.3	2.1		156.1	3.7	
Delay (s)	40.9	13.2	10.6	216.9	52.9		59.9	33.4		205.9	41.5	
Level of Service	D	B	B	F	D		E	C		F	D	
Approach Delay (s)		26.8			54.8			40.7			58.0	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	41.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	101.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	112	143	190	245	110	80	535	130	32	463	103
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.95		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	1601		1660	1666		1660	1696		1660	1700	
Flt Permitted	0.36	1.00		0.49	1.00		0.28	1.00		0.20	1.00	
Satd. Flow (perm)	623	1601		859	1666		488	1696		348	1700	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	122	155	207	266	120	87	582	141	35	503	112
RTOR Reduction (vph)	0	48	0	0	17	0	0	9	0	0	8	0
Lane Group Flow (vph)	103	229	0	207	369	0	87	714	0	35	607	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.5	24.5		24.5	24.5		36.4	36.4		36.4	36.4	
Effective Green, g (s)	24.5	24.5		24.5	24.5		36.4	36.4		36.4	36.4	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.53	0.53		0.53	0.53	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	222	569		305	592		258	896		184	898	
v/s Ratio Prot		0.14			0.22			c0.42			0.36	
v/s Ratio Perm	0.17			c0.24			0.18			0.10		
v/c Ratio	0.46	0.40		0.68	0.62		0.34	0.80		0.19	0.68	
Uniform Delay, d1	17.1	16.7		18.9	18.4		9.3	13.2		8.5	11.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	0.5		5.9	2.1		0.8	5.0		0.5	2.0	
Delay (s)	18.7	17.2		24.7	20.4		10.1	18.2		9.0	14.0	
Level of Service	B	B		C	C		B	B		A	B	
Approach Delay (s)		17.6			21.9			17.3			13.7	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	68.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	75	115	100	100	265	50	155	520	55	170	817	272
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt		0.95			1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected		0.99			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1645			1724	1485	1660	1722		1660	1748	1485
Flt Permitted		0.50			0.74	1.00	0.15	1.00		0.31	1.00	1.00
Satd. Flow (perm)		829			1295	1485	259	1722		542	1748	1485
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	125	109	109	288	54	168	565	60	185	888	296
RTOR Reduction (vph)	0	19	0	0	0	37	0	4	0	0	0	115
Lane Group Flow (vph)	0	297	0	0	397	17	168	621	0	185	888	181
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		31.0			31.0	31.0	61.0	61.0		61.0	61.0	61.0
Effective Green, g (s)		31.0			31.0	31.0	61.0	61.0		61.0	61.0	61.0
Actuated g/C Ratio		0.31			0.31	0.31	0.61	0.61		0.61	0.61	0.61
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		257			401	460	158	1050		331	1066	906
v/s Ratio Prot								0.36			0.51	
v/s Ratio Perm		c0.36			0.31	0.01	c0.65			0.34		0.12
v/c Ratio		1.16			0.99	0.04	1.06	0.59		0.56	0.83	0.20
Uniform Delay, d1		34.5			34.3	24.1	19.5	11.9		11.5	15.5	8.7
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		105.3			42.2	0.0	89.4	0.9		2.0	5.7	0.1
Delay (s)		139.8			76.5	24.1	108.9	12.8		13.6	21.2	8.8
Level of Service		F			E	C	F	B		B	C	A
Approach Delay (s)		139.8			70.2			33.2			17.5	
Approach LOS		F			E			C			B	

Intersection Summary			
HCM Average Control Delay	43.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	108.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1650	75	860	2920	0	110	0	910	365	733	180
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		0.88	1.00	0.95	
Frt		1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.97	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		3320	1485	1660	3320		1660		2614	1660	3222	
Flt Permitted		1.00	1.00	0.95	1.00		0.17		1.00	0.95	1.00	
Satd. Flow (perm)		3320	1485	1660	3320		291		2614	1660	3222	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1793	82	935	3174	0	120	0	989	397	797	196
RTOR Reduction (vph)	0	0	29	0	0	0	0	0	593	0	21	0
Lane Group Flow (vph)	0	1793	54	935	3174	0	120	0	396	397	972	0
Turn Type			Perm	Prot			custom		Over	Split		
Protected Phases		4		3	8				3	6	6	
Permitted Phases			4				2					
Actuated Green, G (s)		25.0	25.0	17.0	46.0		24.0		17.0	18.0	18.0	
Effective Green, g (s)		25.0	25.0	17.0	46.0		24.0		17.0	18.0	18.0	
Actuated g/C Ratio		0.25	0.25	0.17	0.46		0.24		0.17	0.18	0.18	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		830	371	282	1527		70		444	299	580	
v/s Ratio Prot		0.54		c0.56	c0.96				0.15	0.24	c0.30	
v/s Ratio Perm			0.04				c0.41					
v/c Ratio		2.16	0.14	3.32	2.08		1.71		0.89	1.33	1.68	
Uniform Delay, d1		37.5	29.2	41.5	27.0		38.0		40.6	41.0	41.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2		526.1	0.2	1051.1	487.6		374.4		19.5	168.8	311.4	
Delay (s)		563.6	29.4	1092.6	514.6		412.4		60.1	209.8	352.4	
Level of Service		F	C	F	F		F		E	F	F	
Approach Delay (s)		540.3			646.1			98.2			311.7	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	496.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.18		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	148.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			